

APPENDIX B

INTERSECTION SUMMARY

INTERSECTION TURN MOVEMENT COUNTS

Forty-nine (49) signalized intersections were identified by the City of Carlsbad to be studied under the City's Growth Management Plan Traffic Monitoring Program. **Table B-1** summarizes the list of identified intersections and provides the dates that each turning movement count was collected.

The traffic counts were collected for the AM and PM peak traffic periods during the months of July, August and September 2015. The AM peak period is between 6:30 AM and 9:30 AM, and the PM peak period is between 3:30 PM and 6:30 PM. All turning movements were collected at every approach of the intersection, including U-turning vehicles where U-turns are allowed. In addition to the vehicular turning movement counts, pedestrian counts were also collected at each intersection. Bicycles were counted as vehicles for the counts.

The AM and PM peak period traffic count data was divided into 15-minute intervals, and the highest consecutive 15-minute intervals were identified as the AM and PM peak hours. The peak hour intersection volumes were used in the Intersection Capacity Utilization (ICU) analysis that was conducted for each intersection. Field observations were also taken during the collection of the peak period data to identify any unusual occurrences such as road construction or traffic accidents, and to identify areas of congestion during the peak periods that may not be reflected in the ICU analysis.

Appendix B includes the following information for the 2015 Traffic Monitoring Program Report:

- AM and PM peak period traffic count data (data divided into 15-minute intervals)
- AM and PM peak hour ICU analysis worksheets

Table B-1
Summary of Intersection Turning Movement Counts

Location Number	Count Intersection/Location	Count Day	Count Date
1	El Camino Real & Plaza Dr.	Tues.	7/14
2	El Camino Real & Marron Dr.	Tues.	7/14
3	El Camino Real & Carlsbad Village Dr.	Tues.	7/21
4	El Camino Real & Tamarack Ave.	Thurs.	9/17
5	El Camino Real & Cannon Rd.	Thurs.	9/17
6	El Camino Real & College Blvd.	Thurs.	7/23
7	El Camino Real & Faraday Ave.	Thurs.	7/23
8	El Camino Real & Palomar Airport Rd.	Wed.	7/29
9	El Camino Real & Cassia Rd.	Wed.	8/5
10	El Camino Real & Poinsettia Ln.	Wed.	8/5
11	El Camino Real & Alga Rd.	Wed.	8/5
12	El Camino Real & La Costa Ave.	Wed.	8/5
13	El Camino Real & Calle Barcelona	Wed.	9/16
14	Avenida Encinas & Palomar Airport Rd.	Tues.	7/28
15	Paseo Del Norte & Palomar Airport Rd.	Tues.	7/28
16	Armada Dr. & Palomar Airport Rd.	Wed.	7/29
17	College Blvd. & Palomar Airport Rd.	Wed.	7/29
18	Yarrow Dr. & Palomar Airport Rd.	Wed.	7/29
19	Loker Ave. & Palomar Airport Rd.	Thurs.	7/30
20	El Fuerte & Palomar Airport Road	Thurs.	7/30
21	Melrose Dr. & Palomar Airport Rd.	Thurs.	7/30
22	Carlsbad Blvd. & Carlsbad Village Dr.	Thurs.	7/16
23	Carlsbad Blvd & Tamarack Avenue	Tues.	7/21
24	Carlsbad Blvd. & Cannon Rd.	Wed.	7/22
25	Carlsbad Blvd. & Poinsettia Ln.	Tues.	8/4
26	Carlsbad Blvd. & Avenida Encinas	Tues.	8/4
27	Rancho Santa Fe Rd. & La Costa Ave.	Wed.	9/16
28	Rancho Santa Fe Rd. & Calle Barcelona	Wed.	9/16
29	Olivenhain Rd. & Rancho Santa Fe Rd.	Wed.	9/16
30	State St. & Carlsbad Village Dr.	Thurs.	7/16
31	Harding St. & Carlsbad Village Dr.	Thurs.	7/16
32	Aviara Pkwy. & Poinsettia Ln.	Tues.	9/29
33	Paseo Del Norte & Poinsettia Ln.	Tues.	8/4
34	Avenida Encinas & Poinsettia Ln.	Tues.	8/4
35	Melrose Dr. & Alga Rd.	Wed.	9/16
36	Jefferson St. & Marron Rd.	Tues.	7/14
37	Monroe St. & Marron Rd.	Tues.	7/14
38	Paseo Del Norte & Cannon Rd.	Wed.	7/22
39	Faraday Ave. & Cannon Rd.	Thurs.	7/23
40	College Blvd. & Carlsbad Village Dr.	Tues.	7/21
41	College Blvd. & Faraday Ave.	Thurs.	7/23
42	I-5 SB Ramps & Carlsbad Village Dr.	Thurs.	7/16
43	I-5 NB Ramps & Carlsbad Village Dr.	Thurs.	7/16
44	I-5 SB Ramps & Tamarack Ave.	Thurs.	9/17
45	I-5 NB Ramps & Tamarack Ave.	Thurs.	9/17
46	I-5 SB Ramps & Cannon Rd.	Wed.	7/22
47	I-5 NB Ramps & Cannon Rd.	Wed.	7/22
48	I-5 SB Ramps & Palomar Airport Rd.	Tues.	7/28
49	I-5 NB Ramps & Palomar Airport Rd.	Tues.	7/28



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 1

Intersection Location: El Camino Real & Plaza Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Plaza Drive

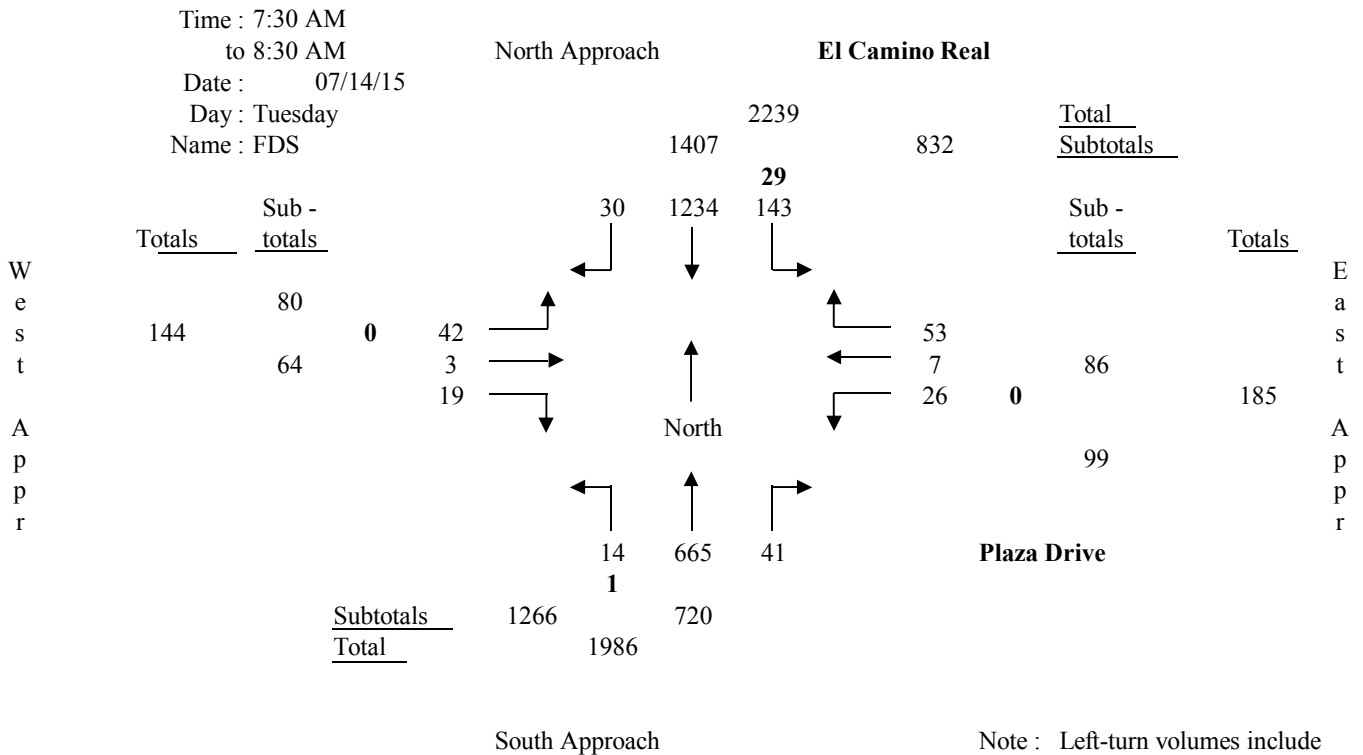
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1	1	
		2	1		1			1	1				1
		3		1						1			
		4		1						1			
		5		1	1	1							
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	2	0	1	1	0	1
Capacity		3600	6000	0	3600	6000	0	3600	0	1800	1800	0	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				Y									
Efficiency Lost Factor		0.10											
Hourly Volume		14	665	41	143	1234	30	42	3	19	26	7	53
Adjusted Hourly Volume		14	706	0	143	1264	0	45	0	19	33	0	53
Utilization Factor		0.00	0.12	0.00	0.04	0.21	0.00	0.01	0.00	0.01	0.02	0.00	0.03
Critical Factors		0.00				0.21		0.01					0.03

ICU Ratio = 0.35 LOS = A

Turning Movements at Intersection of :

El Camino Real and Plaza Drive



El Camino Real at Plaza Drive

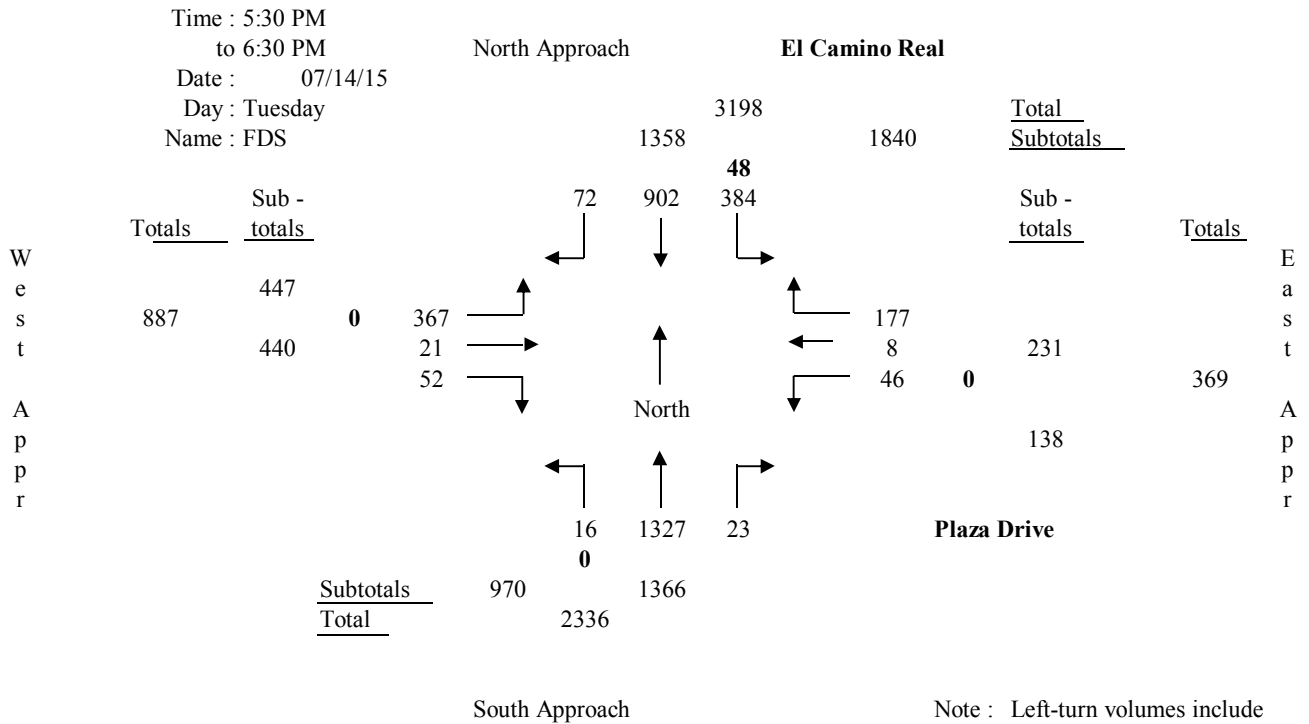
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5:30 PM to 6:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1	1	
		2	1		1			1	1				1
		3		1			1			1			
		4		1			1						
		5		1	1		1	1					
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	2	0	1	1	0	1
Capacity		3600	6000	0	3600	6000	0	3600	0	1800	1800	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		16	1327	23	384	902	72	367	21	52	46	8	177
Adjusted Hourly Volume		16	1350	0	384	974	0	388	0	52	54	0	177
Utilization Factor		0.00	0.23	0.00	0.11	0.16	0.00	0.11	0.00	0.03	0.03	0.00	0.10
Critical Factors			0.23		0.11			0.11					0.10

ICU Ratio = 0.65 LOS = B

Turning Movements at Intersection of:

El Camino Real and Plaza Drive



N-S STREET: El Camino Real

DATE: 07/14/2015

LOCATION: Carlsbad

 E-W STREET: Plaza Dr.
 CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-001

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	0	1.5	0.5	1	0.5	0.5	1	
6:30 AM	2	122	6	29	280	13	7	1	4	8	1	8	481
6:45 AM	1	92	6	34	279	9	10	1	6	11	0	5	454
7:00 AM	6	113	2	32	293	6	20	1	7	10	1	9	500
7:15 AM	8	151	4	35	336	3	6	1	7	7	2	11	571
7:30 AM	3	143	10	34	334	11	11	0	4	4	1	10	565
7:45 AM	6	163	11	36	331	7	10	1	7	8	1	14	595
8:00 AM	4	182	8	33	276	4	10	0	2	5	2	16	542
8:15 AM	1	177	12	40	293	8	11	2	6	9	3	13	575
8:30 AM	4	151	12	40	277	5	11	1	4	6	6	9	526
8:45 AM	9	170	5	65	240	9	20	2	5	3	2	13	543
9:00 AM	6	148	8	49	257	6	20	1	5	2	5	18	525
9:15 AM	8	171	19	54	220	10	22	5	9	5	4	17	544
Volumes	58	1783	103	481	3416	91	158	16	66	78	28	143	6421
Approach %	2.98	91.72	5.30	12.06	85.66	2.28	65.83	6.67	27.50	31.33	11.24	57.43	
App/Depart	1944	/	2084	3988	/	3560	240	/	600	249	/	177	
Peak Volumes	14	665	41	143	1234	30	42	3	19	26	7	53	2277
Approach %	1.94	92.36	5.69	10.16	87.70	2.13	65.63	4.69	29.69	30.23	8.14	61.63	
Pk Hr FACTOR:	0.93			0.93			0.84			0.86			0.9567
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	7	297	17	103	263	28	70	6	6	14	2	29	842
3:45 PM	16	346	11	90	244	21	68	4	8	13	5	33	859
4:00 PM	11	283	15	81	258	19	65	5	13	11	3	30	794
4:15 PM	8	284	10	97	236	20	77	4	10	10	2	54	812
4:30 PM	10	223	4	93	212	28	71	5	7	14	5	41	713
4:45 PM	5	241	6	103	256	24	80	7	9	8	1	42	782
5:00 PM	4	273	3	88	241	21	90	7	9	11	4	45	796
5:15 PM	4	211	2	116	244	14	81	6	14	14	1	50	757
5:30 PM	4	321	4	112	258	19	99	6	14	19	2	54	912
5:45 PM	2	352	3	106	214	13	92	3	13	9	3	41	851
6:00 PM	2	335	7	95	208	20	89	9	12	7	2	43	829
6:15 PM	8	319	9	71	222	20	87	3	13	11	1	39	803
Volumes	81	3485	91	1155	2856	247	969	65	128	141	31	501	9750
Approach %	2.21	95.30	2.49	27.13	67.07	5.80	83.39	5.59	11.02	20.95	4.61	74.44	
App/Depart	3657	/	4955	4258	/	3125	1162	/	1311	673	/	359	
Peak Volumes	16	1327	23	384	902	72	367	21	52	46	8	177	3395
Approach %	1.17	97.14	1.68	28.28	66.42	5.30	83.41	4.77	11.82	19.91	3.46	76.62	
Pk Hr FACTOR:	0.96			0.87			0.92			0.77			0.9306
PM Pk Hr at:	530												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 2

Intersection Location: El Camino Real & Marron Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Marron Road

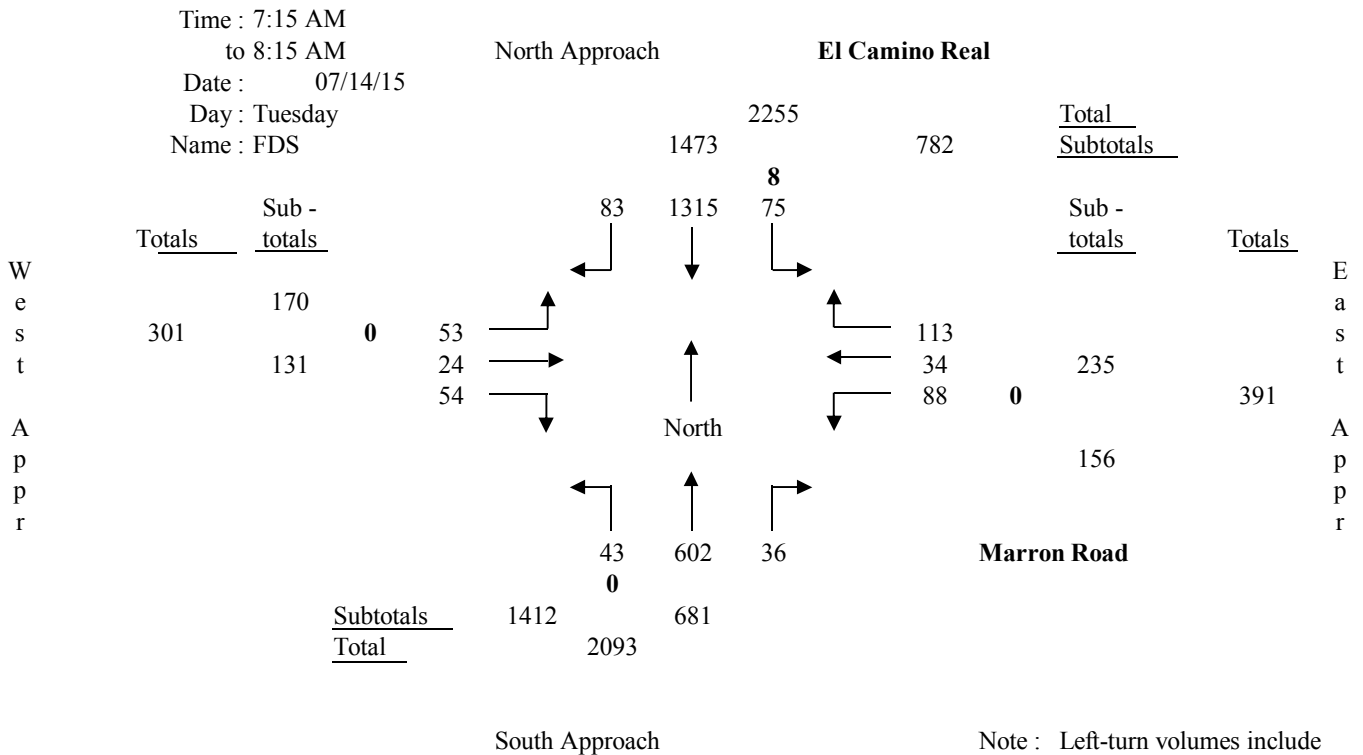
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:15 AM to 8:15 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1		1				1			1	
		3		1		1				1			1
		4		1		1				1			1
		5		1	1		1						
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	1	1	1	1	1	1
Capacity		3600	6000	0	3600	6000	0	1800	2000	1800	1800	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		43	602	36	75	1315	83	53	24	54	88	34	113
Adjusted Hourly Volume		43	638	0	75	1398	0	53	24	54	88	34	113
Utilization Factor		0.01	0.11	0.00	0.02	0.23	0.00	0.03	0.01	0.03	0.05	0.02	0.06
Critical Factors		0.01			0.23			0.03			0.06		

ICU Ratio = 0.43 LOS = A

Turning Movements at Intersection of :

El Camino Real and Marron Road



El Camino Real at Marron Road

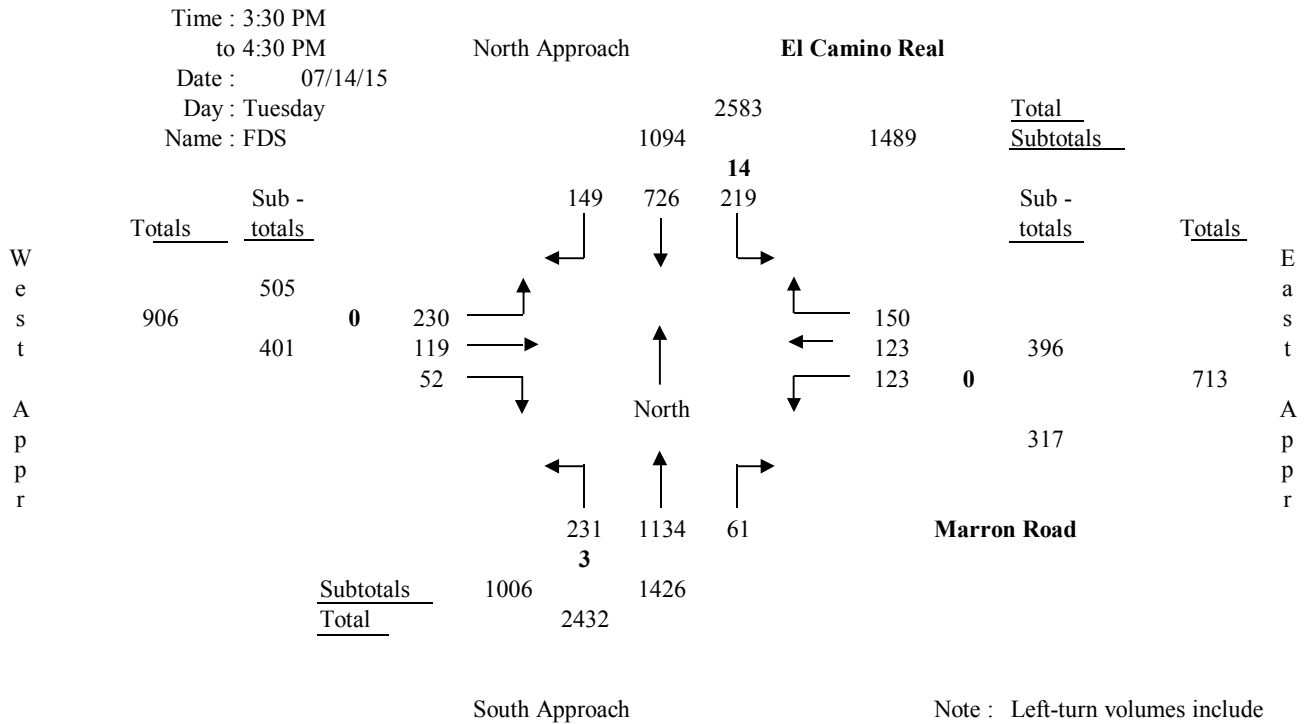
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
3:30 PM to 4:30 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2	1		1				1			1	
		3		1		1			1	1		1	1
		4		1		1							
		5		1	1		1						
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	1	2	0	1	1	1
Capacity		3600	6000	0	3600	6000	0	1800	4000	0	1800	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		231	1134	61	219	726	149	230	119	52	123	123	150
Adjusted Hourly Volume		231	1195	0	219	875	0	230	171	0	123	123	150
Utilization Factor		0.06	0.20	0.00	0.06	0.15	0.00	0.13	0.04	0.00	0.07	0.06	0.08
Critical Factors		0.20			0.06			0.13			0.08		

ICU Ratio = 0.57 LOS = A

Turning Movements at Intersection of:

El Camino Real and Marron Road





N-S STREET: El Camino Real

DATE: 07/14/2015

LOCATION: Carlsbad

E-W STREET: Marron Rd.

DAY: TUESDAY

PROJECT# 15-1194-002

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	0	1	2	0	1	2	0	
6:30 AM	2	90	9	13	219	13	1	3	11	10	3	33	407
6:45 AM	4	88	7	16	325	14	7	2	16	11	3	16	509
7:00 AM	13	84	6	11	273	14	8	4	15	15	8	28	479
7:15 AM	12	137	9	12	317	16	11	4	14	16	9	37	594
7:30 AM	7	119	6	13	367	9	13	6	13	27	9	28	617
7:45 AM	16	173	11	29	358	31	15	8	12	24	9	25	711
8:00 AM	8	173	10	21	273	27	14	6	15	21	7	23	598
8:15 AM	7	150	20	24	240	19	10	9	19	29	11	36	574
8:30 AM	14	145	7	26	199	24	8	5	11	30	9	34	512
8:45 AM	15	138	14	26	200	30	14	16	13	21	13	27	527
9:00 AM	13	155	6	27	193	21	7	14	14	22	13	34	519
9:15 AM	19	167	16	52	146	30	23	20	21	15	18	27	554
Volumes	130	1619	121	279	3110	248	131	97	174	241	112	348	6610
Approach %	6.95	86.58	6.47	7.67	85.51	6.82	32.59	24.13	43.28	34.38	15.98	49.64	
App/Depart	1870	/	2098	3637	/	3525	402	/	497	701	/	490	
Peak Volumes	43	602	36	75	1315	83	53	24	54	88	34	113	2520
Approach %	6.31	88.40	5.29	5.09	89.27	5.63	40.46	18.32	41.22	37.45	14.47	48.09	
Pk Hr FACTOR:	0.85			0.88			0.94			0.92			0.8861
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	42	254	16	56	165	41	56	23	9	33	32	28	755
3:45 PM	61	351	15	49	177	47	55	28	16	36	30	40	905
4:00 PM	58	250	10	54	200	29	70	33	13	21	21	48	807
4:15 PM	70	279	20	60	184	32	49	35	14	33	40	34	850
4:30 PM	50	188	19	40	149	40	48	29	37	35	41	31	707
4:45 PM	32	111	5	35	214	36	65	40	30	30	42	19	659
5:00 PM	49	158	10	59	178	31	58	96	39	24	63	27	792
5:15 PM	60	133	5	44	165	26	48	50	35	33	45	21	665
5:30 PM	48	170	5	48	221	34	34	30	18	41	42	27	718
5:45 PM	67	225	5	55	189	46	44	43	32	40	26	40	812
6:00 PM	50	222	2	52	165	38	68	35	34	48	32	59	805
6:15 PM	53	243	13	66	150	30	77	43	22	36	25	49	807
Volumes	640	2584	125	618	2157	430	672	485	299	410	439	423	9282
Approach %	19.11	77.16	3.73	19.28	67.30	13.42	46.15	33.31	20.54	32.23	34.51	33.25	
App/Depart	3349	/	3679	3205	/	2866	1456	/	1228	1272	/	1509	
Peak Volumes	231	1134	61	219	726	149	230	119	52	123	123	150	3317
Approach %	16.20	79.52	4.28	20.02	66.36	13.62	57.36	29.68	12.97	31.06	31.06	37.88	
Pk Hr FACTOR:	0.83			0.97			0.86			0.93			0.9163
PM Pk Hr at:	330												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 3

Intersection Location: El Camino Real &
Carlsbad Village Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Carlsbad Village Drive

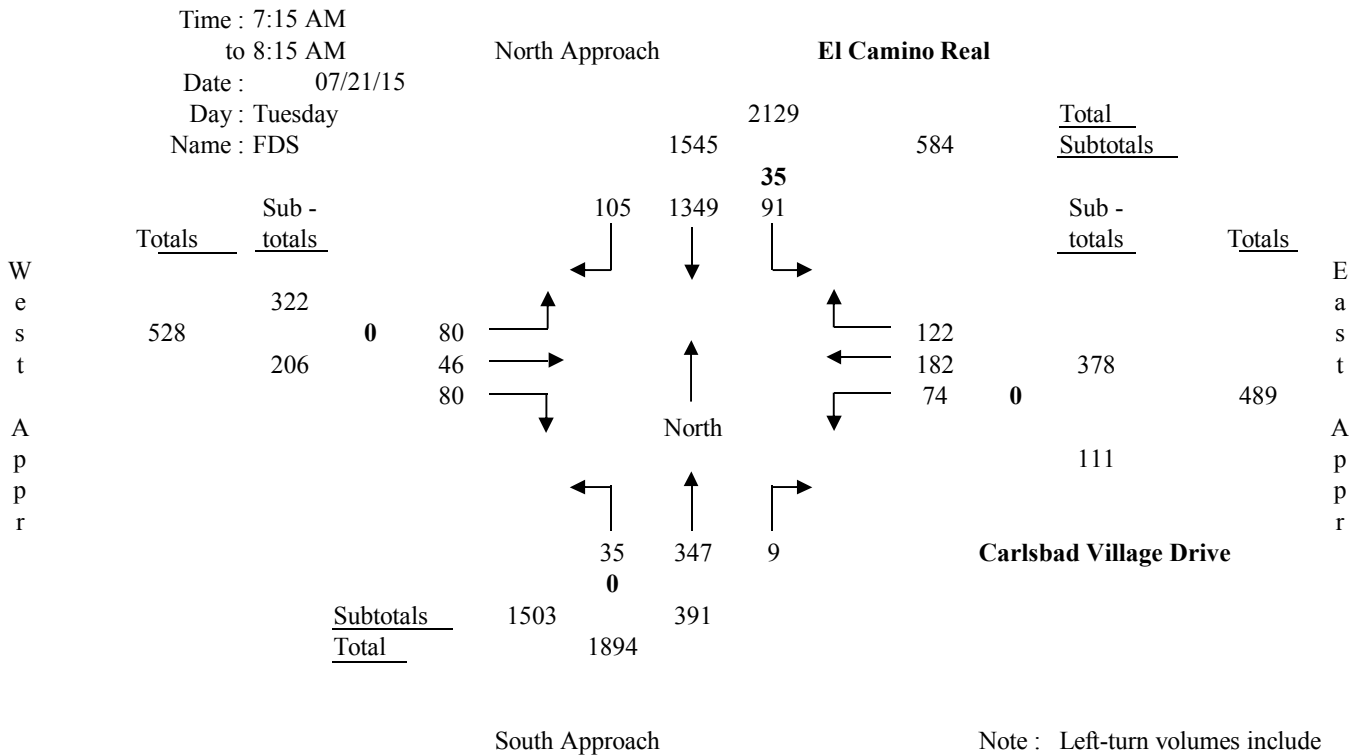
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:15 AM to 8:15 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1		1			1			1	
		3		1		1			1	1			1
		4		1	1		1					1	1
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	1	1	1	2	0
Capacity		1800	6000	0	1800	6000	0	1800	2000	1800	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		35	347	9	91	1349	105	80	46	80	74	182	122
Adjusted Hourly Volume		35	356	0	91	1454	0	80	46	80	74	304	0
Utilization Factor		0.02	0.06	0.00	0.05	0.24	0.00	0.04	0.02	0.04	0.04	0.08	0.00
Critical Factors		0.02			0.24			0.04			0.08		

ICU Ratio = 0.48 LOS = A

Turning Movements at Intersection of :

El Camino Real and Carlsbad Village Drive



Note : Left-turn volumes include U-turns. U-turns in bold.

El Camino Real at Carlsbad Village Drive

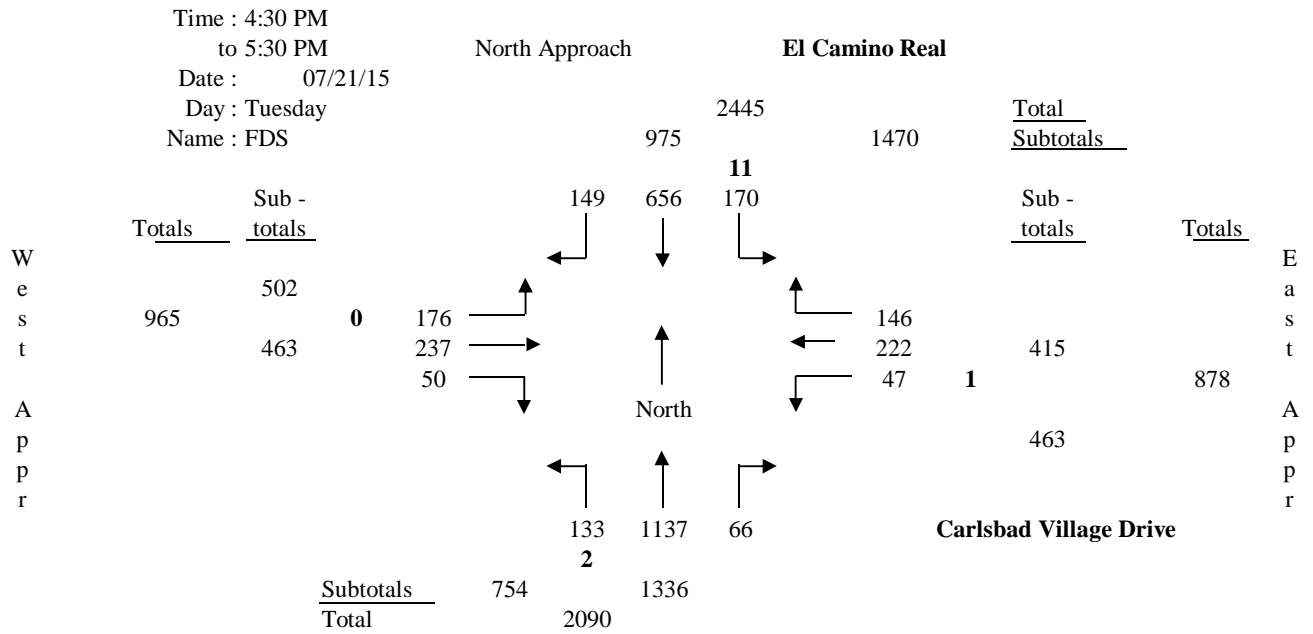
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
4:30 PM to 5:30 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1			1	
		3		1		1			1	1		1	1
		4		1	1		1						
		5											
	Outside	6											
	Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	2	0	1	2	0
Capacity		1800	6000	0	1800	6000	0	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		133	1137	66	170	656	149	176	237	50	47	222	146
Adjusted Hourly Volume		133	1203	0	170	805	0	176	287	0	47	368	0
Utilization Factor		0.07	0.20	0.00	0.09	0.13	0.00	0.10	0.07	0.00	0.03	0.09	0.00
Critical Factors			0.20		0.09			0.10				0.09	

ICU Ratio = 0.58 LOS = A

Turning Movements at Intersection of :

El Camino Real and Carlsbad Village Drive



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: El Camino Real

DATE: 07/21/2015

LOCATION: Carlsbad

E-W STREET: Carlsbad Village Dr.
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-003

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	3	0	1	2	0	1	2	0	
6:30 AM	3	61	0	4	226	16	12	8	3	12	40	17	402
6:45 AM	5	54	0	13	280	19	15	8	11	10	45	21	481
7:00 AM	6	63	2	6	239	12	16	11	16	14	39	25	449
7:15 AM	5	77	2	13	350	23	16	11	13	19	33	36	598
7:30 AM	14	77	2	22	365	22	23	9	21	12	55	20	642
7:45 AM	10	98	5	34	362	26	19	12	24	19	39	34	682
8:00 AM	6	95	0	22	272	34	22	14	22	24	55	32	598
8:15 AM	9	95	2	23	244	21	24	15	22	19	60	32	566
8:30 AM	15	145	5	32	216	21	27	16	21	15	43	25	581
8:45 AM	21	112	3	21	231	38	34	30	20	18	74	41	643
9:00 AM	11	109	6	31	162	24	27	34	10	7	33	29	483
9:15 AM	15	114	3	26	142	33	20	19	15	17	41	43	488
Volumes	120	1100	30	247	3089	289	255	187	198	186	557	355	6613
Approach %	9.60	88.00	2.40	6.81	85.21	7.97	39.84	29.22	30.94	16.94	50.73	32.33	
App/Depart	1250	/	1710	3625	/	3473	640	/	464	1098	/	966	
Peak Volumes	35	347	9	91	1349	105	80	46	80	74	182	122	2520
Approach %	8.95	88.75	2.30	5.89	87.31	6.80	38.83	22.33	38.83	19.58	48.15	32.28	
Pk Hr FACTOR:	0.87			0.92			0.89			0.85			0.9238
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	18	243	17	35	156	25	56	26	17	10	46	32	681
3:45 PM	23	270	13	40	164	30	30	43	18	6	37	20	694
4:00 PM	20	275	8	28	176	44	22	43	14	12	27	27	696
4:15 PM	21	299	13	49	148	46	17	58	10	9	48	30	748
4:30 PM	26	308	22	40	168	41	45	66	14	13	54	36	833
4:45 PM	38	292	16	44	160	30	44	47	21	10	54	40	796
5:00 PM	28	250	12	33	159	33	32	64	4	9	60	39	723
5:15 PM	41	287	16	53	169	45	55	60	11	15	54	31	837
5:30 PM	29	263	19	53	123	50	41	68	9	5	39	24	723
5:45 PM	39	250	21	34	133	46	40	55	9	8	45	28	708
6:00 PM	13	187	15	41	125	41	28	70	10	8	44	20	602
6:15 PM	26	183	9	44	94	28	26	45	10	3	45	21	534
Volumes	322	3107	181	494	1775	459	436	645	147	108	553	348	8575
Approach %	8.92	86.07	5.01	18.11	65.07	16.83	35.50	52.52	11.97	10.70	54.81	34.49	
App/Depart	3610	/	3891	2728	/	2030	1228	/	1320	1009	/	1334	
Peak Volumes	133	1137	66	170	656	149	176	237	50	47	222	146	3189
Approach %	9.96	85.10	4.94	17.44	67.28	15.28	38.01	51.19	10.80	11.33	53.49	35.18	
Pk Hr FACTOR:	0.94			0.91			0.92			0.96			0.9525
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 4

Intersection Location: El Camino Real &
Tamarack Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Tamarack Avenue

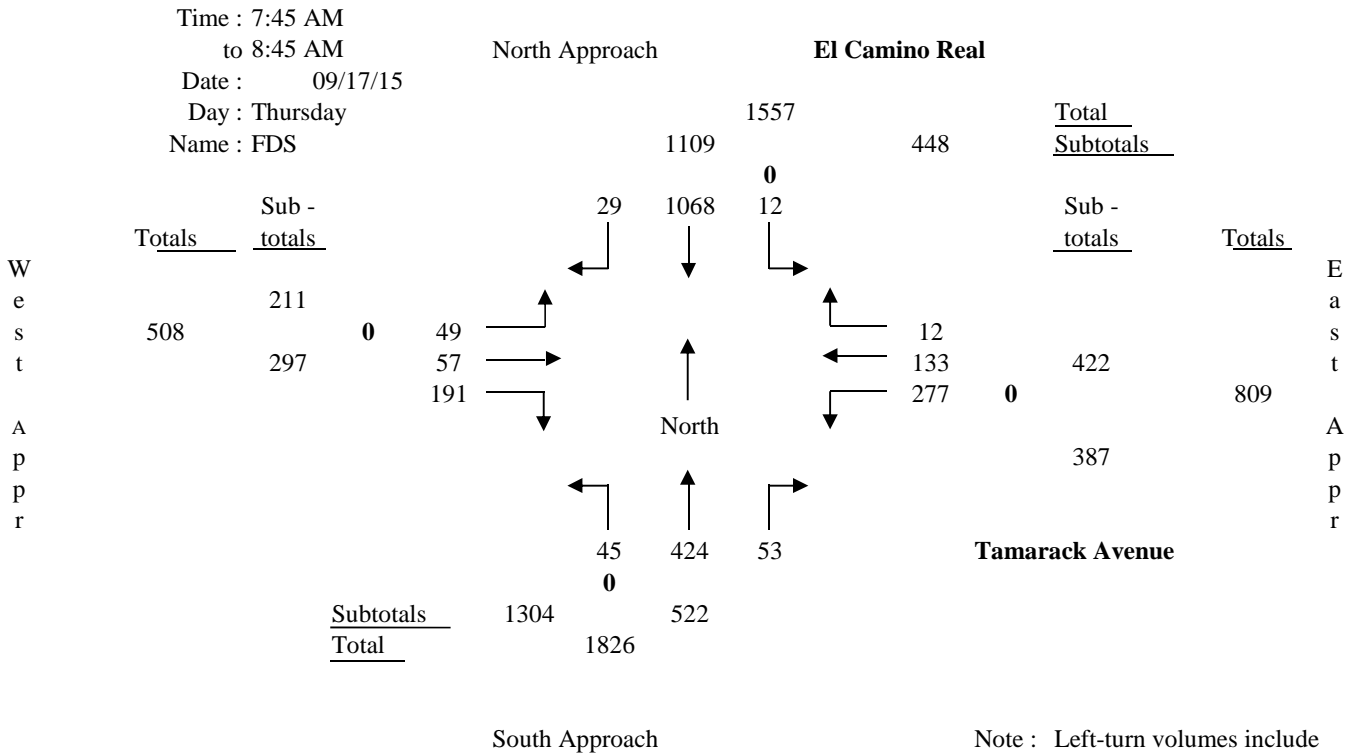
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:45 AM to 8:45 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1			1	
		3		1		1	1					1	1
		4								1			
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	2	0	1	1	1	1	2	0
Capacity		1800	4000	1800	1800	4000	0	1800	2000	1800	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		45	424	53	12	1068	29	49	57	191	277	133	12
Adjusted Hourly Volume		45	424	53	12	1097	0	49	57	191	277	145	0
Utilization Factor		0.03	0.11	0.03	0.01	0.27	0.00	0.03	0.03	0.11	0.15	0.04	0.00
Critical Factors		0.03			0.27						0.11	0.15	

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of :

El Camino Real and Tamarack Avenue



El Camino Real at Tamarack Avenue

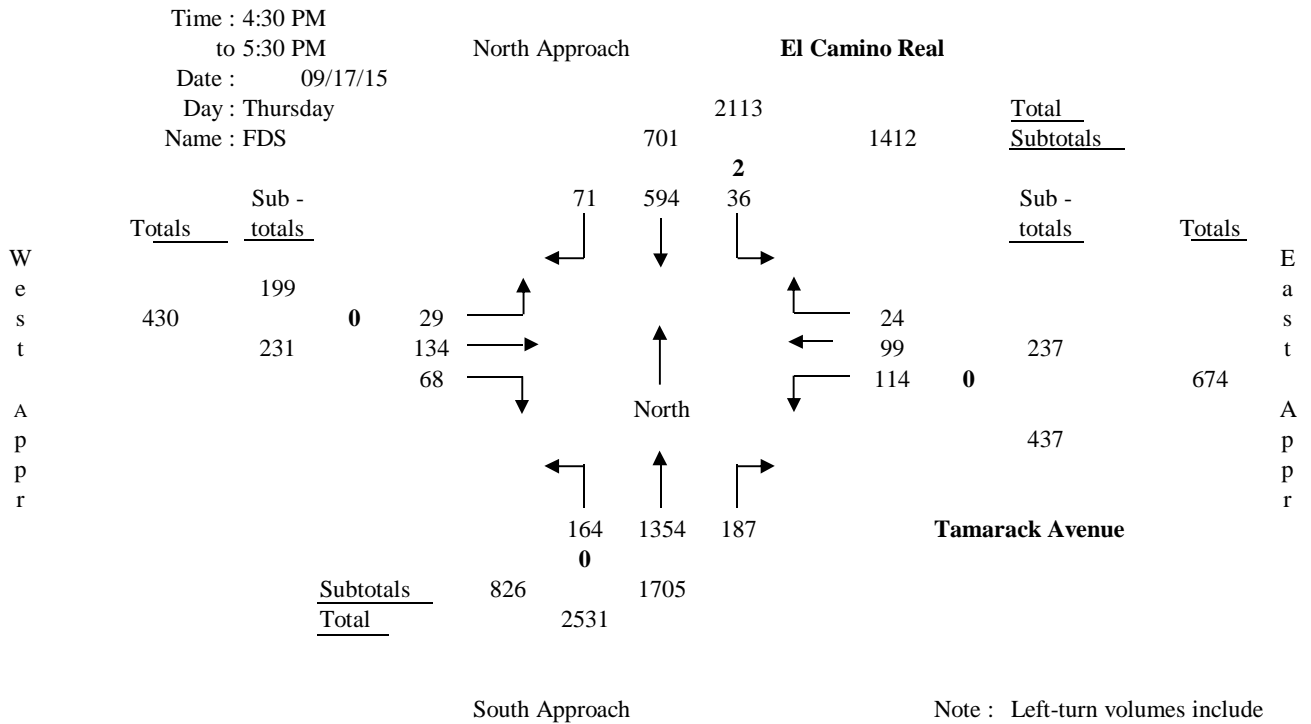
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
4:30 PM to													
5:30 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1			1	
		3		1		1	1			1		1	1
		4											
		5		1									
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	2	0	1	1	1	1	2	0
Capacity		1800	4000	1800	1800	4000	0	1800	2000	1800	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		164	1354	187	36	594	71	29	134	68	114	99	24
Adjusted Hourly Volume		164	1354	187	36	665	0	29	202	0	114	123	0
Utilization Factor		0.09	0.34	0.10	0.02	0.17	0.00	0.02	0.10	0.00	0.06	0.03	0.00
Critical Factors		0.34			0.02						0.10		

ICU Ratio = 0.62 LOS = B

Turning Movements at Intersection of :

El Camino Real and Tamarack Avenue



N-S STREET: El Camino Real

DATE: 09/17/2015

LOCATION: Carlsbad

 E-W STREET: Tamarack Ave.
 CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-004

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	2	1	1	1	1	1	2	0	
6:30 AM	2	29	4	1	199	2	1	2	19	21	19	2	301
6:45 AM	3	42	2	0	245	3	4	5	20	28	22	2	376
7:00 AM	2	41	3	2	296	6	1	4	25	58	20	3	461
7:15 AM	5	54	8	2	301	2	5	7	24	66	24	6	504
7:30 AM	8	50	12	4	322	5	2	10	32	59	41	2	547
7:45 AM	5	87	11	2	325	8	9	11	41	50	42	5	596
8:00 AM	16	104	10	5	258	4	16	13	45	75	29	2	577
8:15 AM	13	111	14	2	244	7	13	19	53	87	30	3	596
8:30 AM	11	122	18	3	241	10	11	14	52	65	32	2	581
8:45 AM	10	103	19	2	214	11	7	21	41	60	28	5	521
9:00 AM	14	98	20	5	150	9	4	20	28	45	24	1	418
9:15 AM	16	99	14	2	163	9	5	19	21	41	21	4	414
Volumes	105	940	135	30	2958	76	78	145	401	655	332	37	5892
Approach %	8.90	79.66	11.44	0.98	96.54	2.48	12.50	23.24	64.26	63.96	32.42	3.61	
App/Depart	1180	/	1055	3064	/	4014	624	/	310	1024	/	513	
Peak Volumes	45	424	53	12	1068	29	49	57	191	277	133	12	2350
Approach %	8.62	81.23	10.15	1.08	96.30	2.61	16.50	19.19	64.31	65.64	31.52	2.84	
Pk Hr FACTOR:	0.86			0.83			0.87			0.88			0.9857
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	29	252	29	6	133	8	9	19	19	33	16	9	562
3:45 PM	33	244	30	2	131	10	9	21	16	24	19	9	548
4:00 PM	30	285	41	5	141	11	16	28	11	25	22	6	621
4:15 PM	32	325	45	4	128	13	11	32	10	28	20	9	657
4:30 PM	41	341	50	9	154	16	10	30	14	41	21	5	732
4:45 PM	42	344	54	10	147	14	7	33	18	24	25	8	726
5:00 PM	26	325	41	8	141	21	4	29	16	20	24	4	659
5:15 PM	55	344	42	9	152	20	8	42	20	29	29	7	757
5:30 PM	50	296	45	6	139	18	5	41	21	24	30	11	686
5:45 PM	41	258	50	9	133	14	9	20	14	25	25	7	605
6:00 PM	28	236	59	5	128	13	16	22	16	20	24	5	572
6:15 PM	21	214	60	9	122	19	13	29	13	22	21	8	551
Volumes	428	3464	546	82	1649	177	117	346	188	315	276	88	7676
Approach %	9.64	78.05	12.30	4.30	86.43	9.28	17.97	53.15	28.88	46.39	40.65	12.96	
App/Depart	4438	/	3669	1908	/	2152	651	/	974	679	/	881	
Peak Volumes	164	1354	187	36	594	71	29	134	68	114	99	24	2874
Approach %	9.62	79.41	10.97	5.14	84.74	10.13	12.55	58.01	29.44	48.10	41.77	10.13	
Pk Hr FACTOR:	0.97			0.97			0.83			0.88			0.9491
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 5

Intersection Location: El Camino Real &
Cannon Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Cannon Road

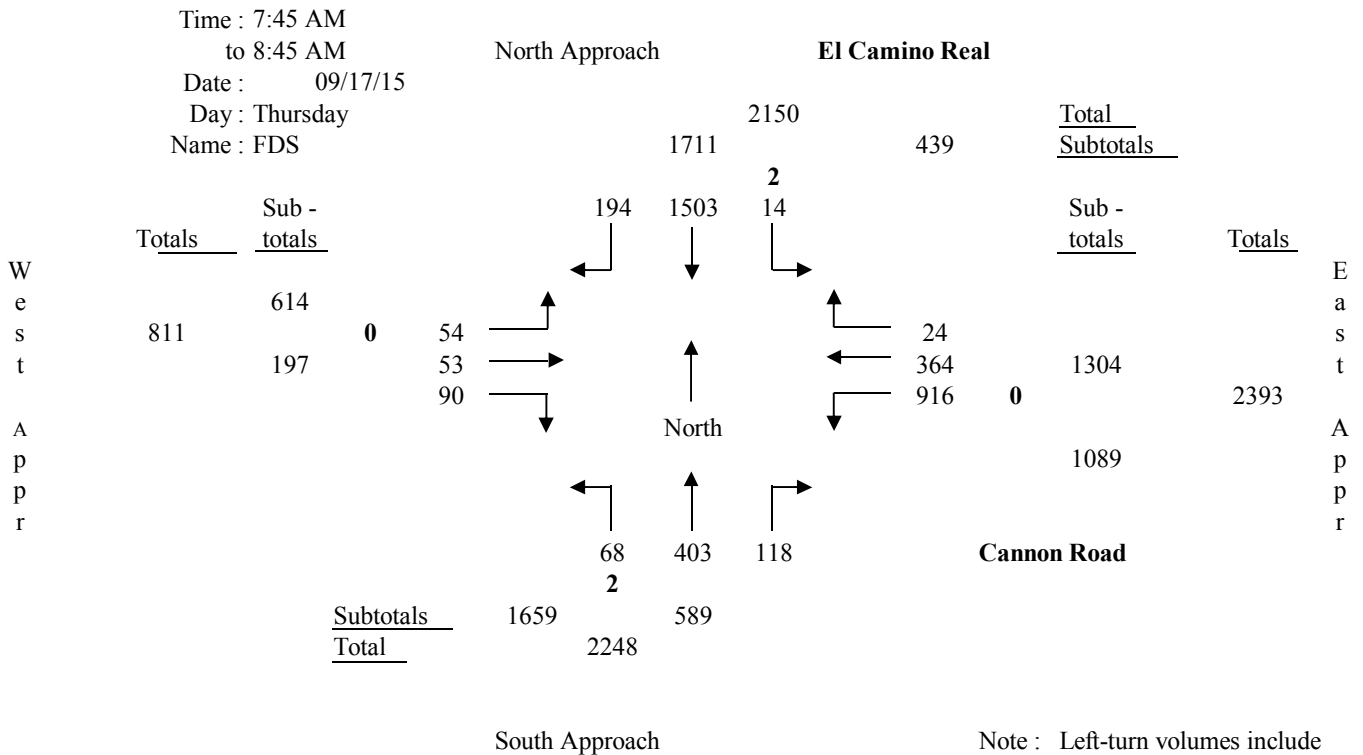
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45 AM to 8:45 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1		1			1		
		3		1		1			1			1	
		4				1			1	1		1	1
		5					1						
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	3	1	2	1	1	2	2	0
Capacity		1800	4000	1800	1800	6000	1800	3600	2000	1800	3600	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		68	403	118	14	1503	194	54	53	90	916	364	24
Adjusted Hourly Volume		68	403	118	14	1503	167	54	53	90	916	388	0
Utilization Factor		0.04	0.10	0.07	0.01	0.25	0.09	0.02	0.03	0.05	0.25	0.10	0.00
Critical Factors		0.04			0.25			0.05			0.25		

ICU Ratio = 0.69 LOS = B

Turning Movements at Intersection of :

El Camino Real and Cannon Road



El Camino Real at Cannon Road

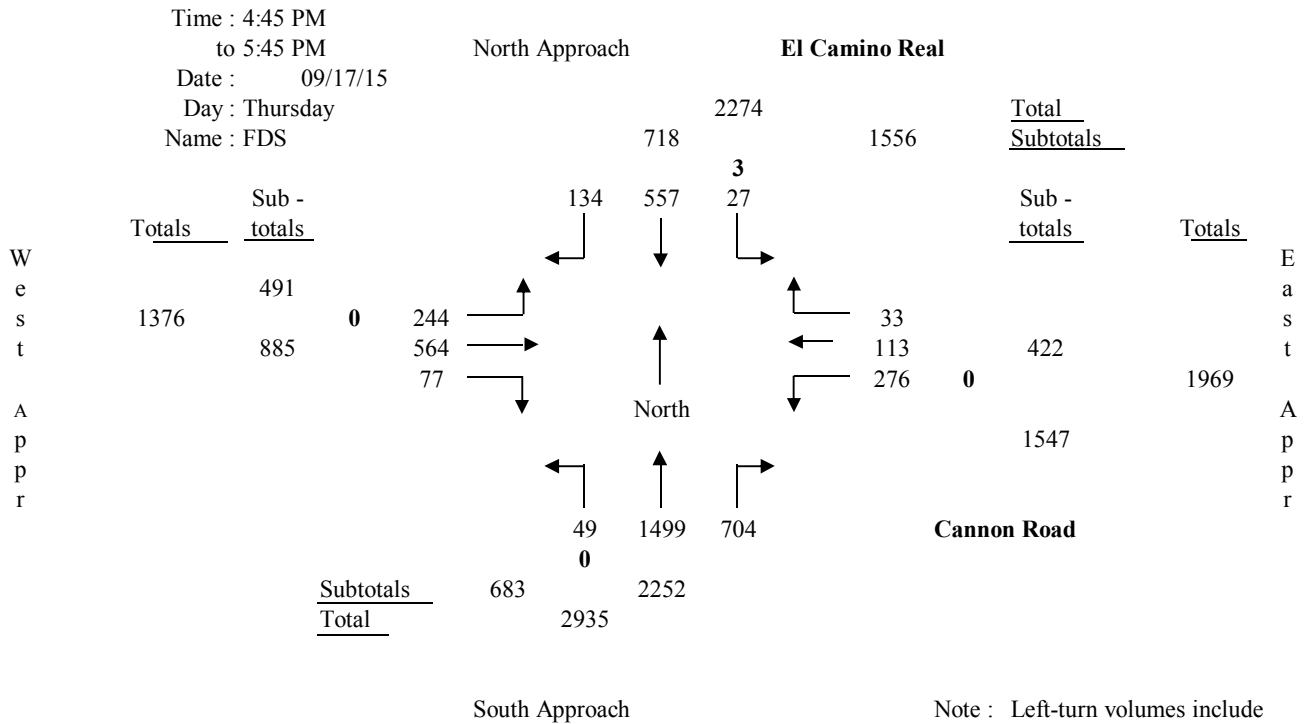
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
4:45 PM to 5:45 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1		1			1		
		3		1		1			1			1	
		4				1			1	1		1	1
		5					1						
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	3	1	2	2	0	2	2	0
Capacity		1800	4000	1800	1800	6000	1800	3600	4000	0	3600	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		49	1499	704	27	557	134	244	564	77	276	113	33
Adjusted Hourly Volume		49	1499	704	27	557	0	244	641	0	276	146	0
Utilization Factor		0.03	0.37	0.39	0.02	0.09	0.00	0.07	0.16	0.00	0.08	0.04	0.00
Critical Factors		0.39			0.02			0.16			0.08		

ICU Ratio = 0.75 LOS = C

Turning Movements at Intersection of:

El Camino Real and Cannon Road



N-S STREET: El Camino Real

DATE: 09/17/2015

LOCATION: Carlsbad

 E-W STREET: Cannon Rd.
 CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-005

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	3	1	2	2	0	2	2	0	
6:30 AM	4	41	28	1	256	42	2	4	5	129	89	2	603
6:45 AM	2	54	24	1	285	41	6	7	2	136	103	4	665
7:00 AM	8	60	21	1	299	54	3	11	6	166	101	4	734
7:15 AM	10	66	19	2	311	58	2	8	9	185	111	2	783
7:30 AM	8	85	20	5	344	54	8	14	16	225	104	5	888
7:45 AM	16	106	25	2	341	60	11	10	20	214	106	3	914
8:00 AM	16	82	24	5	422	66	10	11	21	263	87	6	1013
8:15 AM	22	87	41	2	412	26	14	13	25	225	85	9	961
8:30 AM	14	128	28	5	328	42	19	19	24	214	86	6	913
8:45 AM	18	122	24	7	285	41	20	14	29	152	96	5	813
9:00 AM	13	122	44	5	244	24	14	20	30	155	99	8	778
9:15 AM	18	128	40	6	189	28	16	29	25	122	60	5	666
Volumes	149	1081	338	42	3716	536	125	160	212	2186	1127	59	9731
Approach %	9.50	68.94	21.56	0.98	86.54	12.48	25.15	32.19	42.66	64.83	33.42	1.75	
App/Depart	1568	/	1265	4294	/	6114	497	/	540	3372	/	1812	
Peak Volumes	68	403	118	14	1503	194	54	53	90	916	364	24	3801
Approach %	11.54	68.42	20.03	0.82	87.84	11.34	27.41	26.90	45.69	70.25	27.91	1.84	
Pk Hr FACTOR:	0.87			0.87			0.79			0.92			0.9381
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	19	255	133	8	133	20	28	96	28	66	54	3	843
3:45 PM	14	344	130	4	163	29	24	85	21	60	41	3	918
4:00 PM	11	314	125	5	166	24	41	87	14	59	42	6	894
4:15 PM	10	263	128	6	154	25	45	104	19	50	29	5	838
4:30 PM	14	258	196	2	147	32	40	120	16	75	30	4	934
4:45 PM	16	325	199	3	141	30	75	122	22	87	32	7	1059
5:00 PM	13	422	187	8	152	33	50	141	20	60	28	11	1125
5:15 PM	9	411	152	10	133	29	59	147	21	66	24	9	1070
5:30 PM	11	341	166	6	131	42	60	154	14	63	29	6	1023
5:45 PM	11	311	164	10	128	41	65	125	19	50	41	9	974
6:00 PM	14	241	147	5	154	24	58	131	13	55	42	5	889
6:15 PM	8	228	155	8	122	28	54	133	19	54	29	8	846
Volumes	150	3713	1882	75	1724	357	599	1445	226	745	421	76	11413
Approach %	2.61	64.63	32.76	3.48	79.96	16.56	26.39	63.66	9.96	59.98	33.90	6.12	
App/Depart	5745	/	4388	2156	/	2695	2270	/	3402	1242	/	928	
Peak Volumes	49	1499	704	27	557	134	244	564	77	276	113	33	4277
Approach %	2.18	66.56	31.26	3.76	77.58	18.66	27.57	63.73	8.70	65.40	26.78	7.82	
Pk Hr FACTOR:	0.91			0.93			0.97			0.84			0.9504
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 6

Intersection Location: El Camino Real &
College Boulevard

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at College Boulevard

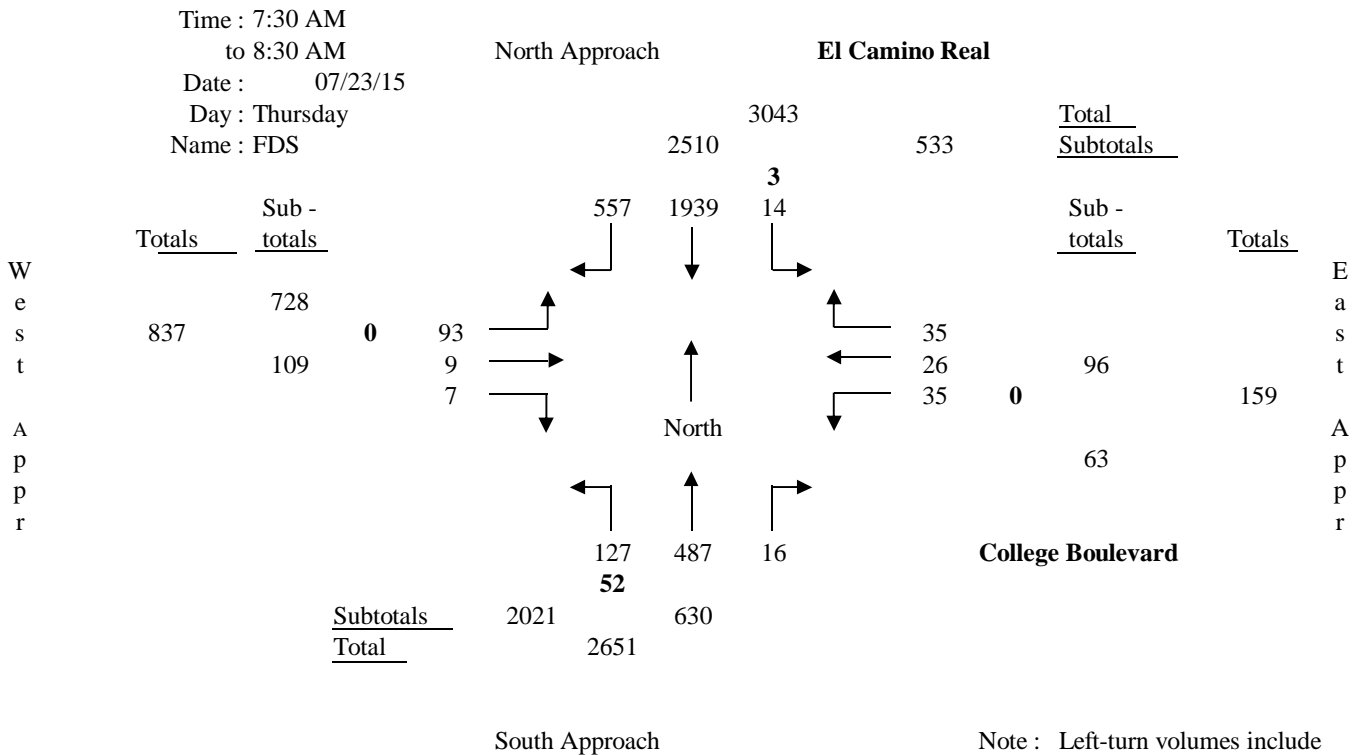
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1		1			1		
		3		1		1			1			1	
		4		1		1			1	1		1	1
		5											
		6											
	Outside Free-flow	7					1						
Lane Settings		1	3	1	1	3	1	2	2	0	2	1	1
Capacity		1800	6000	1800	1800	6000	1800	3600	4000	0	3600	2000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		127	487	16	14	1939	557	93	9	7	35	26	35
Adjusted Hourly Volume		127	487	16	14	1939	0	93	9	0	35	26	35
Utilization Factor		0.07	0.08	0.01	0.01	0.32	0.00	0.03	0.00	0.00	0.01	0.01	0.02
Critical Factors		0.07				0.32		0.03					0.02

ICU Ratio = 0.54 LOS = A

Turning Movements at Intersection of :

El Camino Real and College Boulevard



El Camino Real at College Boulevard

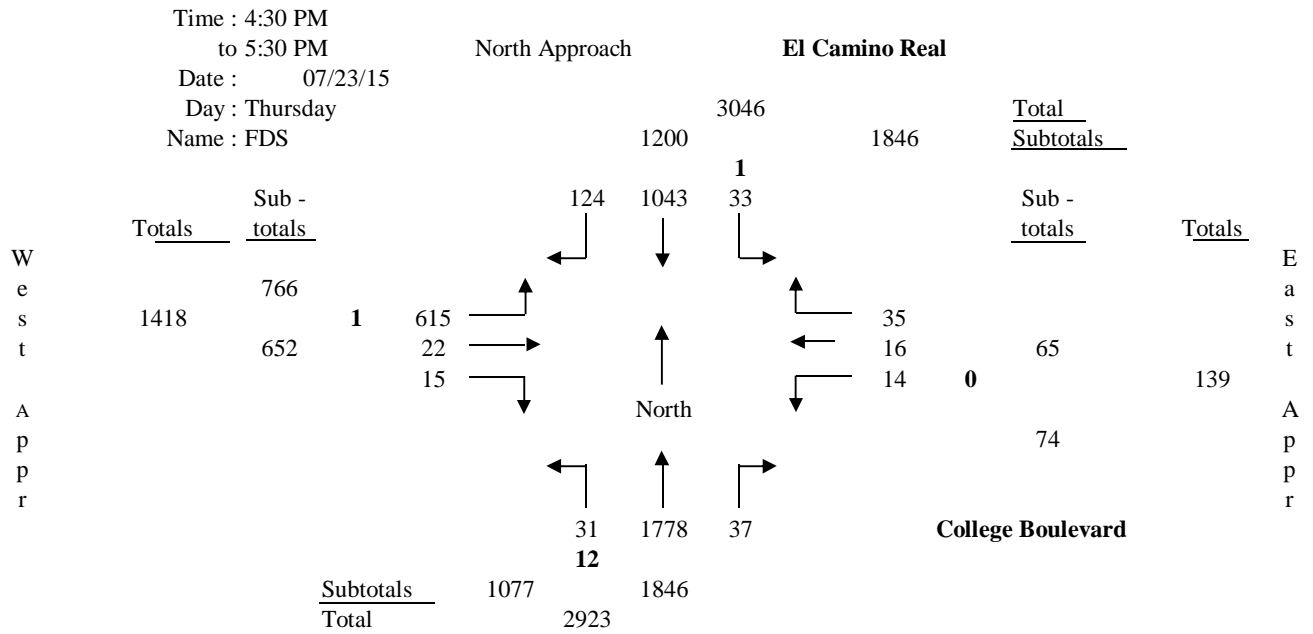
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM	to												
5:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1		1			1		
		3		1		1			1			1	
		4		1		1			1	1		1	1
		5											
		6											
	Outside	7											
	Free-flow						1						
Lane Settings		1	3	1	1	3	1	2	2	0	2	1	1
Capacity		1800	6000	1800	1800	6000	1800	3600	4000	0	3600	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		31	1778	37	33	1043	124	615	22	15	14	16	35
Adjusted Hourly Volume		31	1778	37	33	1043	0	615	37	0	14	16	35
Utilization Factor		0.02	0.30	0.02	0.02	0.17	0.00	0.17	0.01	0.00	0.00	0.01	0.02
Critical Factors			0.30		0.02			0.17					0.02

ICU Ratio = 0.61 LOS = B

Turning Movements at Intersection of :

El Camino Real and College Boulevard



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: College Blvd.

DATE: 07/23/2015

LOCATION: Carlsbad

 E-W STREET: El Camino Real
 CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-006

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	0	2	2	0	1	3	1	1	3	1	
6:30 AM	7	1	0	3	5	4	5	219	71	17	64	1	397
6:45 AM	11	4	1	7	8	2	5	395	160	16	62	2	673
7:00 AM	10	1	0	4	2	4	0	341	92	9	73	1	537
7:15 AM	10	3	2	5	7	2	3	456	101	28	83	2	702
7:30 AM	18	0	3	3	7	8	4	548	122	29	90	1	833
7:45 AM	25	3	4	11	7	11	3	569	177	23	134	4	971
8:00 AM	29	2	0	8	3	11	4	433	134	39	123	7	793
8:15 AM	21	4	0	13	9	5	3	389	124	36	140	4	748
8:30 AM	24	3	3	10	2	14	6	363	118	41	144	8	736
8:45 AM	27	4	1	11	6	10	11	452	114	32	195	12	875
9:00 AM	32	10	1	8	7	7	6	366	88	30	192	12	759
9:15 AM	19	4	9	8	8	10	12	291	66	29	162	12	630
Volumes	233	39	24	91	71	88	62	4822	1367	329	1462	66	8654
Approach %	78.72	13.18	8.11	36.40	28.40	35.20	0.99	77.14	21.87	17.72	78.73	3.55	
App/Depart	296	/	167	250	/	1767	6251	/	4937	1857	/	1783	
Peak Volumes	93	9	7	35	26	35	14	1939	557	127	487	16	3345
Approach %	85.32	8.26	6.42	36.46	27.08	36.46	0.56	77.25	22.19	20.16	77.30	2.54	
Pk Hr FACTOR:	0.85			0.83			0.84			0.88			0.8612
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	102	1	4	12	5	14	5	284	52	8	373	7	867
3:45 PM	112	4	5	4	1	7	14	318	47	11	322	8	853
4:00 PM	168	9	6	9	3	8	12	264	34	8	375	9	905
4:15 PM	128	9	3	4	2	9	7	262	30	6	383	11	854
4:30 PM	146	3	4	1	1	10	11	262	34	8	432	8	920
4:45 PM	136	9	6	7	5	7	2	294	34	7	451	10	968
5:00 PM	205	3	2	5	3	9	11	205	28	5	372	11	859
5:15 PM	128	7	3	1	7	9	9	282	28	11	523	8	1016
5:30 PM	128	9	3	4	5	18	7	217	38	13	451	14	907
5:45 PM	113	11	3	7	4	14	13	168	30	8	323	18	712
6:00 PM	75	8	2	2	2	10	8	192	24	7	263	15	608
6:15 PM	83	8	4	1	0	12	7	152	24	7	231	20	549
Volumes	1524	81	45	57	38	127	106	2900	403	99	4499	139	10018
Approach %	92.36	4.91	2.73	25.68	17.12	57.21	3.11	85.07	11.82	2.09	94.98	2.93	
App/Depart	1650	/	326	222	/	540	3409	/	3002	4737	/	6150	
Peak Volumes	615	22	15	14	16	35	33	1043	124	31	1778	37	3763
Approach %	94.33	3.37	2.30	21.54	24.62	53.85	2.75	86.92	10.33	1.68	96.32	2.00	
Pk Hr FACTOR:	0.78			0.86			0.91			0.85			0.9259
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 7

Intersection Location: El Camino Real &
Faraday Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Faraday Avenue

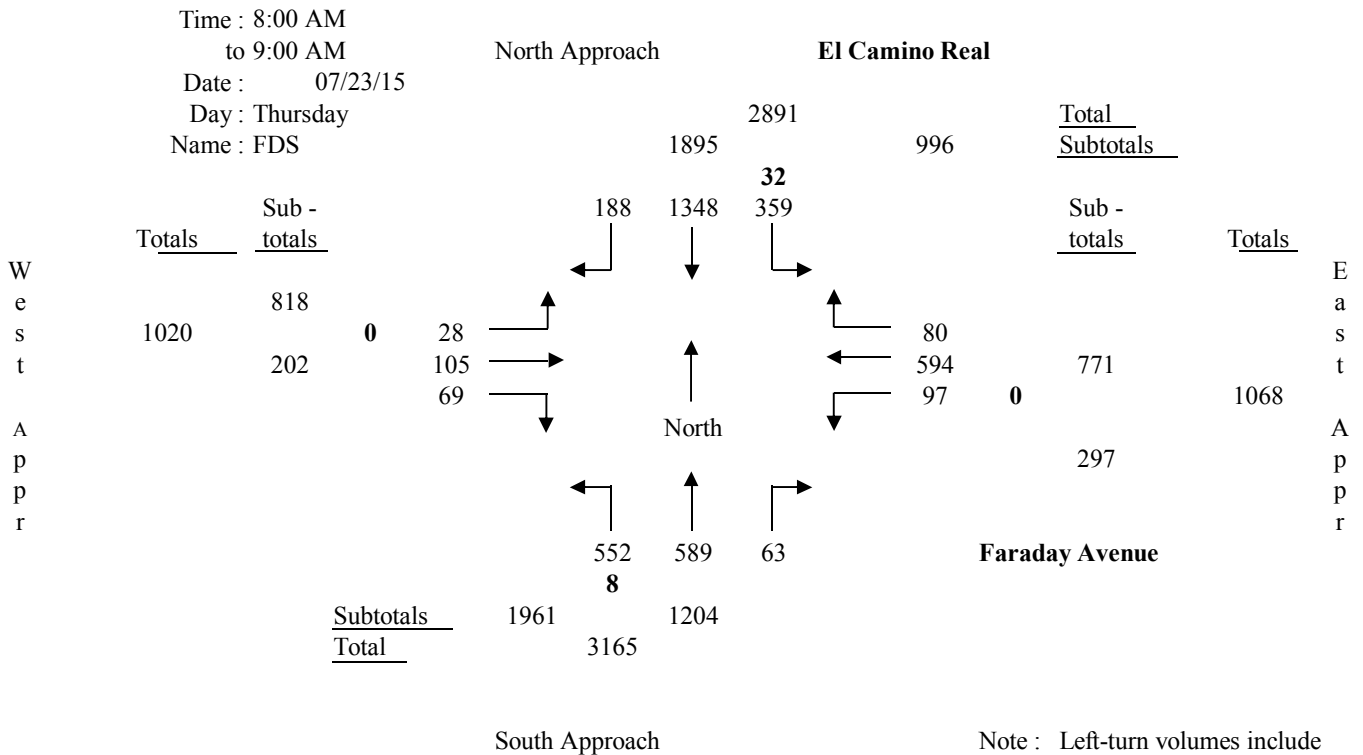
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:00 AM to 9:00 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1		1			1			1		
		2	1		1				1			1	
		3		1		1				1			
		4		1		1					1		
		5		1	1					1			1
		6					1						
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	1	1	2	1	1	2	1
Capacity		3600	6000	0	3600	6000	1800	1800	4000	1800	1800	4000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		552	589	63	359	1348	188	28	105	69	97	594	80
Adjusted Hourly Volume		552	652	0	359	1348	188	28	105	69	97	594	80
Utilization Factor		0.15	0.11	0.00	0.10	0.22	0.10	0.02	0.03	0.04	0.05	0.15	0.04
Critical Factors		0.15			0.22			0.02			0.15		

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of :

El Camino Real and Faraday Avenue



El Camino Real at Faraday Avenue

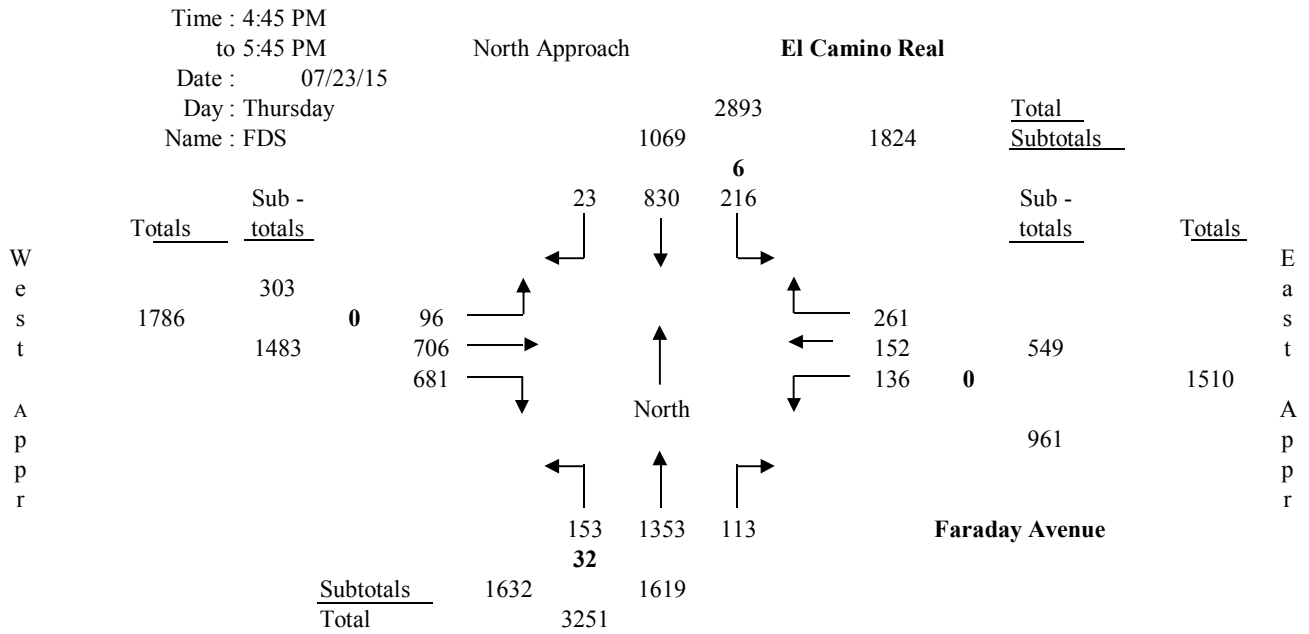
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:45 PM	to													
5:45 PM														
Lane Configurations	Inside	1	1		1			1			1			
	(left)	2	1		1				1			1		
		3		1			1		1			1		
		4		1			1			1			1	
		5		1			1						1	
		6												1
	Outside Free-flow	7												
Lane Settings		2	3	0	2	3	1	1	2	1	1	2	1	
Capacity		3600	6000	0	3600	6000	1800	1800	4000	1800	1800	4000	1800	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		153	1353	113	216	830	23	96	706	681	136	152	261	
Adjusted Hourly Volume		153	1466	0	216	830	23	96	706	681	136	152	261	
Utilization Factor		0.04	0.24	0.00	0.06	0.14	0.01	0.05	0.18	0.38	0.08	0.04	0.15	
Critical Factors		0.24		0.06						0.38		0.08		

ICU Ratio = 0.86 LOS = D

Turning Movements at Intersection of:

El Camino Real and Faraday Avenue





N-S STREET: El Camino Real

DATE: 07/23/2015

LOCATION: Carlsbad

E-W STREET: Faraday Ave.
CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-007

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	1	1	2	1	1	2	1	
6:30 AM	60	92	16	78	172	9	2	8	3	5	43	19	507
6:45 AM	68	81	17	83	182	11	0	9	3	8	56	18	536
7:00 AM	99	84	19	73	238	23	0	20	11	5	128	11	711
7:15 AM	106	93	16	102	344	34	2	17	17	17	130	14	892
7:30 AM	134	125	21	82	358	36	3	13	22	19	140	12	965
7:45 AM	113	98	14	114	341	30	7	40	18	18	180	19	992
8:00 AM	115	123	12	82	355	50	7	27	14	19	149	7	960
8:15 AM	128	152	24	112	297	65	9	25	18	20	169	21	1040
8:30 AM	161	165	15	69	360	44	8	24	20	22	138	26	1052
8:45 AM	148	149	12	96	336	29	4	29	17	36	138	26	1020
9:00 AM	109	141	15	47	195	26	3	29	20	13	116	36	750
9:15 AM	87	161	17	62	250	22	5	38	32	26	50	27	777
Volumes	1328	1464	198	1000	3428	379	50	279	195	208	1437	236	10202
Approach %	44.41	48.96	6.62	20.80	71.31	7.88	9.54	53.24	37.21	11.06	76.40	12.55	
App/Depart	2990	/	1750	4807	/	3831	524	/	1477	1881	/	3144	
Peak Volumes	552	589	63	359	1348	188	28	105	69	97	594	80	4072
Approach %	45.85	48.92	5.23	18.94	71.13	9.92	13.86	51.98	34.16	12.58	77.04	10.38	
Pk Hr FACTOR:	0.88			0.97			0.97			0.92			0.9677
AM Pk Hr at:	800												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	73	291	51	40	224	11	10	78	114	42	46	49	1029
3:45 PM	47	294	16	43	158	9	10	47	121	33	41	42	861
4:00 PM	28	221	7	21	171	6	16	89	140	12	21	37	769
4:15 PM	44	349	14	28	159	7	14	68	111	27	43	50	914
4:30 PM	37	285	13	27	175	6	25	133	163	19	38	58	979
4:45 PM	41	321	22	51	228	13	16	127	154	37	37	73	1120
5:00 PM	48	364	14	54	167	5	25	235	205	48	58	89	1312
5:15 PM	42	389	15	74	245	3	23	169	132	36	28	40	1196
5:30 PM	22	279	62	37	190	2	32	175	190	15	29	59	1092
5:45 PM	41	317	11	42	181	3	13	86	129	30	32	53	938
6:00 PM	16	272	2	54	178	2	25	58	99	21	20	27	774
6:15 PM	17	257	8	25	144	3	10	59	62	12	18	22	637
Volumes	456	3639	235	496	2220	70	219	1324	1620	332	411	599	11621
Approach %	10.53	84.04	5.43	17.80	79.68	2.51	6.92	41.86	51.22	24.74	30.63	44.63	
App/Depart	4330	/	4457	2786	/	4172	3163	/	2055	1342	/	937	
Peak Volumes	153	1353	113	216	830	23	96	706	681	136	152	261	4720
Approach %	9.45	83.57	6.98	20.21	77.64	2.15	6.47	47.61	45.92	24.77	27.69	47.54	
Pk Hr FACTOR:	0.91			0.83			0.80			0.70			0.8994
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 8

Intersection Location: El Camino Real &
Palomar Airport Road

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Michael Baker

I N T E R N A T I O N A L

El Camino Real at Palomar Airport Road

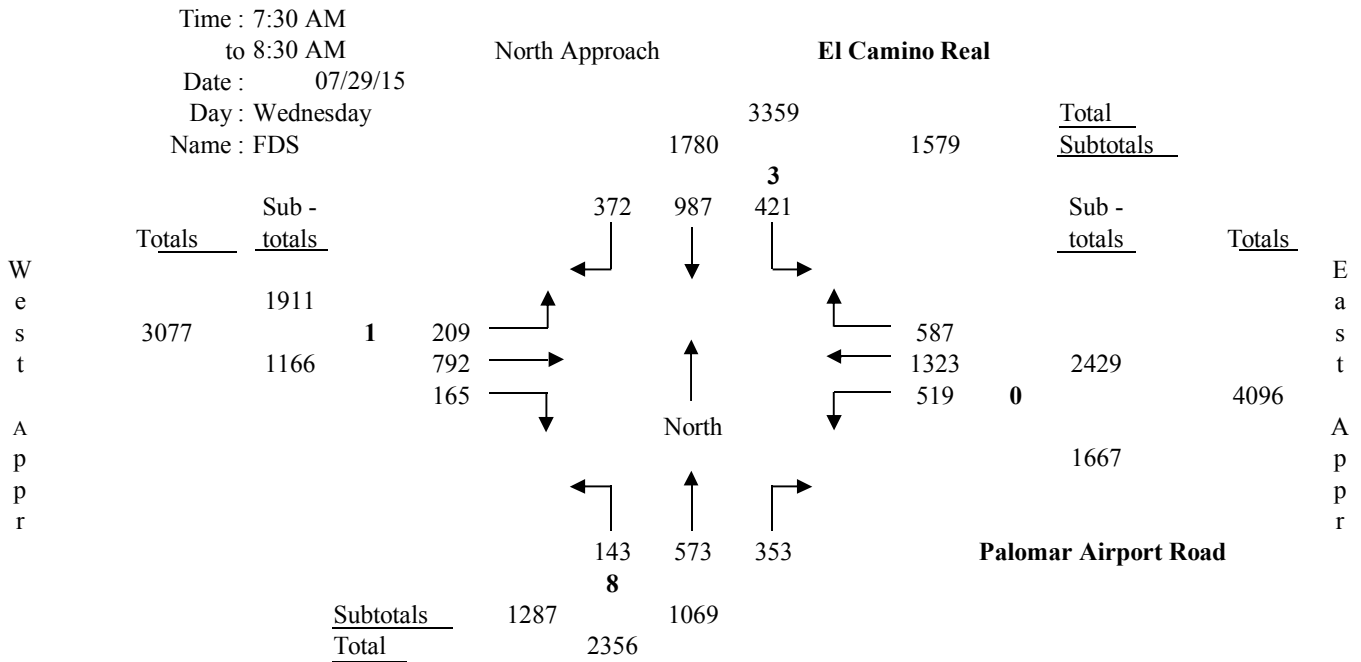
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30 AM to 8:30 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1		1			1			1	
		4		1		1			1			1	
		5		1		1			1			1	
		6					1			1			1
	Outside Free-flow	7		1									1
Lane Settings		2	3	2	2	3	1	2	3	1	2	3	2
Capacity		3600	6000	3600	3600	6000	1800	3600	6000	1800	3600	6000	3600
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		143	573	353	421	987	372	209	792	165	519	1323	587
Adjusted Hourly Volume		143	573	94	421	987	268	209	792	165	519	1323	587
Utilization Factor		0.04	0.10	0.03	0.12	0.16	0.15	0.06	0.13	0.09	0.14	0.22	0.16
Critical Factors		0.10			0.12			0.06			0.22		

ICU Ratio = 0.60 LOS = A

Turning Movements at Intersection of :

El Camino Real and Palomar Airport Road



El Camino Real at Palomar Airport Road

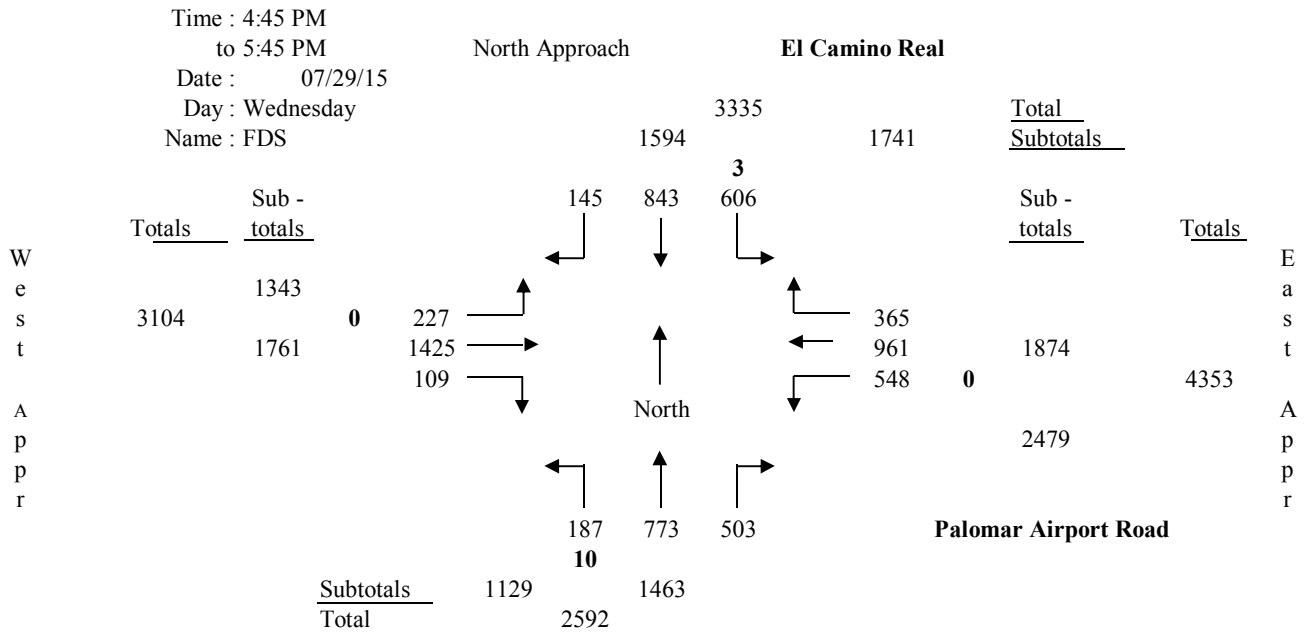
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:45 PM to 5:45 PM														
Lane Configurations	Inside (left)	1	1		1			1			1			
		2	1		1			1			1			
		3		1		1			1			1		
		4		1		1			1			1		
		5		1		1			1			1		
		6			1			1			1			1
	Outside Free-flow	7			1									1
Lane Settings		2	3	2	2	3	1	2	3	1	2	3	2	
Capacity		3600	6000	3600	3600	6000	1800	3600	6000	1800	3600	6000	3600	
Are the North/South phases split (Y/N)?				N										
Are the East/West phases split (Y/N)?				N										
Efficiency Lost Factor		0.10												
Hourly Volume		187	773	503	606	843	145	227	1425	109	548	961	365	
Adjusted Hourly Volume		187	773	229	606	843	32	227	1425	109	548	961	365	
Utilization Factor		0.05	0.13	0.06	0.17	0.14	0.02	0.06	0.24	0.06	0.15	0.16	0.10	
Critical Factors			0.13		0.17				0.24		0.15			

ICU Ratio = 0.79 LOS = C

Turning Movements at Intersection of:

El Camino Real and Palomar Airport Road



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: El Camino Real

DATE: 07/29/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: WEDNESDAY

PROJECT# 15-1194-008

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	2	2	3	1	2	3	1	2	3	2	
6:30 AM	13	54	16	28	87	41	29	136	16	89	285	99	893
6:45 AM	30	71	49	69	128	43	21	155	14	108	361	101	1150
7:00 AM	21	80	44	68	133	66	24	141	21	107	289	93	1087
7:15 AM	27	90	88	111	143	60	28	176	32	144	301	113	1313
7:30 AM	43	126	82	104	244	87	67	169	39	129	368	129	1587
7:45 AM	37	166	105	100	241	85	59	187	43	128	385	162	1698
8:00 AM	32	141	91	110	239	99	42	185	42	144	304	144	1573
8:15 AM	31	140	75	107	263	101	41	251	41	118	266	152	1586
8:30 AM	31	134	65	87	252	87	31	188	54	131	337	128	1525
8:45 AM	45	122	108	86	255	85	34	177	35	177	273	127	1524
9:00 AM	29	144	77	86	214	77	29	196	30	92	235	117	1326
9:15 AM	40	133	106	100	169	70	28	199	33	140	271	102	1391
Volumes	379	1401	906	1056	2368	901	433	2160	400	1507	3675	1467	16653
Approach %	14.11	52.16	33.73	24.42	54.75	20.83	14.47	72.17	13.36	22.67	55.27	22.06	
App/Depart	2686	/	3301	4325	/	4275	2993	/	4122	6649	/	4955	
Peak Volumes	143	573	353	421	987	372	209	792	165	519	1323	587	6444
Approach %	13.38	53.60	33.02	23.65	55.45	20.90	17.92	67.92	14.15	21.37	54.47	24.17	
Pk Hr FACTOR:	0.87			0.94			0.88			0.90			0.9488
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	43	154	104	147	185	25	42	317	28	109	200	78	1432
3:45 PM	45	166	111	154	166	32	45	289	24	100	228	99	1459
4:00 PM	41	163	108	133	187	30	41	358	29	133	241	96	1560
4:15 PM	34	222	89	122	185	33	44	344	33	108	233	85	1532
4:30 PM	34	214	103	141	181	29	59	322	30	105	236	87	1541
4:45 PM	42	166	133	148	199	42	60	341	32	122	258	104	1647
5:00 PM	47	185	131	155	214	41	41	355	28	141	244	101	1683
5:15 PM	55	214	128	167	222	32	66	374	24	154	245	85	1766
5:30 PM	43	208	111	136	208	30	60	355	25	131	214	75	1596
5:45 PM	49	222	122	143	163	33	65	363	24	122	189	87	1582
6:00 PM	42	214	104	108	166	29	54	311	21	106	208	66	1429
6:15 PM	69	154	109	107	154	28	41	289	14	99	177	63	1304
Volumes	544	2282	1353	1661	2230	384	618	4018	312	1430	2673	1026	18531
Approach %	13.02	54.61	32.38	38.85	52.16	8.98	12.49	81.20	6.31	27.88	52.12	20.00	
App/Depart	4179	/	3926	4275	/	3972	4948	/	7032	5129	/	3601	
Peak Volumes	187	773	503	606	843	145	227	1425	109	548	961	365	6692
Approach %	12.78	52.84	34.38	38.02	52.89	9.10	12.89	80.92	6.19	29.24	51.28	19.48	
Pk Hr FACTOR:	0.92			0.95			0.95			0.96			0.9473
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 9

Intersection Location: El Camino Real & Cassia Road

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	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
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Michael Baker

I N T E R N A T I O N A L

El Camino Real at Cassia Road

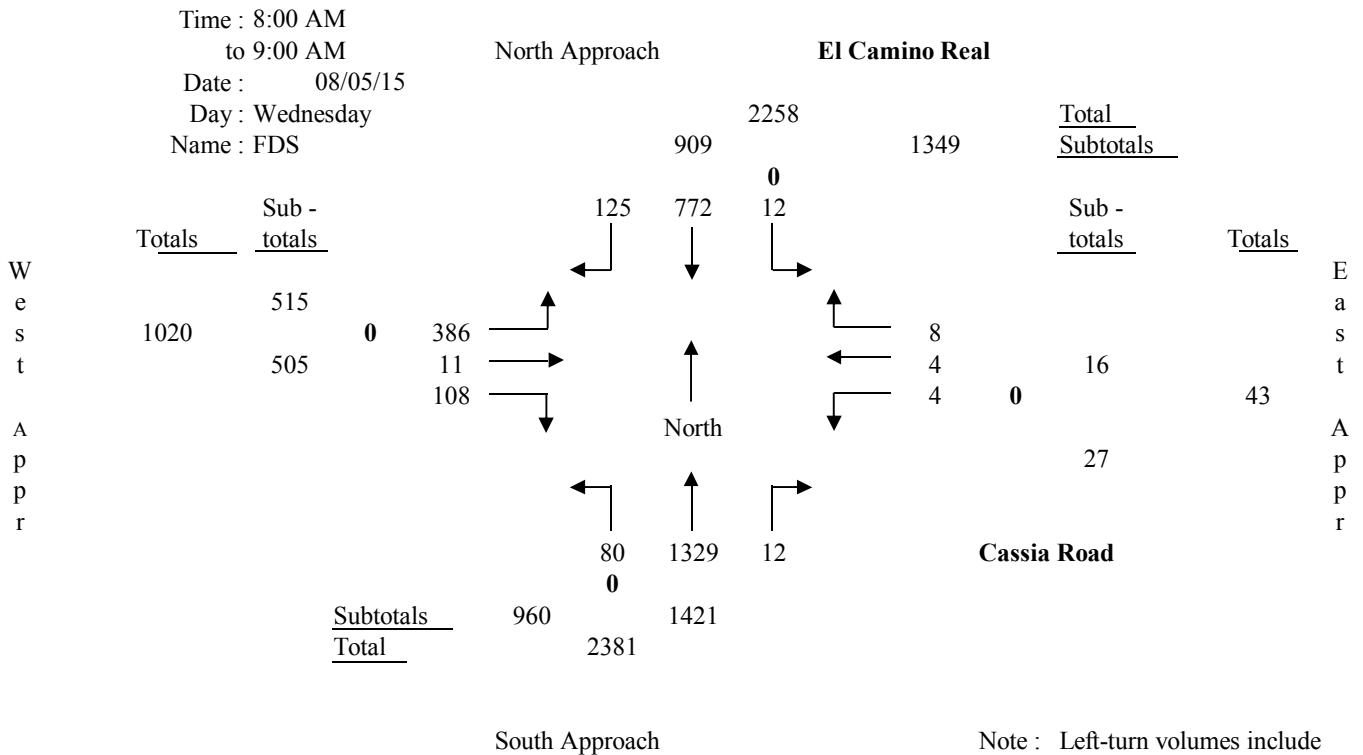
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
8:00 AM to 9:00 AM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1	1		1	
		3		1		1							
		4			1		1						
		5					1						
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	3	0	1	0	1	1	0	1
Capacity		1800	4000	1800	1800	6000	0	1800	0	1800	1800	0	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				Y									
Efficiency Lost Factor		0.10											
Hourly Volume		80	1329	12	12	772	125	386	11	108	4	4	8
Adjusted Hourly Volume		80	1329	12	12	897	0	386	0	119	4	0	12
Utilization Factor		0.04	0.33	0.01	0.01	0.15	0.00	0.21	0.00	0.07	0.00	0.00	0.01
Critical Factors		0.33			0.01			0.21			0.01		

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of :

El Camino Real and Cassia Road



Note : Left-turn volumes include U-turns. U-turns in bold.

El Camino Real at Cassia Road

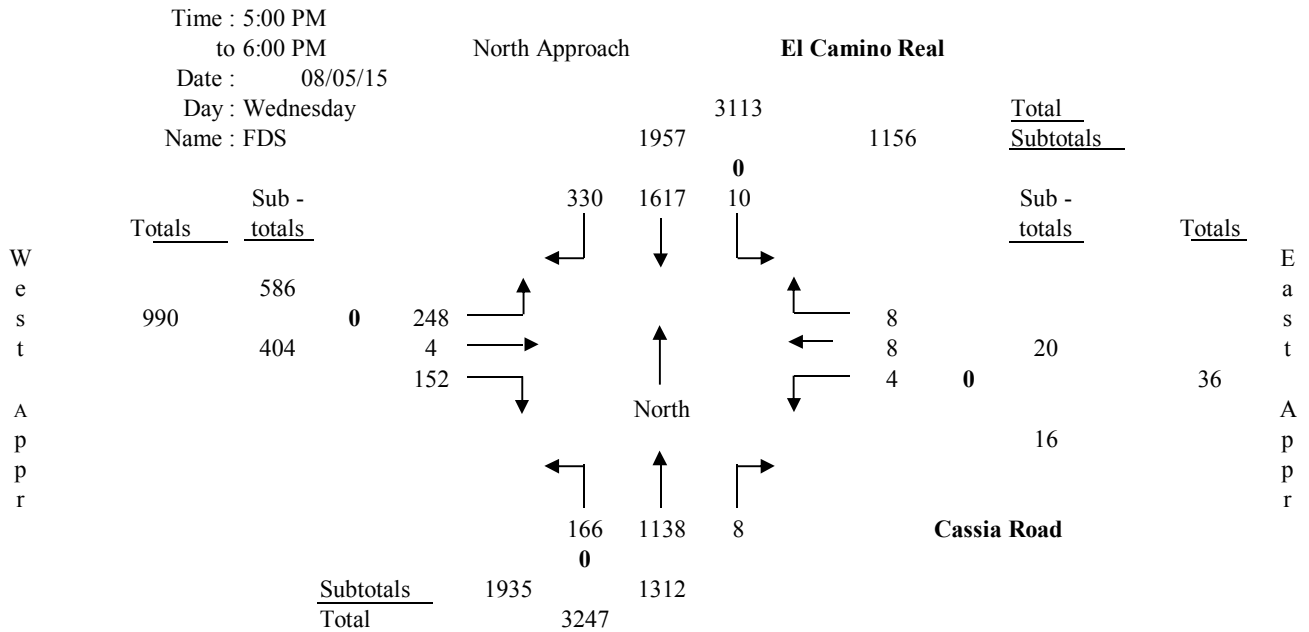
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5:00 PM	to												
6:00 PM													
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2		1		1			1	1		1	1
		3		1		1							
		4				1	1						
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	3	0	1	0	1	1	0	1
Capacity		1800	4000	1800	1800	6000	0	1800	0	1800	1800	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		166	1138	8	10	1617	330	248	4	152	4	8	8
Adjusted Hourly Volume		166	1138	8	10	1947	0	248	0	156	4	0	16
Utilization Factor		0.09	0.28	0.00	0.01	0.32	0.00	0.14	0.00	0.09	0.00	0.00	0.01
Critical Factors		0.09					0.32						0.01

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of :

El Camino Real and Cassia Road



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: El Camino Real

DATE: 08/05/2015

LOCATION: Carlsbad

E-W STREET: Cassia Rd.

DAY: WEDNESDAY

PROJECT# 15-1194-009

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	3	0	1	1	0	1	1	0	
6:30 AM	12	133	2	0	111	17	29	0	17	0	2	3	326
6:45 AM	19	185	5	2	121	21	33	1	21	1	1	3	413
7:00 AM	20	214	2	1	111	25	54	1	25	1	0	2	456
7:15 AM	21	255	3	4	158	32	75	2	24	0	1	5	580
7:30 AM	14	285	2	1	199	30	50	1	21	2	0	1	606
7:45 AM	18	341	5	1	200	29	59	4	18	1	0	4	680
8:00 AM	20	344	2	2	187	20	88	1	20	0	0	1	685
8:15 AM	25	352	4	3	185	22	96	2	25	1	1	2	718
8:30 AM	21	322	1	2	189	42	99	6	33	2	2	3	722
8:45 AM	14	311	5	5	211	41	103	2	30	1	1	2	726
9:00 AM	16	296	2	2	174	21	111	5	32	1	0	5	665
9:15 AM	13	225	3	1	185	28	87	2	25	1	1	2	573
Volumes	213	3263	36	24	2031	328	884	27	291	11	9	33	7150
Approach %	6.06	92.91	1.03	1.01	85.23	13.76	73.54	2.25	24.21	20.75	16.98	62.26	
App/Depart	3512	/	4180	2383	/	2333	1202	/	87	53	/	550	
Peak Volumes	80	1329	12	12	772	125	386	11	108	4	4	8	2851
Approach %	5.63	93.53	0.84	1.32	84.93	13.75	76.44	2.18	21.39	25.00	25.00	50.00	
Pk Hr FACTOR:	0.93			0.88			0.91			0.57			0.9817
AM Pk Hr at:	800												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	22	228	5	2	298	28	41	1	41	2	1	1	670
3:45 PM	20	241	6	5	299	58	75	1	42	1	2	2	752
4:00 PM	24	258	3	1	300	65	50	2	29	4	0	3	739
4:15 PM	41	236	2	4	352	60	59	1	33	1	1	2	792
4:30 PM	45	241	5	1	344	66	66	1	30	2	2	5	808
4:45 PM	50	244	2	2	374	59	60	2	32	3	3	2	833
5:00 PM	54	258	1	3	411	75	65	1	54	2	2	2	928
5:15 PM	41	322	4	2	455	87	58	0	41	1	1	3	1015
5:30 PM	42	300	1	1	396	80	59	1	28	0	4	2	914
5:45 PM	29	258	2	4	355	88	66	2	29	1	1	1	836
6:00 PM	33	241	1	1	352	89	60	5	33	1	2	4	822
6:15 PM	41	222	1	2	258	75	54	2	30	2	0	1	688
Volumes	442	3049	33	28	4194	830	713	19	422	20	19	28	9797
Approach %	12.54	86.52	0.94	0.55	83.02	16.43	61.79	1.65	36.57	29.85	28.36	41.79	
App/Depart	3524	/	3790	5052	/	4636	1154	/	80	67	/	1291	
Peak Volumes	166	1138	8	10	1617	330	248	4	152	4	8	8	3693
Approach %	12.65	86.74	0.61	0.51	82.63	16.86	61.39	0.99	37.62	20.00	40.00	40.00	
Pk Hr FACTOR:	0.89			0.90			0.84			0.83			0.9096
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 10

Intersection Location: El Camino Real & Poinsettia Lane

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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Poinsettia Lane

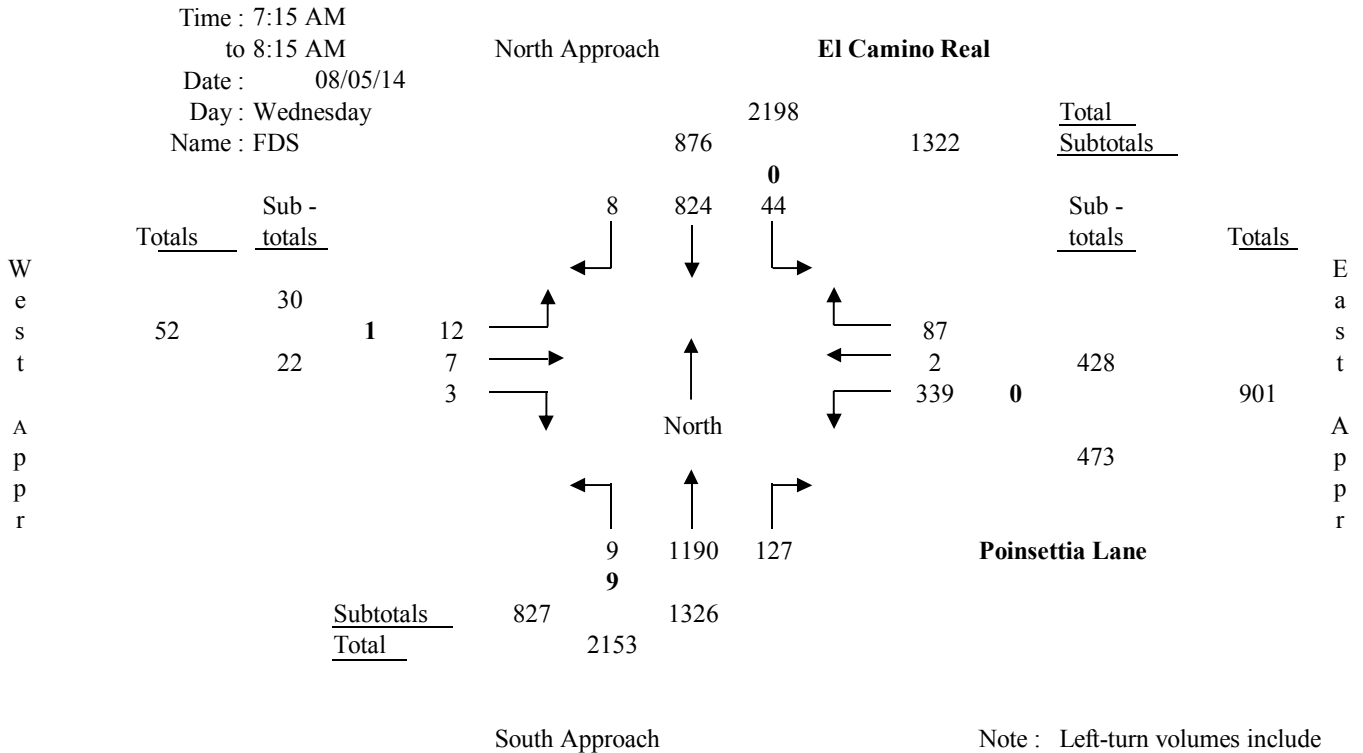
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1					1			1	
		4		1					1	1		1	1
		5		1			1						
		6											1
	Outside Free-flow	7											
Lane Settings		2	3	1	2	3	0	2	2	0	2	1	1
Capacity		3600	6000	1800	3600	6000	0	3600	4000	0	3600	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		9	1190	127	44	824	8	12	7	3	339	2	87
Adjusted Hourly Volume		9	1190	127	44	832	0	12	10	0	339	0	89
Utilization Factor		0.00	0.20	0.07	0.01	0.14	0.00	0.00	0.00	0.00	0.09	0.00	0.05
Critical Factors		0.20			0.01			0.00			0.09		

ICU Ratio = 0.40 LOS = A

Turning Movements at Intersection of :

El Camino Real and Poinsettia Lane



Note : Left-turn volumes include U-turns. U-turns in bold.

El Camino Real at Poinsettia Lane

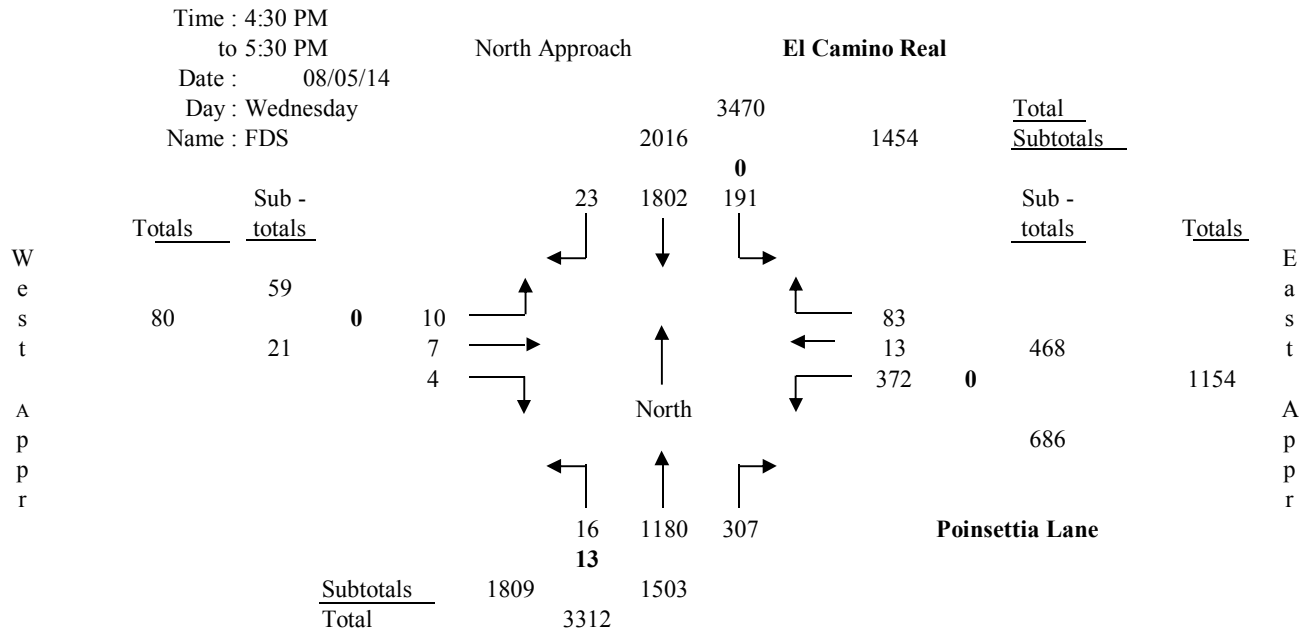
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM to 5:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1			1			1		1	
		4		1			1			1		1	
		5		1			1		1				
		6											
	Outside Free-flow	7											
Lane Settings		2	3	1	2	3	0	2	2	0	2	1	1
Capacity		3600	6000	1800	3600	6000	0	3600	4000	0	3600	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		16	1180	307	191	1802	23	10	7	4	372	13	83
Adjusted Hourly Volume		16	1180	307	191	1825	0	10	7	11	372	0	96
Utilization Factor		0.00	0.20	0.17	0.05	0.30	0.00	0.00	0.00	0.00	0.10	0.00	0.05
Critical Factors		0.00				0.30				0.10			

ICU Ratio = 0.50 LOS = A

Turning Movements at Intersection of :

El Camino Real and Poinsettia Lane



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: El Camino Real

DATE: 08/05/2015

LOCATION: Carlsbad

E-W STREET: Poinsettia Ln.
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-010

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	0	2	2	0	2	2	0	
6:30 AM	2	211	19	14	122	1	2	0	1	41	1	14	428
6:45 AM	3	209	21	12	143	1	1	0	1	49	1	16	457
7:00 AM	5	244	27	11	200	2	2	1	0	64	1	18	575
7:15 AM	4	281	24	8	227	1	4	1	1	93	0	22	666
7:30 AM	2	247	34	3	249	2	4	1	0	90	1	21	654
7:45 AM	2	377	41	16	180	2	2	5	1	84	1	27	738
8:00 AM	1	285	28	17	168	3	2	0	1	72	0	17	594
8:15 AM	3	274	21	7	196	2	1	0	3	52	0	37	596
8:30 AM	4	264	35	13	152	4	7	2	1	99	2	19	602
8:45 AM	9	341	42	24	185	3	0	3	0	50	0	42	699
9:00 AM	5	260	27	25	184	3	3	3	0	72	2	16	600
9:15 AM	6	212	18	8	143	9	1	0	0	30	2	34	463
Volumes	46	3205	337	158	2149	33	29	16	9	796	11	283	7072
Approach %	1.28	89.33	9.39	6.75	91.84	1.41	53.70	29.63	16.67	73.03	1.01	25.96	
App/Depart	3588	/	3517	2340	/	2954	54	/	511	1090	/	90	
Peak Volumes	9	1190	127	44	824	8	12	7	3	339	2	87	2652
Approach %	0.68	89.74	9.58	5.02	94.06	0.91	54.55	31.82	13.64	79.21	0.47	20.33	
Pk Hr FACTOR:	0.79			0.86			0.69			0.93			0.8984
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	2	192	37	16	281	5	2	0	0	33	4	9	581
3:45 PM	1	197	52	42	292	6	0	0	1	44	2	23	660
4:00 PM	2	298	64	31	370	7	1	0	2	82	6	23	886
4:15 PM	1	289	89	78	366	5	1	0	1	65	1	31	927
4:30 PM	1	310	89	27	482	4	0	4	2	84	3	20	1026
4:45 PM	3	278	58	34	361	2	0	0	0	91	2	23	852
5:00 PM	5	305	81	70	469	6	5	2	1	146	5	25	1120
5:15 PM	7	287	79	60	490	11	5	1	1	51	3	15	1010
5:30 PM	3	245	64	27	354	5	1	0	1	57	1	17	775
5:45 PM	4	251	65	20	264	7	1	1	3	57	3	27	703
6:00 PM	2	215	77	38	294	3	5	1	0	38	2	12	687
6:15 PM	2	236	62	31	313	1	1	0	0	39	3	20	708
Volumes	33	3103	817	474	4336	62	22	9	12	787	35	245	9935
Approach %	0.83	78.50	20.67	9.73	89.00	1.27	51.16	20.93	27.91	73.76	3.28	22.96	
App/Depart	3953	/	3370	4872	/	5135	43	/	1300	1067	/	130	
Peak Volumes	16	1180	307	191	1802	23	10	7	4	372	13	83	4008
Approach %	1.06	78.51	20.43	9.47	89.38	1.14	47.62	33.33	19.05	79.49	2.78	17.74	
Pk Hr FACTOR:	0.94			0.90			0.66			0.66			0.8946
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 11

Intersection Location: El Camino Real &
Alga Road/Aviara Parkway

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Michael Baker

I N T E R N A T I O N A L

El Camino Real at Alga Road/ Aviara Parkway

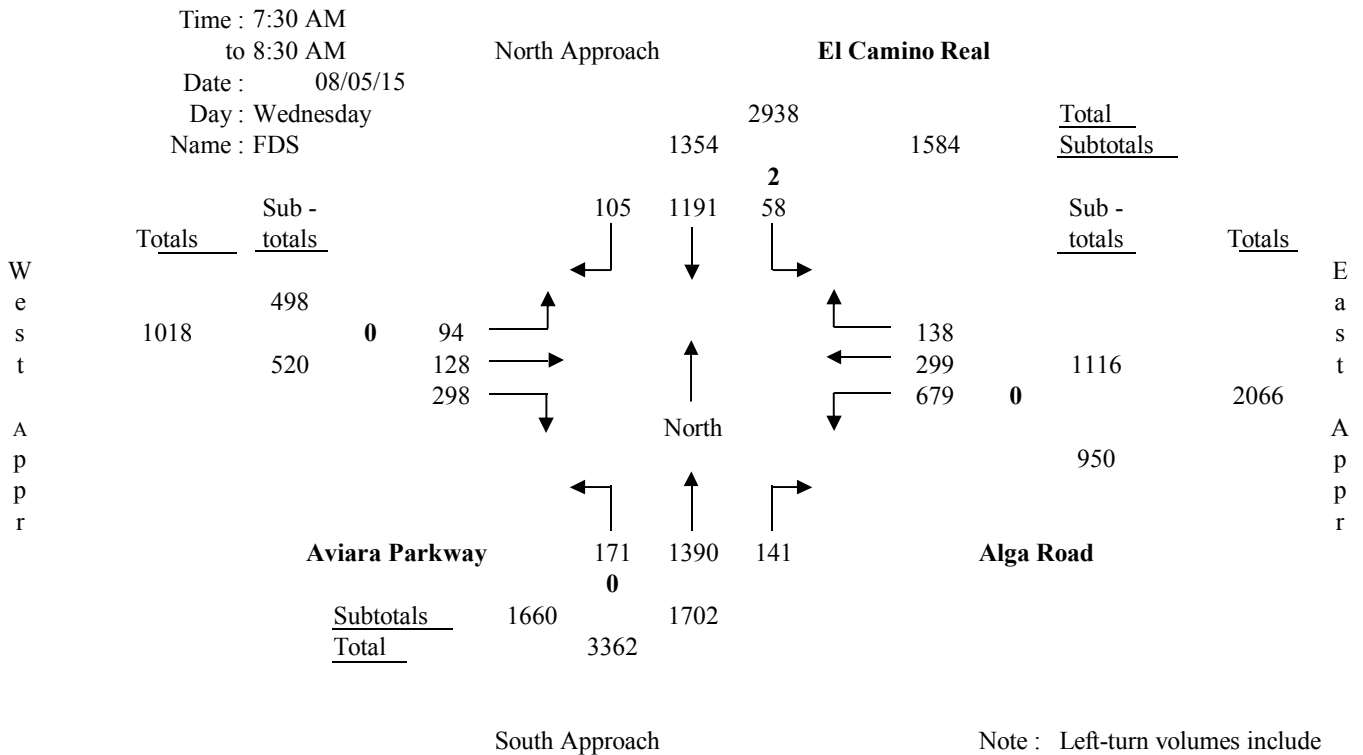
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30 AM to 8:30 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1		1			1			1	
		4		1		1			1			1	1
		5		1		1	1			1			
	Outside	6											
	Free-flow	7		1									
Lane Settings		2	3	1	2	3	0	2	2	1	2	2	0
Capacity		3600	6000	1800	3600	6000	0	3600	4000	1800	3600	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		171	1390	141	58	1191	105	94	128	298	679	299	138
Adjusted Hourly Volume		171	1390	141	58	1296	0	94	128	213	679	437	0
Utilization Factor		0.05	0.23	0.08	0.02	0.22	0.00	0.03	0.03	0.12	0.19	0.11	0.00
Critical Factors		0.05			0.22			0.12			0.19		

ICU Ratio = 0.68 LOS = B

Turning Movements at Intersection of :

El Camino Real and Alga Road/ Aviara Parkway



El Camino Real at Alga Road/ Aviara Parkway

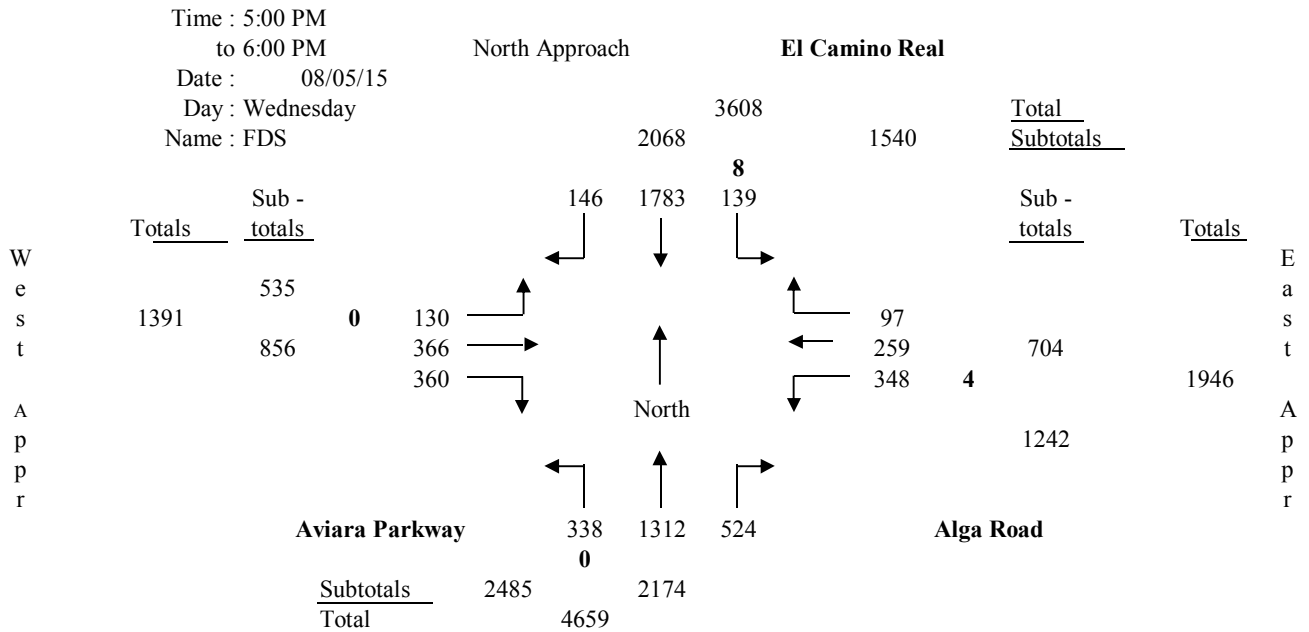
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
5:00 PM to 6:00 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1			1		1			1	
		4		1			1		1			1	1
		5		1			1			1			
		6											
	Outside Free-flow	7					1						
Lane Settings		2	3	1	2	3	0	2	2	1	2	2	0
Capacity		3600	6000	1800	3600	6000	0	3600	4000	1800	3600	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		338	1312	524	139	1783	146	130	366	360	348	259	97
Adjusted Hourly Volume		338	1312	524	139	1929	0	130	366	191	348	356	0
Utilization Factor		0.09	0.22	0.29	0.04	0.32	0.00	0.04	0.09	0.11	0.10	0.09	0.00
Critical Factors		0.09			0.32						0.11 0.10		

ICU Ratio = 0.72 LOS = C

Turning Movements at Intersection of :

El Camino Real and Alga Road/ Aviara Parkway



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: El Camino Real

DATE: 08/05/2015

LOCATION: Carlsbad

E-W STREET: Alga Rd/Aviara Pkwy
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-011

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	0	2	2	1	2	2	0	
6:30 AM	11	128	13	3	134	15	9	12	16	121	47	15	524
6:45 AM	19	184	10	10	200	14	8	18	37	146	47	16	709
7:00 AM	22	161	28	8	234	16	12	20	38	133	46	24	742
7:15 AM	28	221	24	8	260	6	13	17	37	164	61	25	864
7:30 AM	30	291	21	8	328	23	21	24	58	154	82	32	1072
7:45 AM	57	434	47	16	339	24	22	29	76	199	83	44	1370
8:00 AM	37	322	46	16	252	32	15	31	87	148	63	23	1072
8:15 AM	47	343	27	18	272	26	36	44	77	178	71	39	1178
8:30 AM	45	295	38	17	239	24	21	46	57	122	56	32	992
8:45 AM	77	345	60	11	208	28	30	28	80	159	50	39	1115
9:00 AM	59	294	55	22	181	27	20	38	87	112	57	41	993
9:15 AM	55	253	52	19	196	42	26	35	93	118	67	23	979
Volumes	487	3271	421	156	2843	277	233	342	743	1754	730	353	11610
Approach %	11.65	78.27	10.07	4.76	86.78	8.46	17.68	25.95	56.37	61.83	25.73	12.44	
App/Depart	4179	/	3857	3276	/	5340	1318	/	919	2837	/	1494	
Peak Volumes	171	1390	141	58	1191	105	94	128	298	679	299	138	4692
Approach %	10.05	81.67	8.28	4.28	87.96	7.75	18.08	24.62	57.31	60.84	26.79	12.37	
Pk Hr FACTOR:	0.79			0.89			0.83			0.86			0.8562
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	90	275	54	21	285	22	25	63	59	86	50	20	1050
3:45 PM	87	272	43	27	341	27	26	75	69	76	54	21	1118
4:00 PM	77	338	35	29	288	43	21	63	89	90	66	22	1161
4:15 PM	59	326	43	42	278	41	26	75	101	87	63	21	1162
4:30 PM	76	342	76	43	295	41	25	86	78	87	75	18	1242
4:45 PM	66	351	82	34	338	29	25	96	78	78	69	11	1257
5:00 PM	69	341	139	28	425	25	24	76	88	81	67	22	1385
5:15 PM	76	328	122	42	525	32	29	104	88	89	63	21	1519
5:30 PM	94	324	141	33	483	41	28	98	89	89	66	26	1512
5:45 PM	99	319	122	36	350	48	49	88	95	89	63	28	1386
6:00 PM	100	344	132	29	341	41	36	82	89	90	49	19	1352
6:15 PM	99	328	114	30	294	27	26	80	63	76	41	15	1193
Volumes	992	3888	1103	394	4243	417	340	986	986	1018	726	244	15337
Approach %	16.58	64.98	18.44	7.80	83.95	8.25	14.71	42.65	42.65	51.21	36.52	12.27	
App/Depart	5983	/	4472	5054	/	6247	2312	/	2483	1988	/	2135	
Peak Volumes	338	1312	524	139	1783	146	130	366	360	348	259	97	5802
Approach %	15.55	60.35	24.10	6.72	86.22	7.06	15.19	42.76	42.06	49.43	36.79	13.78	
Pk Hr FACTOR:	0.97			0.86			0.92			0.97			0.9549
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 12

Intersection Location: El Camino Real & La Costa Avenue

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Michael Baker

I N T E R N A T I O N A L

El Camino Real at La Costa Avenue

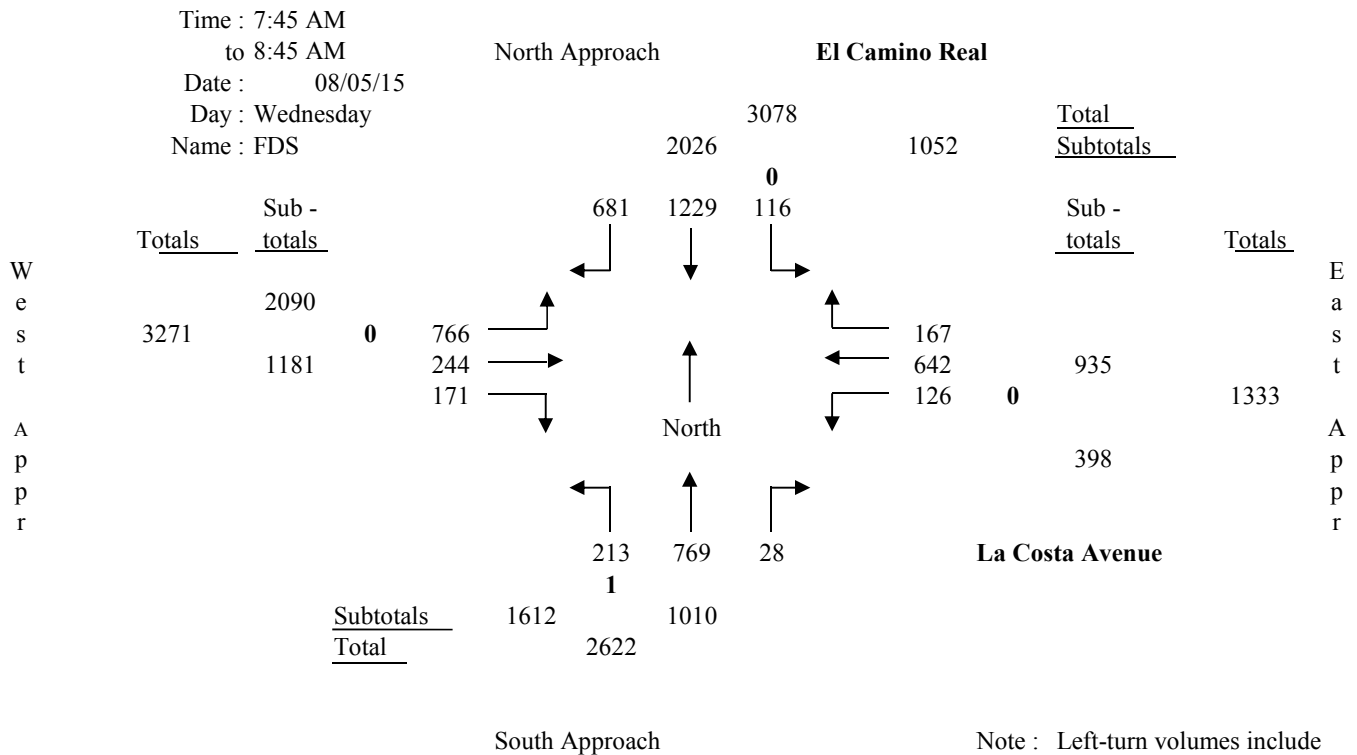
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:45 AM to 8:45 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1		1			1			1		
		2	1		1			1				1	
		3		1					1				
		4		1					1				
		5		1	1								1
		6					1						
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	1	2	2	1	1	2	1
Capacity		3600	6000	0	3600	6000	1800	3600	4000	1800	1800	4000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		213	769	28	116	1229	681	766	244	171	126	642	167
Adjusted Hourly Volume		213	797	0	116	1229	298	766	244	171	126	642	167
Utilization Factor		0.06	0.13	0.00	0.03	0.20	0.17	0.21	0.06	0.10	0.07	0.16	0.09
Critical Factors		0.06			0.20			0.21			0.16		

ICU Ratio = 0.73 LOS = C

Turning Movements at Intersection of :

El Camino Real and La Costa Avenue



El Camino Real at La Costa Avenue

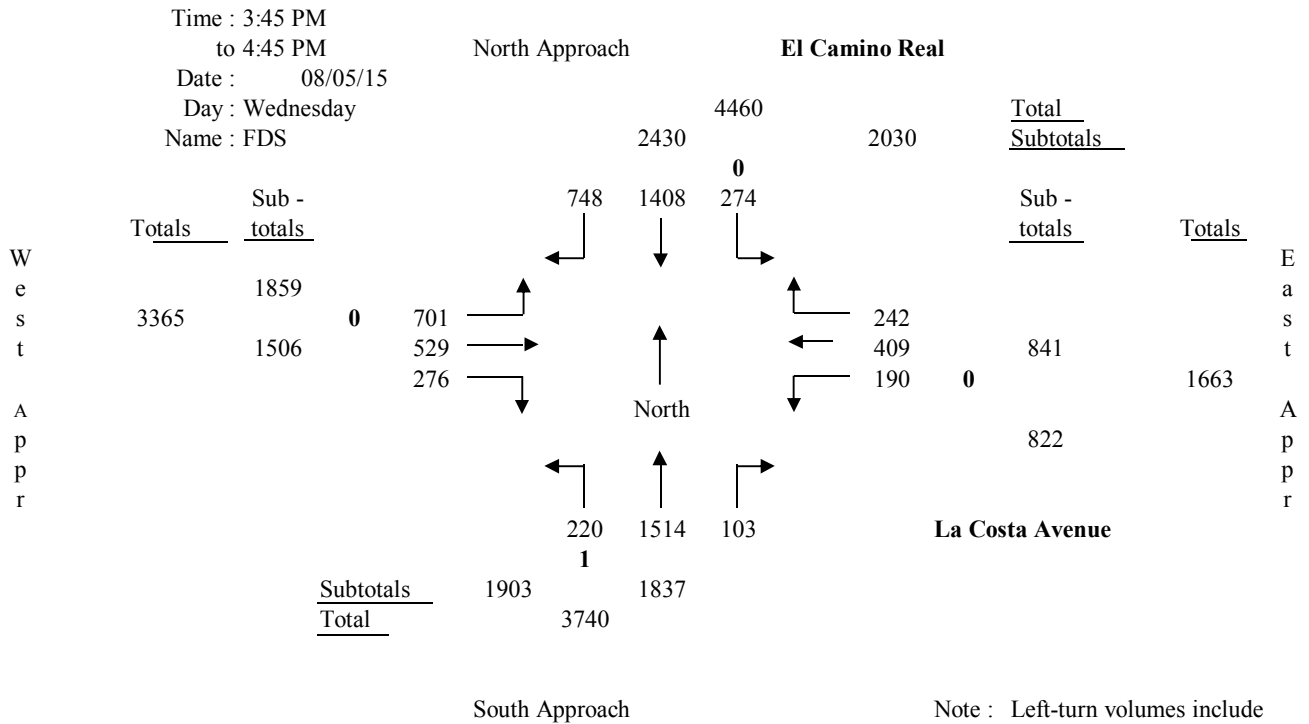
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45 PM to 4:45 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1				1	
		3		1			1			1		1	
		4		1			1			1			1
		5		1	1		1				1		
		6											1
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	1	2	2	1	1	2	1
Capacity		3600	6000	0	3600	6000	1800	3600	4000	1800	1800	4000	1800
Are the North/South phases split (Y/N)?					N						N		
Are the East/West phases split (Y/N)?					N						N		
Efficiency Lost Factor		0.10											
Hourly Volume		220	1514	103	274	1408	748	701	529	276	190	409	242
Adjusted Hourly Volume		220	1617	0	274	1408	398	701	529	276	190	409	242
Utilization Factor		0.06	0.27	0.00	0.08	0.23	0.22	0.19	0.13	0.15	0.11	0.10	0.13
Critical Factors			0.27		0.08			0.19					0.13

ICU Ratio = 0.77 LOS = C

Turning Movements at Intersection of:

El Camino Real and La Costa Avenue



N-S STREET: El Camino Real

DATE: 08/05/2015

LOCATION: Carlsbad

 E-W STREET: La Costa Ave.
 CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-012

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	1	2	2	1	1	2	1	
6:30 AM	18	73	3	17	158	117	125	58	45	17	125	11	767
6:45 AM	27	88	5	14	174	125	127	51	47	24	129	19	830
7:00 AM	36	107	2	22	236	156	133	56	51	31	133	23	986
7:15 AM	40	143	1	26	275	178	137	48	47	33	131	47	1106
7:30 AM	42	160	5	23	304	173	152	55	48	37	126	58	1183
7:45 AM	55	179	7	25	338	171	164	52	48	35	146	36	1256
8:00 AM	54	186	10	30	323	184	201	62	44	31	151	39	1315
8:15 AM	51	195	6	32	288	191	208	72	42	29	168	42	1324
8:30 AM	53	209	5	29	280	135	193	58	37	31	177	50	1257
8:45 AM	39	207	8	25	274	86	122	50	36	29	149	37	1062
9:00 AM	22	201	12	34	258	111	137	50	33	25	112	24	1019
9:15 AM	26	198	9	42	250	113	143	46	30	31	127	25	1040
Volumes	463	1946	73	319	3158	1740	1842	658	508	353	1674	411	13145
Approach %	18.65	78.40	2.94	6.11	60.53	33.35	61.24	21.88	16.89	14.48	68.66	16.86	
App/Depart	2482	/	4199	5217	/	4019	3008	/	1050	2438	/	3877	
Peak Volumes	213	769	28	116	1229	681	766	244	171	126	642	167	5152
Approach %	21.09	76.14	2.77	5.73	60.66	33.61	64.86	20.66	14.48	13.48	68.66	17.86	
Pk Hr FACTOR:	0.95			0.94			0.92			0.91			0.9728
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	53	345	17	59	353	164	163	140	67	44	85	48	1538
3:45 PM	54	372	23	66	344	160	174	142	66	45	93	55	1594
4:00 PM	56	385	28	60	360	192	166	130	72	47	110	70	1676
4:15 PM	58	380	27	76	362	200	172	128	75	47	104	59	1688
4:30 PM	52	377	25	72	342	196	189	129	63	51	102	58	1656
4:45 PM	47	326	21	52	273	177	181	127	47	45	100	41	1437
5:00 PM	32	260	19	48	317	168	196	119	35	49	76	32	1351
5:15 PM	37	269	16	57	262	169	200	137	45	44	65	29	1330
5:30 PM	30	274	22	60	250	157	184	122	44	42	73	30	1288
5:45 PM	39	273	14	55	221	169	188	120	45	40	54	33	1251
6:00 PM	46	273	20	51	216	152	185	120	38	43	68	39	1251
6:15 PM	45	283	26	51	209	153	169	119	33	48	54	41	1231
Volumes	549	3817	258	707	3509	2057	2167	1533	630	545	984	535	17291
Approach %	11.87	82.55	5.58	11.27	55.94	32.79	50.05	35.40	14.55	26.41	47.67	25.92	
App/Depart	4624	/	6519	6273	/	4684	4330	/	2498	2064	/	3590	
Peak Volumes	220	1514	103	274	1408	748	701	529	276	190	409	242	6614
Approach %	11.98	82.42	5.61	11.28	57.94	30.78	46.55	35.13	18.33	22.59	48.63	28.78	
Pk Hr FACTOR:	0.98			0.95			0.99			0.93			0.9796
PM Pk Hr at:	345												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 13

Intersection Location: El Camino Real & Calle Barcelona

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

El Camino Real at Calle Barcelona

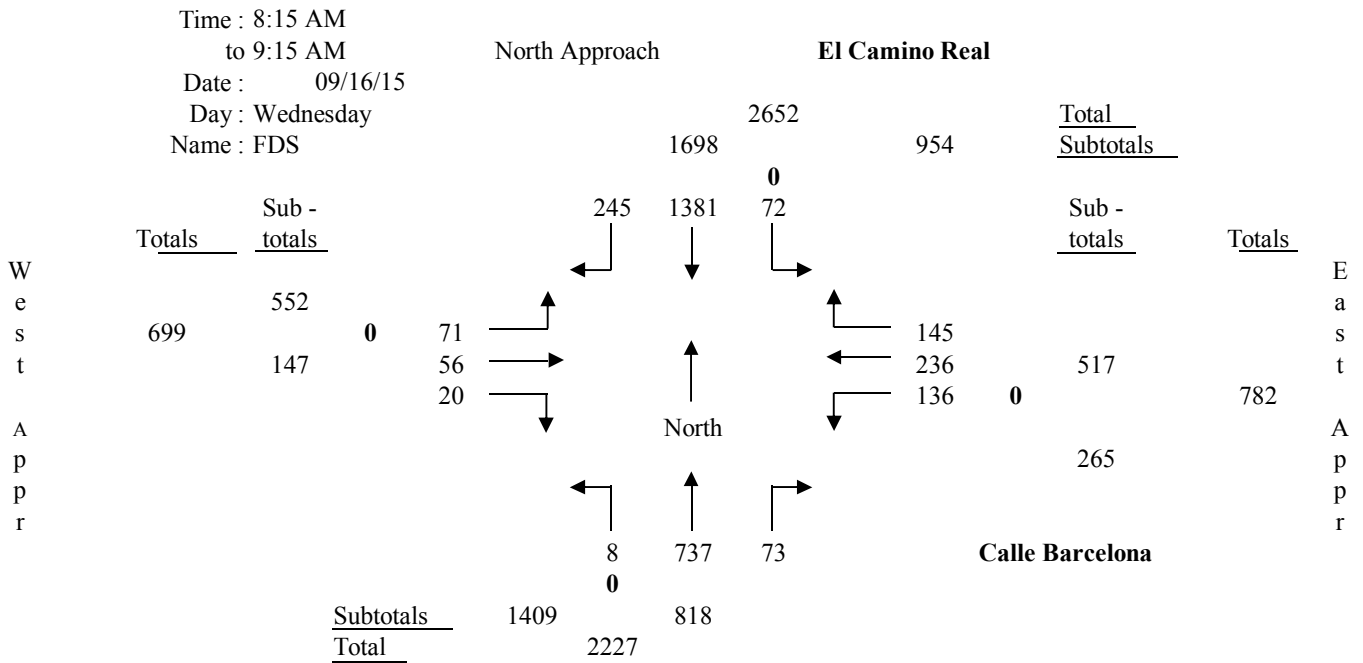
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15 AM to 9:15 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1				1			1	
		3		1		1				1			1
		4		1		1							
		5		1	1	1	1						
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	1	2	0	1	1	1
Capacity		3600	6000	0	3600	6000	0	1800	4000	0	1800	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		8	737	73	72	1381	245	71	56	20	136	236	145
Adjusted Hourly Volume		8	810	0	72	1626	0	71	76	0	136	236	145
Utilization Factor		0.00	0.14	0.00	0.02	0.27	0.00	0.04	0.02	0.00	0.08	0.12	0.08
Critical Factors		0.00			0.27			0.04			0.12		

ICU Ratio = 0.53 LOS = A

Turning Movements at Intersection of :

El Camino Real and Calle Barcelona



Note : Left-turn volumes include U-turns. U-turns in bold.

El Camino Real at Calle Barcelona

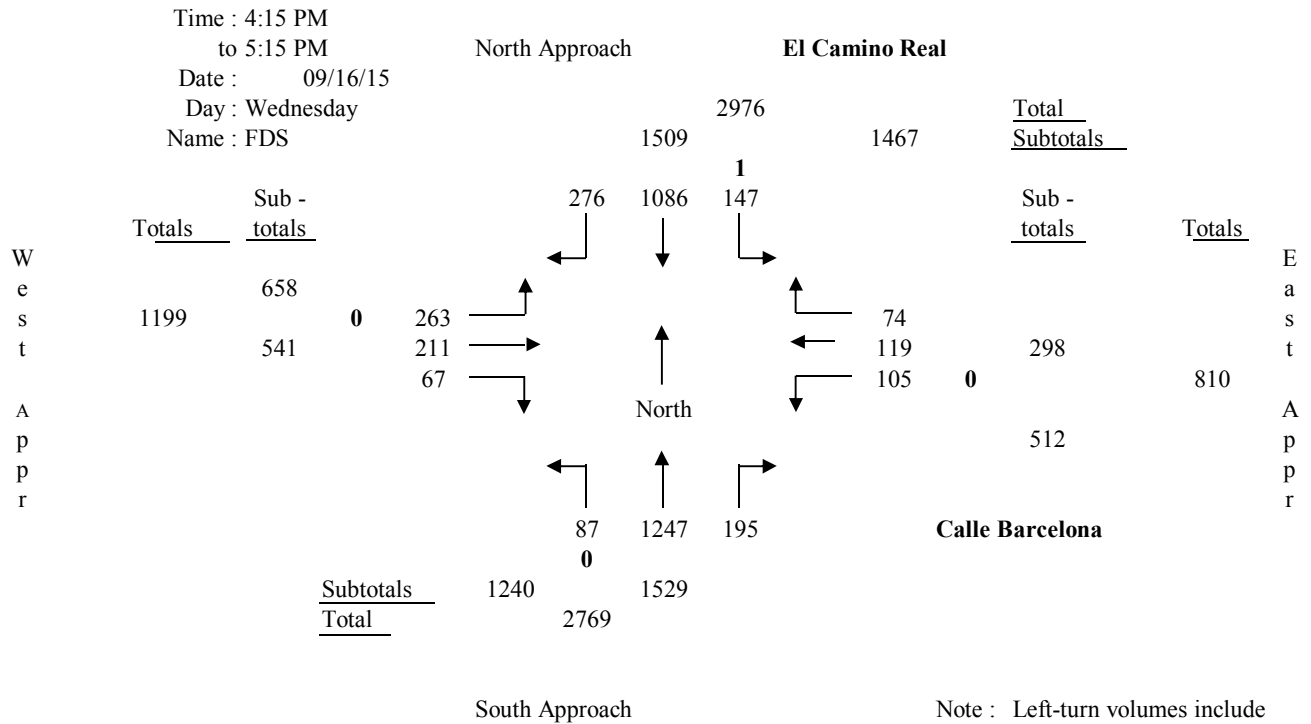
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:15 PM to 5:15 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2	1		1				1			1	
		3		1		1			1	1			1
		4		1		1							
		5		1	1		1						
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	1	2	0	1	1	1
Capacity		3600	6000	0	3600	6000	0	1800	4000	0	1800	2000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		87	1247	195	147	1086	276	263	211	67	105	119	74
Adjusted Hourly Volume		87	1442	0	147	1362	0	263	278	0	105	119	74
Utilization Factor		0.02	0.24	0.00	0.04	0.23	0.00	0.15	0.07	0.00	0.06	0.06	0.04
Critical Factors			0.24		0.04			0.15				0.06	

ICU Ratio = 0.59 LOS = A

Turning Movements at Intersection of :

El Camino Real and Calle Barcelona





N-S STREET: El Camino Real

DATE: 09/16/2015

LOCATION: Carlsbad

E-W STREET: Calle Barcelona
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-013

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	0	1	2	0	1	1	1	
6:30 AM	2	43	2	6	99	16	9	6	2	21	41	8	255
6:45 AM	1	60	8	5	159	14	11	5	5	24	42	21	355
7:00 AM	2	89	5	8	199	21	10	8	2	25	28	20	417
7:15 AM	1	122	9	14	222	42	7	14	6	32	54	22	545
7:30 AM	3	128	6	10	209	41	12	21	3	30	41	29	533
7:45 AM	1	141	11	11	314	54	8	20	2	29	45	42	678
8:00 AM	1	161	10	13	344	58	5	15	5	42	50	41	745
8:15 AM	2	166	14	16	341	54	16	13	2	41	56	54	775
8:30 AM	1	185	18	15	352	65	20	19	4	32	66	32	809
8:45 AM	4	187	20	17	363	60	21	14	7	30	60	30	813
9:00 AM	1	199	21	24	325	66	14	10	7	33	54	29	783
9:15 AM	5	196	25	25	322	59	19	11	4	29	41	28	764
Volumes	24	1677	149	164	3249	550	152	156	49	368	578	356	7472
Approach %	1.30	90.65	8.05	4.14	81.98	13.88	42.58	43.70	13.73	28.26	44.39	27.34	
App/Depart	1850	/	2185	3963	/	3666	357	/	469	1302	/	1152	
Peak Volumes	8	737	73	72	1381	245	71	56	20	136	236	145	3180
Approach %	0.98	90.10	8.92	4.24	81.33	14.43	48.30	38.10	13.61	26.31	45.65	28.05	
Pk Hr FACTOR:	0.93			0.96			0.85			0.86			0.9779
AM Pk Hr at:	815												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	12	244	28	22	228	50	69	41	19	25	33	25	796
3:45 PM	15	258	24	26	242	74	66	24	22	32	30	25	838
4:00 PM	18	322	41	24	263	87	60	28	20	30	32	24	949
4:15 PM	20	296	42	28	299	65	55	50	21	33	35	20	964
4:30 PM	21	285	45	41	263	60	74	55	14	26	32	19	935
4:45 PM	25	325	50	55	266	66	75	52	19	25	28	14	1000
5:00 PM	21	341	58	23	258	85	59	54	13	21	24	21	978
5:15 PM	14	322	54	29	245	50	60	50	11	24	29	24	912
5:30 PM	16	301	41	32	277	45	65	45	10	20	30	25	907
5:45 PM	13	299	75	35	274	42	58	74	14	29	33	21	967
6:00 PM	15	296	50	30	241	41	54	57	18	24	28	24	878
6:15 PM	19	225	59	34	236	54	75	58	20	28	24	28	860
Volumes	209	3514	567	379	3092	719	770	588	201	317	358	270	10984
Approach %	4.87	81.91	13.22	9.05	73.79	17.16	49.39	37.72	12.89	33.54	37.88	28.57	
App/Depart	4290	/	4554	4190	/	3610	1559	/	1534	945	/	1286	
Peak Volumes	87	1247	195	147	1086	276	263	211	67	105	119	74	3877
Approach %	5.69	81.56	12.75	9.74	71.97	18.29	48.61	39.00	12.38	35.23	39.93	24.83	
Pk Hr FACTOR:	0.91			0.96			0.93			0.85			0.9693
PM Pk Hr at:	415												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 14

Intersection Location: Palomar Airport Road &
Avenida Encinas

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Palomar Airport Road at Avenida Encinas

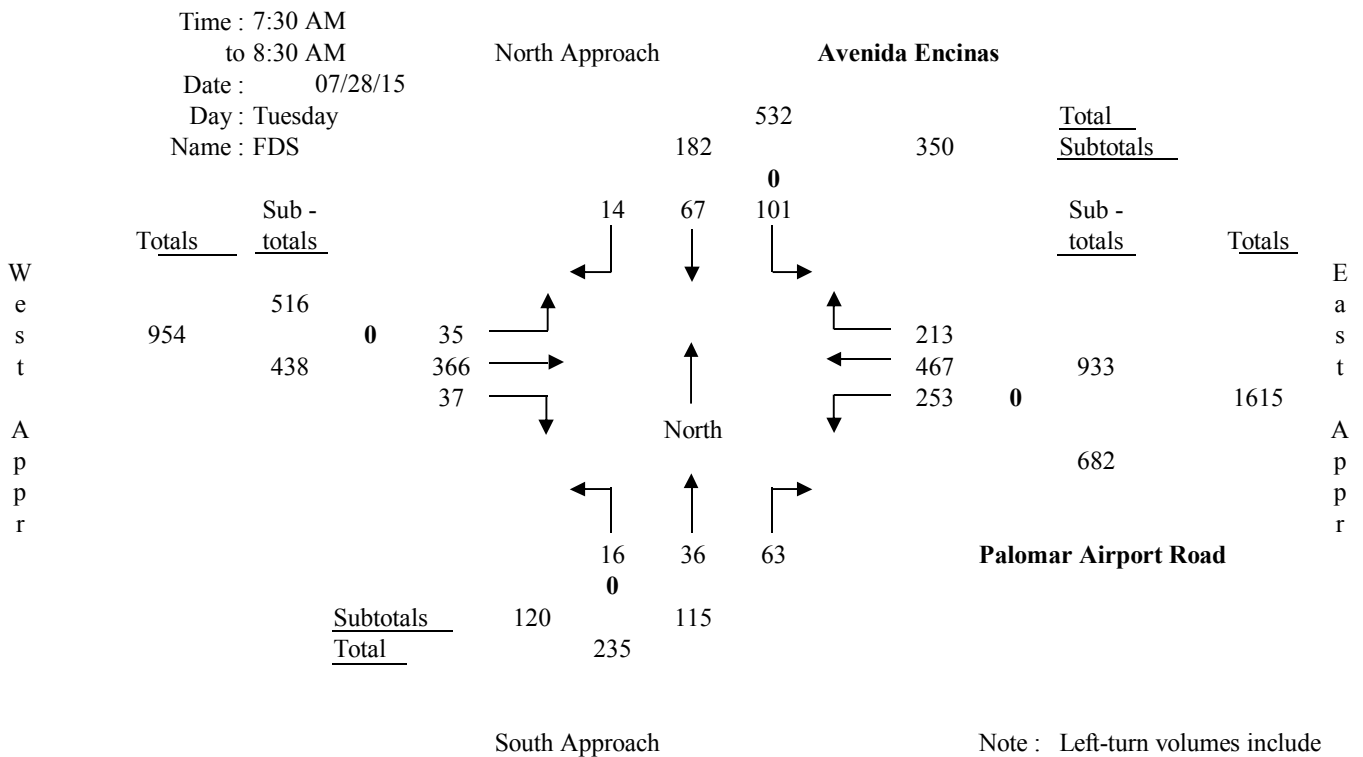
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1	1	1			1	1		1	
		3					1						1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	2	0	1	1	1	0	1	1	1
Capacity		1800	2000	1800	3600	0	1800	1800	2000	0	1800	2000	1800
Are the North/South phases split (Y/N)?				Y									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		16	36	63	101	67	14	35	366	37	253	467	213
Adjusted Hourly Volume		16	36	63	168	0	14	35	403	0	253	467	213
Utilization Factor		0.01	0.02	0.04	0.05	0.00	0.01	0.02	0.20	0.00	0.14	0.23	0.12
Critical Factors				0.04	0.05				0.20		0.14		

ICU Ratio = 0.53 LOS = A

Turning Movements at Intersection of :

Palomar Airport Road and Avenida Encinas



Palomar Airport Road at Avenida Encinas

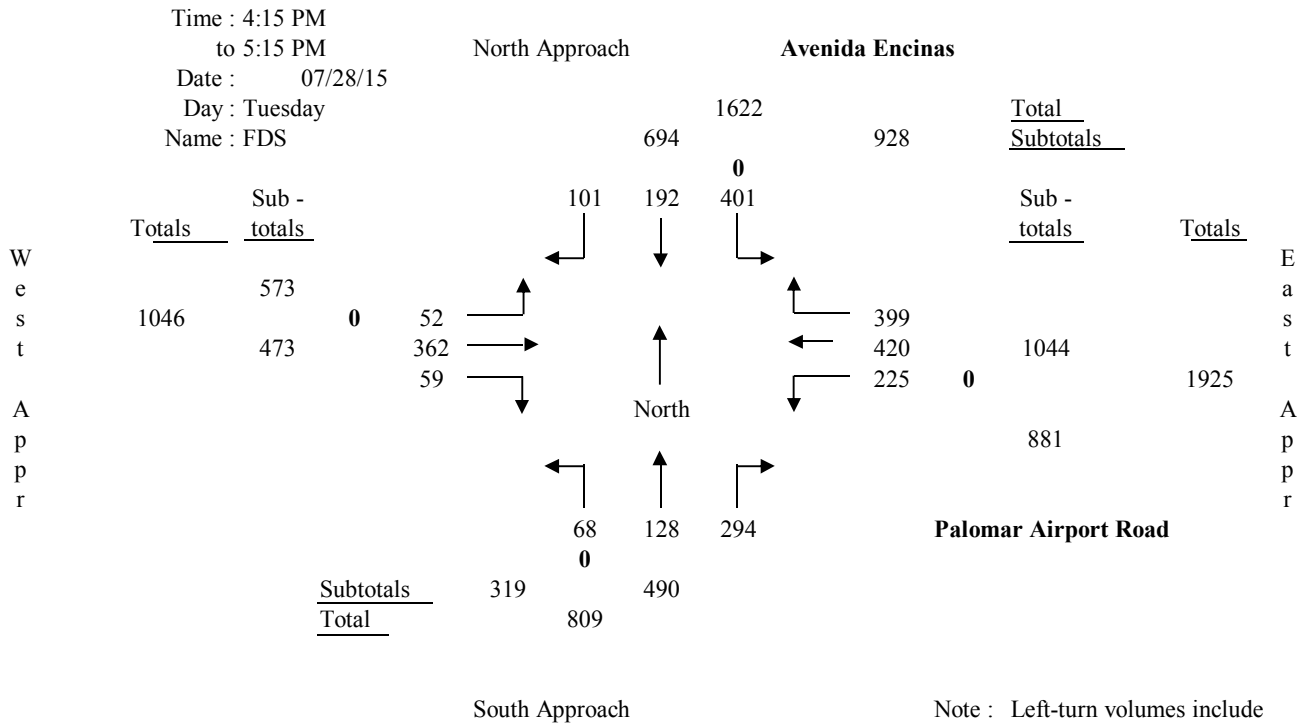
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:15 PM	to												
5:15 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1	1	1			1	1			
		3					1						1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	2	0	1	1	1	0	1	1	1
Capacity		1800	2000	1800	3600	0	1800	1800	2000	0	1800	2000	1800
Are the North/South phases split (Y/N)?					Y								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		68	128	294	401	192	101	52	362	59	225	420	399
Adjusted Hourly Volume		68	128	294	593	0	101	52	421	0	225	420	399
Utilization Factor		0.04	0.06	0.16	0.16	0.00	0.06	0.03	0.21	0.00	0.13	0.21	0.22
Critical Factors				0.16	0.16				0.21		0.13		

ICU Ratio = 0.76 LOS = C

Turning Movements at Intersection of:

Palomar Airport Road and Avenida Encinas



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: Avenida Encinas

DATE: 07/28/15

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: TUESDAY

PROJECT# 15-1194-014

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	2	0	1	0	3	0	0	2	0	
6:30 AM	2	3	19	26	9	3	3	35	7	80	52	35	274
6:45 AM	4	6	15	24	6	6	6	54	15	73	67	45	321
7:00 AM	1	7	18	26	8	4	4	63	3	57	63	36	290
7:15 AM	3	4	21	18	8	4	4	85	3	42	157	37	386
7:30 AM	1	4	8	17	5	6	12	103	9	58	151	40	414
7:45 AM	1	6	14	21	25	2	6	109	10	89	126	51	460
8:00 AM	8	19	24	37	11	2	12	65	8	58	89	68	401
8:15 AM	6	7	17	26	26	4	5	89	10	48	101	54	393
8:30 AM	3	12	32	24	17	5	12	76	10	57	83	58	389
8:45 AM	5	4	34	28	17	3	10	105	4	48	103	40	401
9:00 AM	7	10	38	37	13	4	5	89	7	65	79	57	411
9:15 AM	5	26	39	45	16	13	1	69	8	60	59	50	391
Volumes	46	108	279	329	161	56	80	942	94	735	1130	571	4531
Approach %	10.62	24.94	64.43	60.26	29.49	10.26	7.17	84.41	8.42	30.17	46.39	23.44	
App/Depart	433	/	759	546	/	990	1116	/	1550	2436	/	1232	
Peak Volumes	16	36	63	101	67	14	35	366	37	253	467	213	1668
Approach %	13.91	31.30	54.78	55.49	36.81	7.69	7.99	83.56	8.45	27.12	50.05	22.83	
Pk Hr FACTOR:	0.56			0.81			0.88			0.88			0.9065
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	15	19	52	72	33	16	10	89	24	72	79	56	537
3:45 PM	21	32	54	72	47	34	7	105	18	80	89	58	617
4:00 PM	16	23	57	68	58	34	8	106	2	70	85	70	597
4:15 PM	15	22	60	116	57	32	11	89	13	63	85	139	702
4:30 PM	16	30	96	118	54	26	11	78	13	60	85	108	695
4:45 PM	19	35	58	87	41	23	7	77	18	56	114	78	613
5:00 PM	18	41	80	80	40	20	23	118	15	46	136	74	691
5:15 PM	13	37	93	60	38	18	15	121	15	53	154	78	695
5:30 PM	9	27	60	43	36	17	11	159	12	48	136	64	622
5:45 PM	12	25	66	58	25	9	17	143	9	36	151	56	607
6:00 PM	9	12	36	28	8	11	7	135	3	35	114	36	434
6:15 PM	4	19	57	38	6	14	11	73	5	52	89	52	420
Volumes	167	322	769	840	443	254	138	1293	147	671	1317	869	7230
Approach %	13.28	25.60	61.13	54.65	28.82	16.53	8.75	81.94	9.32	23.49	46.10	30.42	
App/Depart	1258	/	1329	1537	/	1261	1578	/	2902	2857	/	1738	
Peak Volumes	68	128	294	401	192	101	52	362	59	225	420	399	2701
Approach %	13.88	26.12	60.00	57.78	27.67	14.55	10.99	76.53	12.47	21.55	40.23	38.22	
Pk Hr FACTOR:	0.86			0.85			0.76			0.91			0.9619
PM Pk Hr at:	415												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 15

Intersection Location: Palomar Airport Road &
Paseo Del Norte

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

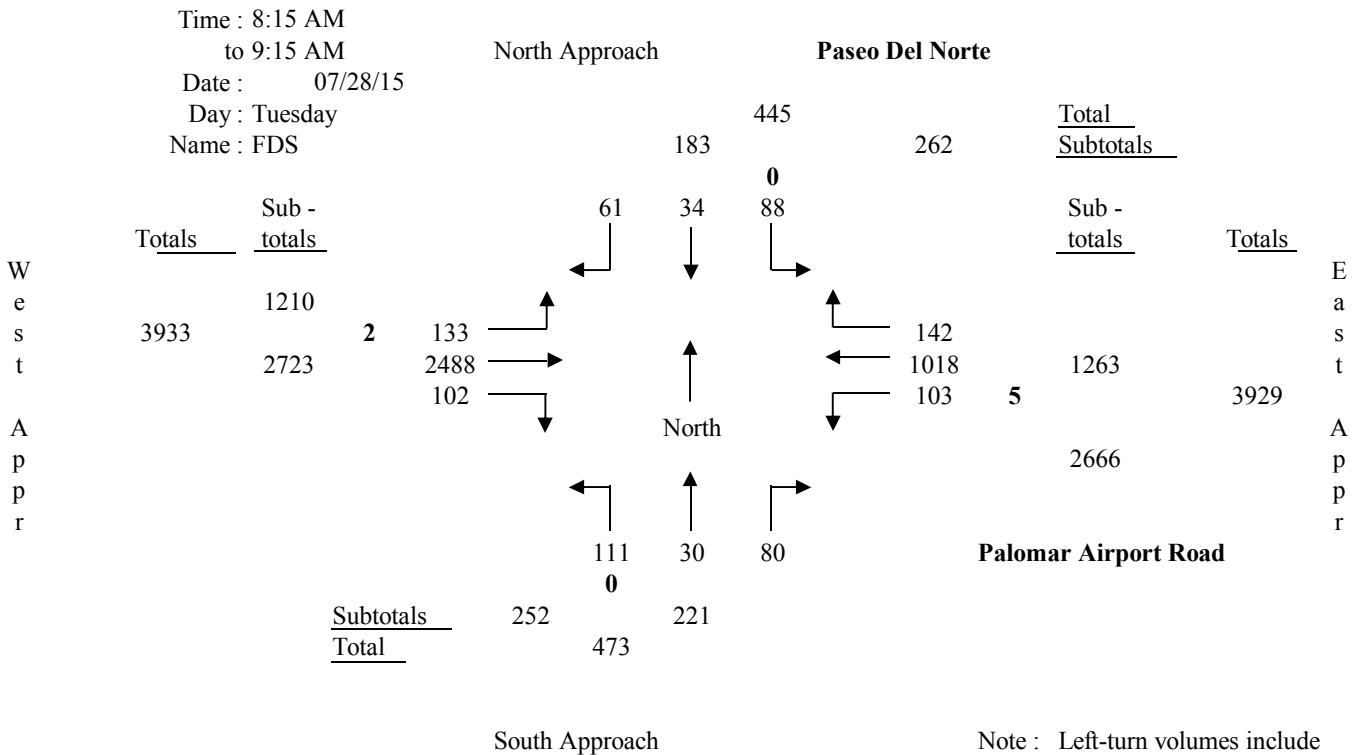
Palomar Airport Road at Paseo Del Norte

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:15 AM to 9:15 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1		1			1			1		
		3		1		1			1			1	
		4		1	1		1		1			1	
		5							1		1		
		6										1	
	Outside Free-flow	7											1
Lane Settings		2	1	1	2	1	1	2	3	0	2	4	1
Capacity		3600	2000	1800	3600	2000	1800	3600	6000	0	3600	8000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		111	30	80	88	34	61	133	2488	102	103	1018	142
Adjusted Hourly Volume		111	0	110	88	0	95	133	2590	0	103	1018	98
Utilization Factor		0.03	0.00	0.06	0.02	0.00	0.05	0.04	0.43	0.00	0.03	0.13	0.05
Critical Factors					0.06	0.02					0.43	0.03	

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of : **Palomar Airport Road and Paseo Del Norte**



Note : Left-turn volumes include U-turns. U-turns in bold.

Palomar Airport Road at Paseo Del Norte

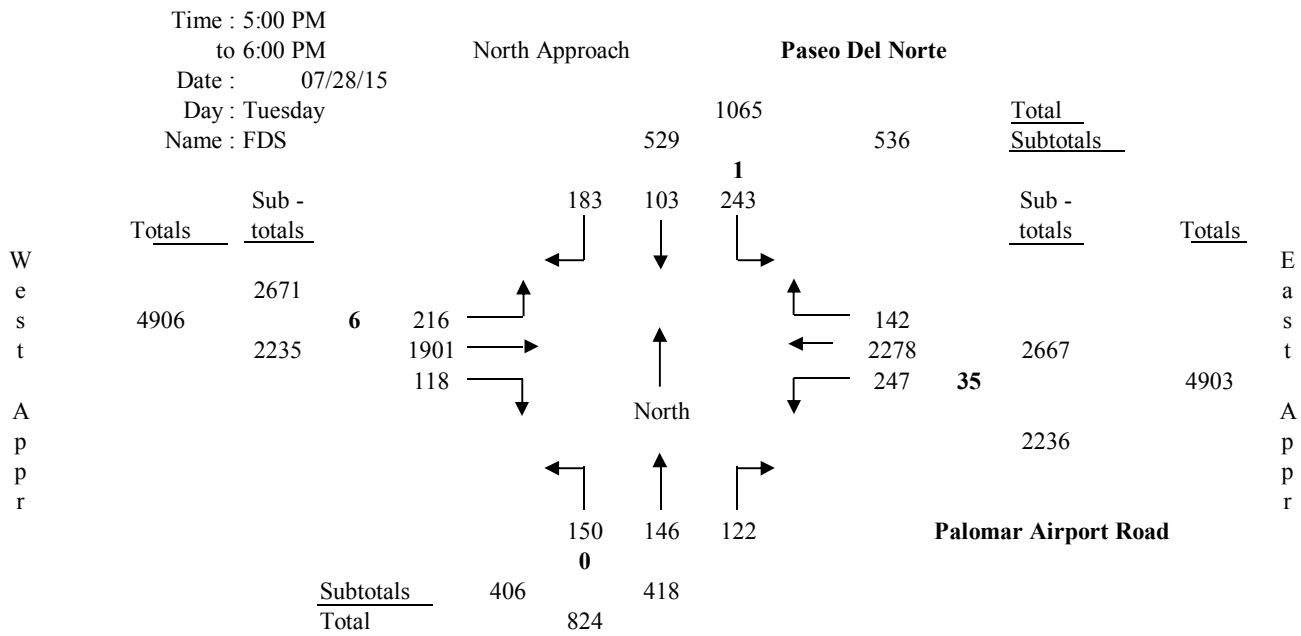
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
5:00 PM to 6:00 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1		1			1			1	
		4		1	1				1			1	
		5							1	1		1	
		6										1	
	Outside Free-flow	7											
Lane Settings		2	2	0	2	1	1	2	3	0	2	4	1
Capacity		3600	4000	0	3600	2000	1800	3600	6000	0	3600	8000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		150	146	122	243	103	183	216	1901	118	247	2278	142
Adjusted Hourly Volume		150	146	268	243	0	286	216	2019	0	247	2278	20.5
Utilization Factor		0.04	0.04	0.00	0.07	0.00	0.16	0.06	0.34	0.00	0.07	0.28	0.01
Critical Factors		0.04					0.16		0.34		0.07		

ICU Ratio = 0.71 LOS = C

Turning Movements at Intersection of :

Palomar Airport Road and Paseo Del Norte



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Paseo Del Norte

DATE: 07/28/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: TUESDAY

PROJECT# 15-1194-015

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	0	2	2	0	2	3	0	2	4	1	
6:30 AM	25	8	17	5	3	10	13	363	17	12	188	16	677
6:45 AM	20	11	15	11	4	7	13	363	33	11	189	43	720
7:00 AM	24	9	16	12	9	16	13	401	20	17	214	28	779
7:15 AM	32	9	15	16	10	11	20	450	18	11	228	36	856
7:30 AM	24	8	29	22	13	18	12	390	25	17	266	38	862
7:45 AM	25	15	20	10	13	11	26	704	26	11	285	50	1196
8:00 AM	24	4	28	5	1	10	17	583	26	21	244	53	1016
8:15 AM	27	10	18	25	5	13	50	613	34	23	258	30	1106
8:30 AM	22	5	18	21	5	17	19	608	28	25	236	43	1047
8:45 AM	29	3	17	26	9	15	19	604	22	21	266	41	1072
9:00 AM	33	12	27	16	15	16	45	663	18	34	258	28	1165
9:15 AM	49	19	22	7	8	16	62	454	23	26	189	19	894
Volumes	334	113	242	176	95	160	309	6196	290	229	2821	425	11390
Approach %	48.48	16.40	35.12	40.84	22.04	37.12	4.55	91.18	4.27	6.59	81.18	12.23	
App/Depart	689	/	847	431	/	614	6795	/	6614	3475	/	3315	
Peak Volumes	111	30	80	88	34	61	133	2488	102	103	1018	142	4390
Approach %	50.23	13.57	36.20	48.09	18.58	33.33	4.88	91.37	3.75	8.16	80.60	11.24	
Pk Hr FACTOR:	0.77			0.92			0.94			0.96			0.9421
AM Pk Hr at:	815												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	86	17	28	47	22	45	66	426	23	80	417	37	1294
3:45 PM	27	31	16	11	23	43	60	363	45	35	544	27	1225
4:00 PM	34	23	24	32	24	34	39	355	43	24	566	49	1247
4:15 PM	25	23	22	28	27	45	42	385	32	43	425	57	1154
4:30 PM	65	38	61	70	30	54	64	344	31	59	411	57	1284
4:45 PM	24	26	40	41	28	48	41	377	41	57	554	61	1338
5:00 PM	36	59	28	23	24	46	49	528	21	53	589	18	1474
5:15 PM	36	33	22	55	31	51	51	499	34	92	602	27	1533
5:30 PM	37	31	36	99	20	41	49	463	37	55	589	43	1500
5:45 PM	41	23	36	66	28	45	67	411	26	47	498	54	1342
6:00 PM	55	38	52	108	44	59	46	422	31	67	366	44	1332
6:15 PM	24	10	20	29	32	49	58	398	33	35	417	32	1137
Volumes	490	352	385	609	333	560	632	4971	397	647	5978	506	15860
Approach %	39.93	28.69	31.38	40.55	22.17	37.28	10.53	82.85	6.62	9.07	83.83	7.10	
App/Depart	1227	/	1490	1502	/	1377	6000	/	5965	7131	/	7028	
Peak Volumes	150	146	122	243	103	183	216	1901	118	247	2278	142	5849
Approach %	35.89	34.93	29.19	45.94	19.47	34.59	9.66	85.06	5.28	9.26	85.41	5.32	
Pk Hr FACTOR:	0.85			0.83			0.93			0.92			0.9538
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 16

Intersection Location: Palomar Airport Road &
Armada Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

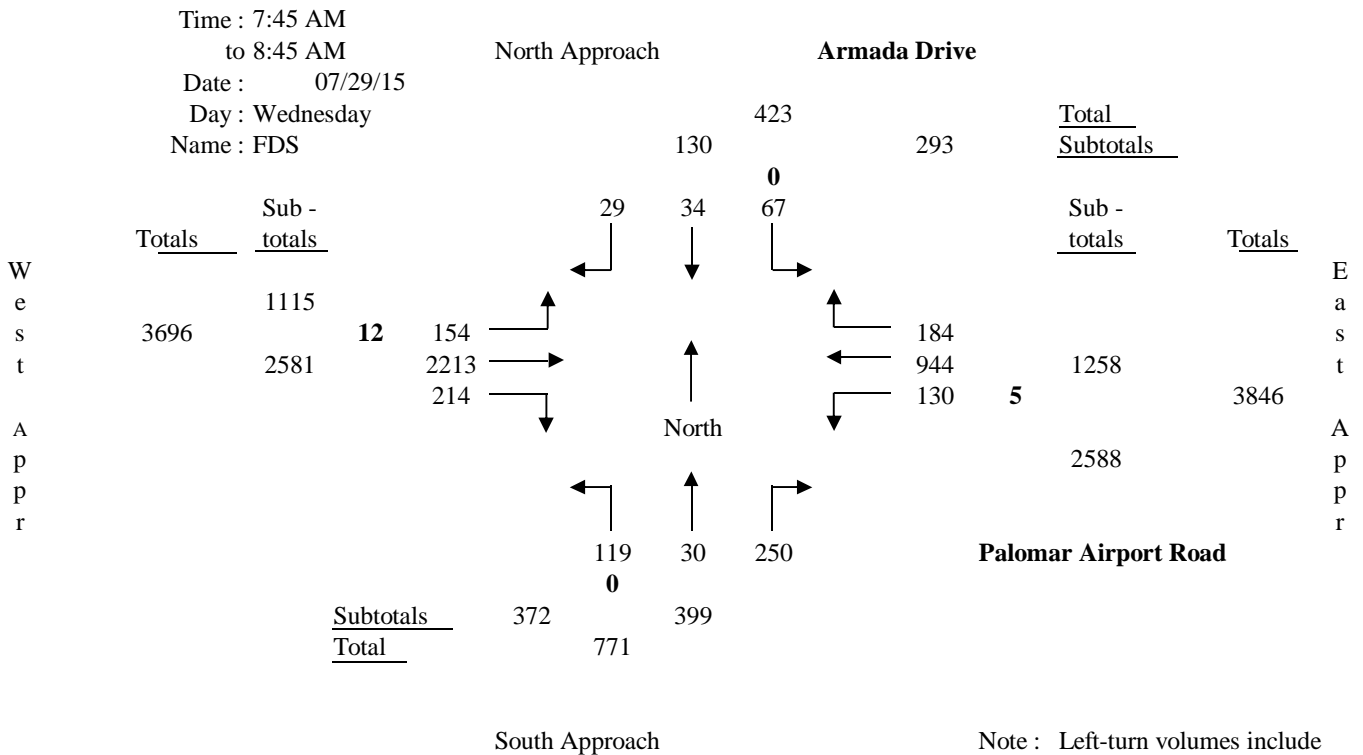
Palomar Airport Road at Armada Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:45 AM to 8:45 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1		1			1				1	
		3		1	1				1				1
		4				1				1			
		5					1			1			
		6									1		
	Outside Free-flow	7											1
Lane Settings		2	0	2	2	1	1	2	3	1	1	3	1
Capacity		3600	0	3600	3600	2000	1800	3600	6000	1800	1800	6000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		119	30	250	67	34	29	154	2213	214	130	944	184
Adjusted Hourly Volume		119	0	280	67	34	29	154	2213	155	130	944	151
Utilization Factor		0.03	0.00	0.08	0.02	0.02	0.02	0.04	0.37	0.09	0.07	0.16	0.08
Critical Factors					0.08	0.02					0.37	0.07	

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of : Palomar Airport Road and Armada Drive



Palomar Airport Road at Armada Drive

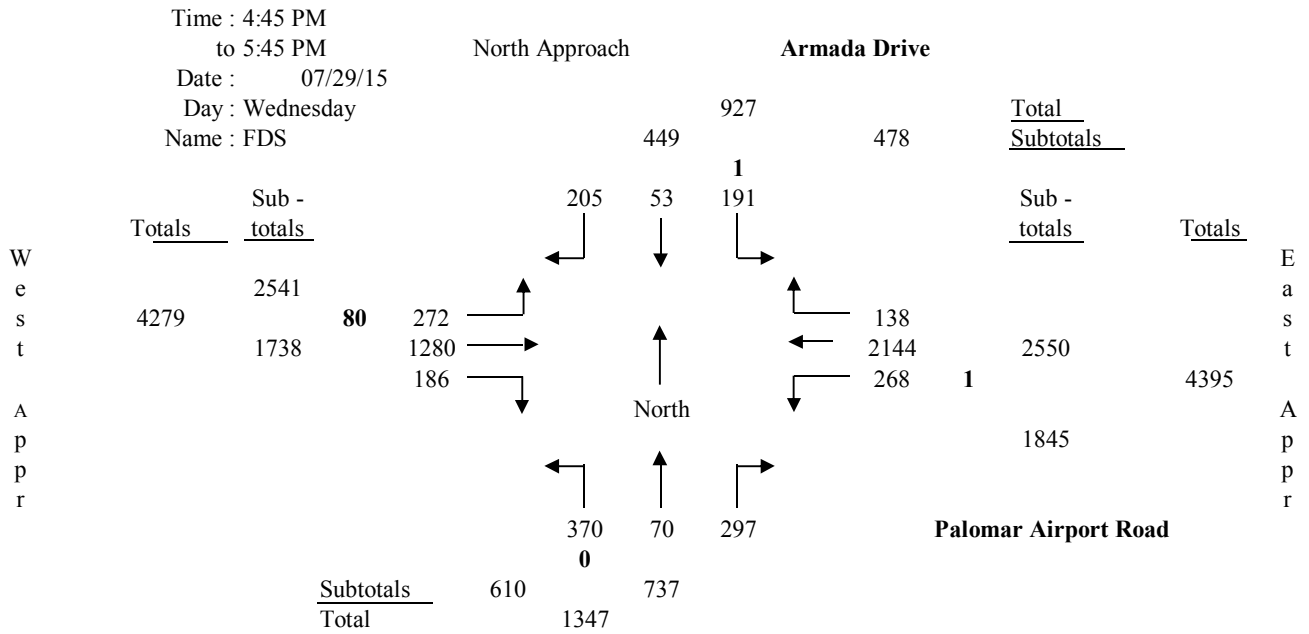
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM to 5:45 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1				1	
		3		1		1			1			1	
		4					1		1			1	
		5							1				1
		6								1			
	Outside Free-flow	7											
Lane Settings		2	0	2	2	1	1	2	3	1	1	3	1
Capacity		3600	0	3600	3600	2000	1800	3600	6000	1800	1800	6000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		370	70	297	191	53	205	272	1280	186	268	2144	138
Adjusted Hourly Volume		370	0	367	191	53	205	272	1280	0	268	2144	43
Utilization Factor		0.10	0.00	0.10	0.05	0.03	0.11	0.08	0.21	0.00	0.15	0.36	0.02
Critical Factors		0.10						0.11			0.08		

ICU Ratio = 0.75 LOS = C

Turning Movements at Intersection of:

Palomar Airport Road and Armada Drive



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Armada Dr. /Costco Ent

DATE: 07/29/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: WEDNESDAY

PROJECT# 15-1194-016

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	0.5	1.5	1	2	1	2	3	1	1	3	1	
6:30 AM	13	5	17	3	1	4	19	304	31	10	183	27	617
6:45 AM	21	2	40	7	5	9	21	504	43	45	233	51	981
7:00 AM	28	3	43	6	5	9	12	379	39	25	182	32	763
7:15 AM	28	7	32	14	8	5	17	471	53	20	222	30	907
7:30 AM	26	8	50	8	8	12	23	522	52	28	234	38	1009
7:45 AM	34	5	52	17	4	13	42	583	57	36	273	69	1185
8:00 AM	31	2	58	19	11	4	41	593	57	36	220	40	1112
8:15 AM	22	8	79	17	10	4	39	527	51	19	215	40	1031
8:30 AM	32	15	61	14	9	8	32	510	49	39	236	35	1040
8:45 AM	36	5	46	18	9	17	50	507	52	34	250	40	1064
9:00 AM	42	7	48	19	6	66	51	477	49	49	212	38	1064
9:15 AM	30	11	57	14	10	57	34	446	34	40	268	48	1049
Volumes	343	78	583	156	86	208	381	5823	567	381	2728	488	11822
Approach %	34.16	7.77	58.07	34.67	19.11	46.22	5.63	86.00	8.37	10.59	75.84	13.57	
App/Depart	1004	/	947	450	/	1034	6771	/	6562	3597	/	3279	
Peak Volumes	119	30	250	67	34	29	154	2213	214	130	944	184	4368
Approach %	29.82	7.52	62.66	51.54	26.15	22.31	5.97	85.74	8.29	10.33	75.04	14.63	
Pk Hr FACTOR:	0.92			0.96			0.93			0.83			0.9215
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	102	13	81	68	15	66	45	280	58	62	397	14	1201
3:45 PM	89	17	80	46	8	57	72	367	58	49	438	19	1300
4:00 PM	98	27	74	45	13	79	71	311	34	54	381	23	1210
4:15 PM	92	19	72	35	19	41	53	352	39	74	511	30	1337
4:30 PM	87	18	90	81	12	71	69	306	50	65	437	28	1314
4:45 PM	95	17	87	52	15	59	62	363	45	68	554	29	1446
5:00 PM	79	22	71	41	10	52	79	320	43	64	534	26	1341
5:15 PM	93	12	71	44	18	50	60	288	47	62	514	48	1307
5:30 PM	103	19	68	54	10	44	71	309	51	74	542	35	1380
5:45 PM	98	8	102	39	20	49	86	341	47	87	421	28	1326
6:00 PM	122	13	92	32	7	59	59	313	52	65	356	21	1191
6:15 PM	116	17	79	23	13	53	59	257	35	98	353	26	1129
Volumes	1174	202	967	560	160	680	786	3807	559	822	5438	327	15482
Approach %	50.11	8.62	41.27	40.00	11.43	48.57	15.26	73.89	10.85	12.48	82.56	4.96	
App/Depart	2343	/	1315	1400	/	1541	5152	/	5334	6587	/	7292	
Peak Volumes	370	70	297	191	53	205	272	1280	186	268	2144	138	5474
Approach %	50.20	9.50	40.30	42.54	11.80	45.66	15.65	73.65	10.70	10.51	84.08	5.41	
Pk Hr FACTOR:	0.93			0.89			0.92			0.98			0.9464
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 17

Intersection Location: Palomar Airport Road &
College Boulevard

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

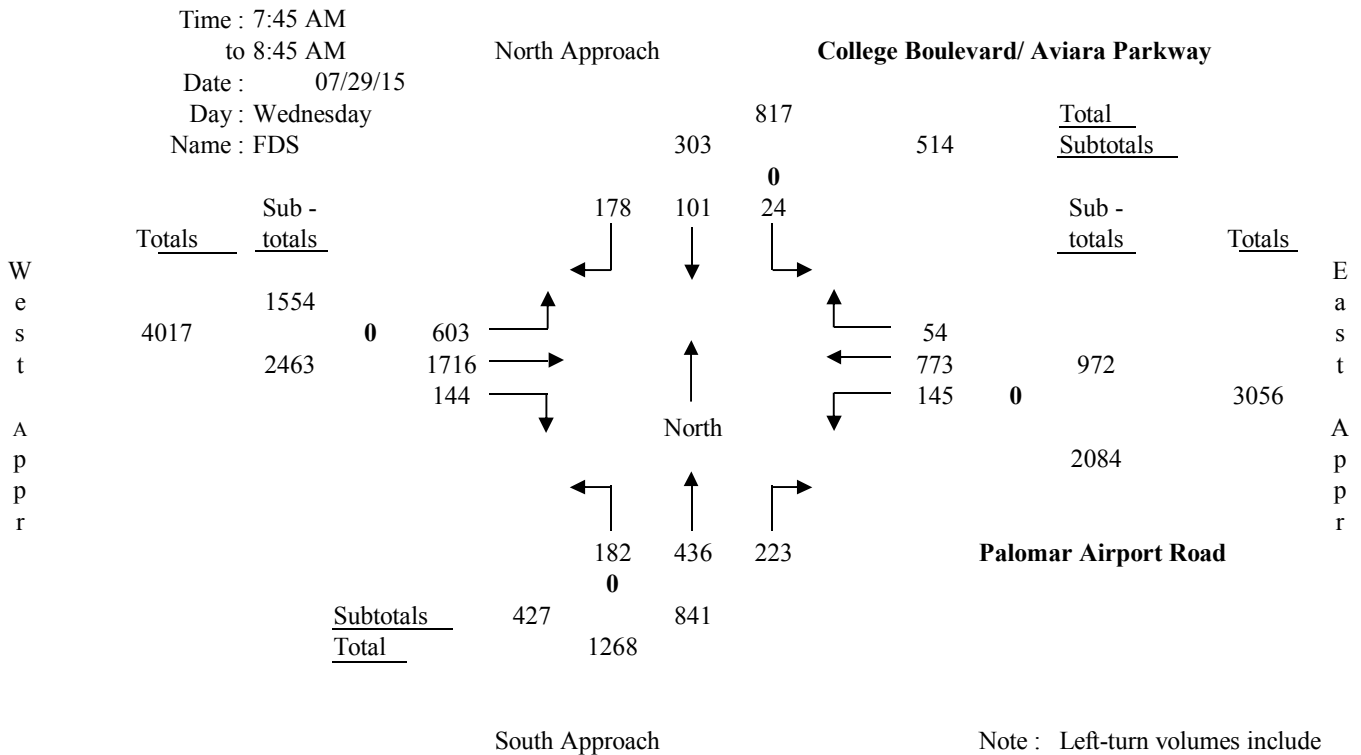
Palomar Airport Road at College Boulevard/ Aviara Parkway

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:45 AM to 8:45 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1			1		1			1		
		3		1			1		1			1	
		4		1					1			1	
		5							1			1	
		6								1			1
	Outside Free-flow	7											
Lane Settings		2	2	1	1	1	1	2	3	1	2	3	1
Capacity		3600	4000	1800	1800	2000	1800	3600	6000	1800	3600	6000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		182	436	223	24	101	178	603	1716	144	145	773	54
Adjusted Hourly Volume		182	436	223	24	101	0	603	1716	144	145	773	54
Utilization Factor		0.05	0.11	0.12	0.01	0.05	0.00	0.17	0.29	0.08	0.04	0.13	0.03
Critical Factors					0.12	0.01		0.29			0.04		

ICU Ratio = 0.56 LOS = A

Turning Movements at Intersection of : Palomar Airport Road and College Boulevard/ Aviara Parkway



Note : Left-turn volumes include U-turns. U-turns in bold.

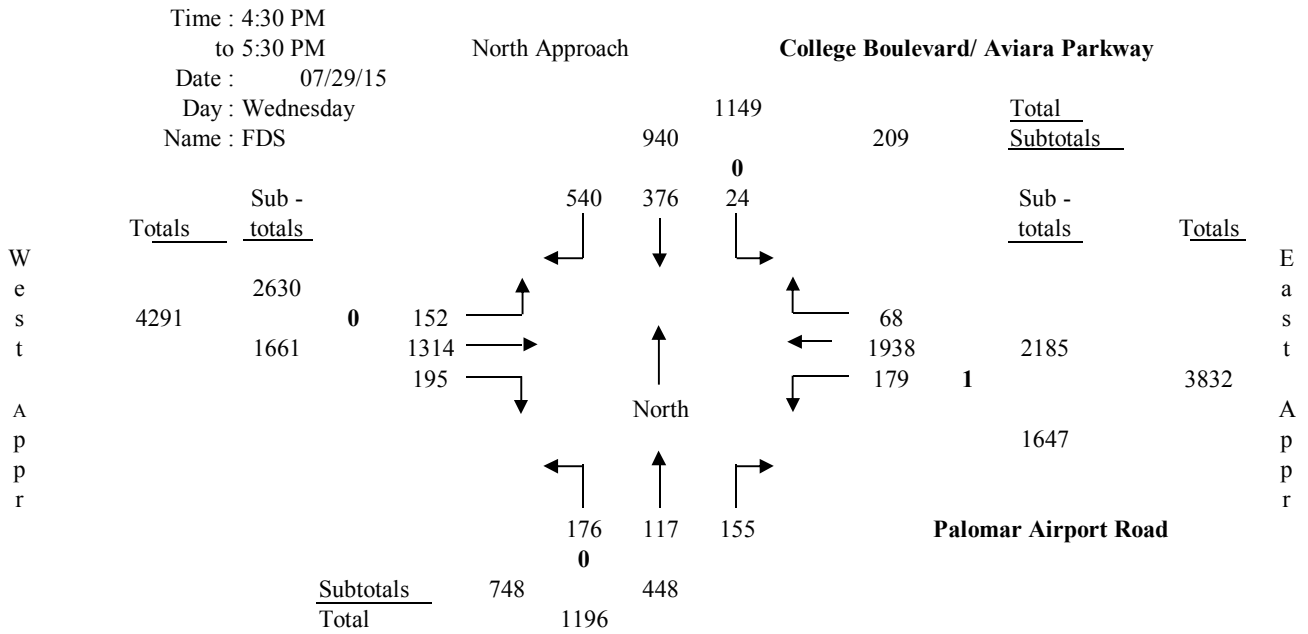
Palomar Airport Road at College Boulevard/ Aviara Parkway

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM to 5:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1			1		1			1		
		3		1			1			1			1
		4		1						1			
		5								1			
		6											1
	Outside Free-flow	7											
Lane Settings		2	2	1	1	1	1	2	3	1	2	3	1
Capacity		3600	4000	1800	1800	2000	1800	3600	6000	1800	3600	6000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		176	117	155	24	376	540	152	1314	195	179	1938	68
Adjusted Hourly Volume		176	117	155	24	376	464	152	1314	195	179	1938	68
Utilization Factor		0.05	0.03	0.09	0.01	0.19	0.26	0.04	0.22	0.11	0.05	0.32	0.04
Critical Factors		0.05						0.26			0.04		

ICU Ratio = 0.77 LOS = C

Turning Movements at Intersection of: Palomar Airport Road and College Boulevard/ Aviara Parkway



N-S STREET: College Blvd./ Aviara Pkwy. DATE: 07/29/2015 LOCATION: Carlsbad
 E-W STREET: Palomar Airport Rd. DAY: WEDNESDAY PROJECT#: 15-1194-017
 CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	1	1	1	1	2	3	1	2	3	1	
6:30 AM	28	28	39	7	29	24	41	289	16	21	187	3	712
6:45 AM	29	41	33	5	30	28	79	322	14	28	185	5	799
7:00 AM	33	54	30	8	35	32	99	314	21	24	199	8	857
7:15 AM	30	86	41	6	54	30	98	285	25	26	214	14	909
7:30 AM	32	87	45	9	41	29	139	333	32	34	222	10	1013
7:45 AM	54	103	50	6	28	42	158	414	30	30	208	11	1134
8:00 AM	41	107	54	9	24	41	149	455	33	32	214	13	1172
8:15 AM	42	122	59	5	29	50	163	436	39	41	185	16	1187
8:30 AM	45	104	60	4	20	45	133	411	42	42	166	14	1086
8:45 AM	50	111	54	7	25	41	130	385	41	30	178	20	1072
9:00 AM	28	89	41	11	24	30	128	344	30	37	208	16	986
9:15 AM	41	63	39	7	29	33	87	360	33	28	196	14	930
Volumes	453	995	545	84	368	425	1404	4348	356	373	2362	144	11857
Approach %	22.73	49.92	27.35	9.58	41.96	48.46	22.99	71.19	5.83	12.96	82.04	5.00	
App/Depart	1993	/	2543	877	/	1097	6108	/	4977	2879	/	3240	
Peak Volumes	182	436	223	24	101	178	603	1716	144	145	773	54	4579
Approach %	21.64	51.84	26.52	7.92	33.33	58.75	24.48	69.67	5.85	14.92	79.53	5.56	
Pk Hr FACTOR:	0.94			0.90			0.97			0.94			0.9644
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	41	28	41	5	41	76	29	289	54	39	423	13	1079
3:45 PM	39	30	28	3	66	74	30	300	50	62	385	16	1083
4:00 PM	41	33	39	6	60	85	32	321	45	65	371	13	1111
4:15 PM	45	21	32	9	58	100	28	341	41	75	374	19	1143
4:30 PM	39	24	41	5	54	130	41	355	42	45	471	14	1261
4:45 PM	54	28	42	8	85	122	42	352	41	50	482	20	1326
5:00 PM	41	41	39	4	133	141	39	322	54	41	514	18	1387
5:15 PM	42	24	33	7	104	147	30	285	58	43	471	16	1260
5:30 PM	39	28	30	10	85	154	32	277	65	42	429	7	1198
5:45 PM	41	30	28	11	74	103	28	278	60	45	415	11	1124
6:00 PM	43	33	21	8	76	100	25	258	69	50	382	7	1072
6:15 PM	39	28	19	8	63	89	24	244	41	54	349	11	969
Volumes	504	348	393	84	899	1321	380	3622	620	611	5066	165	14013
Approach %	40.48	27.95	31.57	3.65	39.02	57.34	8.22	78.36	13.41	10.46	86.72	2.82	
App/Depart	1245	/	893	2304	/	2130	4622	/	4099	5842	/	6891	
Peak Volumes	176	117	155	24	376	540	152	1314	195	179	1938	68	5234
Approach %	39.29	26.12	34.60	2.55	40.00	57.45	9.15	79.11	11.74	8.19	88.70	3.11	
Pk Hr FACTOR:	0.90			0.85			0.95			0.95			0.9434
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 18

Intersection Location: Palomar Airport Road &
Yarrow Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

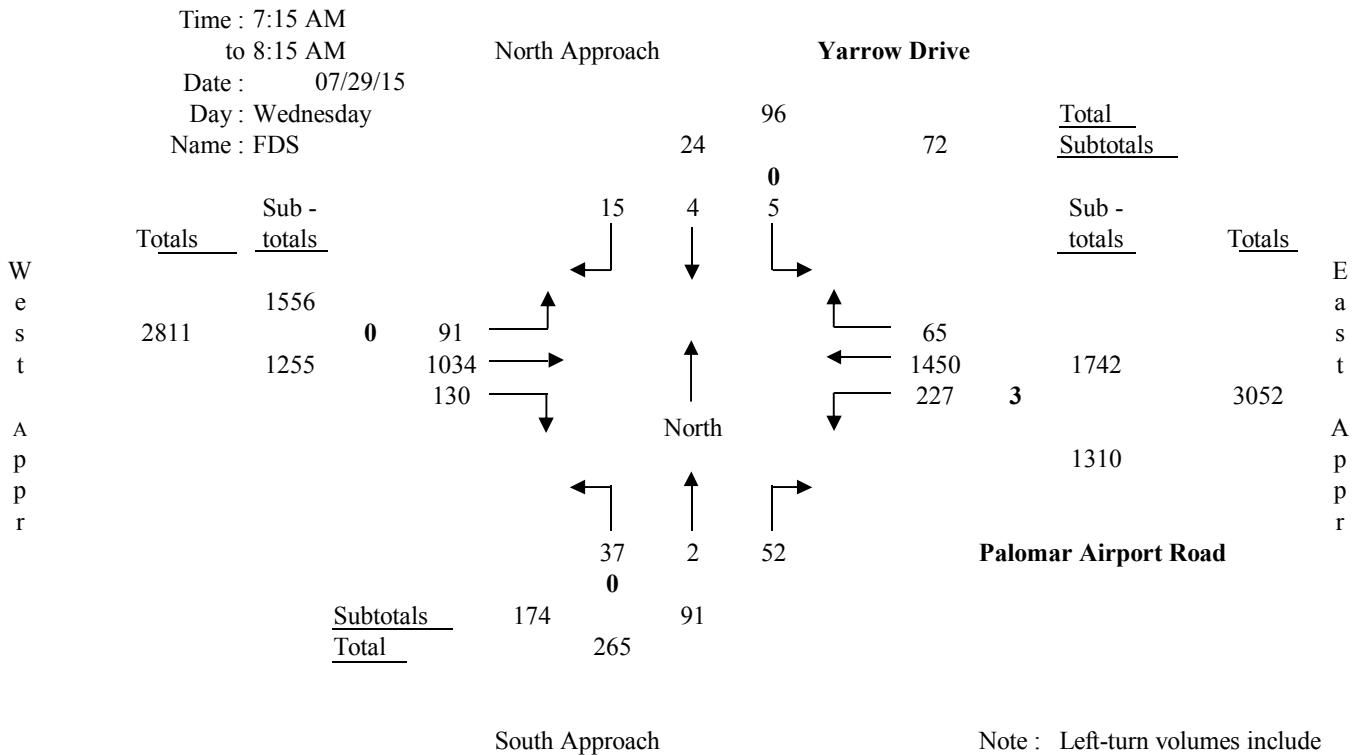
Palomar Airport Road at Yarrow Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM													
Lane Config - urations	Inside (left)	1	1		1	1	1	1			1		
		2		1					1			1	
		3							1			1	
		4								1		1	
		5											1
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	0	0	1	1	3	0	1	3	0
Capacity		1800	2000	1800	0	0	1800	1800	6000	0	1800	6000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		37	2	52	5	4	15	91	1034	130	227	1450	65
Adjusted Hourly Volume		37	2	52	0	0	24	91	1164	0	227	1515	0
Utilization Factor		0.02	0.00	0.03	0.00	0.00	0.01	0.05	0.19	0.00	0.13	0.25	0.00
Critical Factors		0.02					0.01		0.19		0.13		

ICU Ratio = 0.45 LOS = A

Turning Movements at Intersection of : **Palomar Airport Road and Yarrow Drive**



Palomar Airport Road at Yarrow Drive

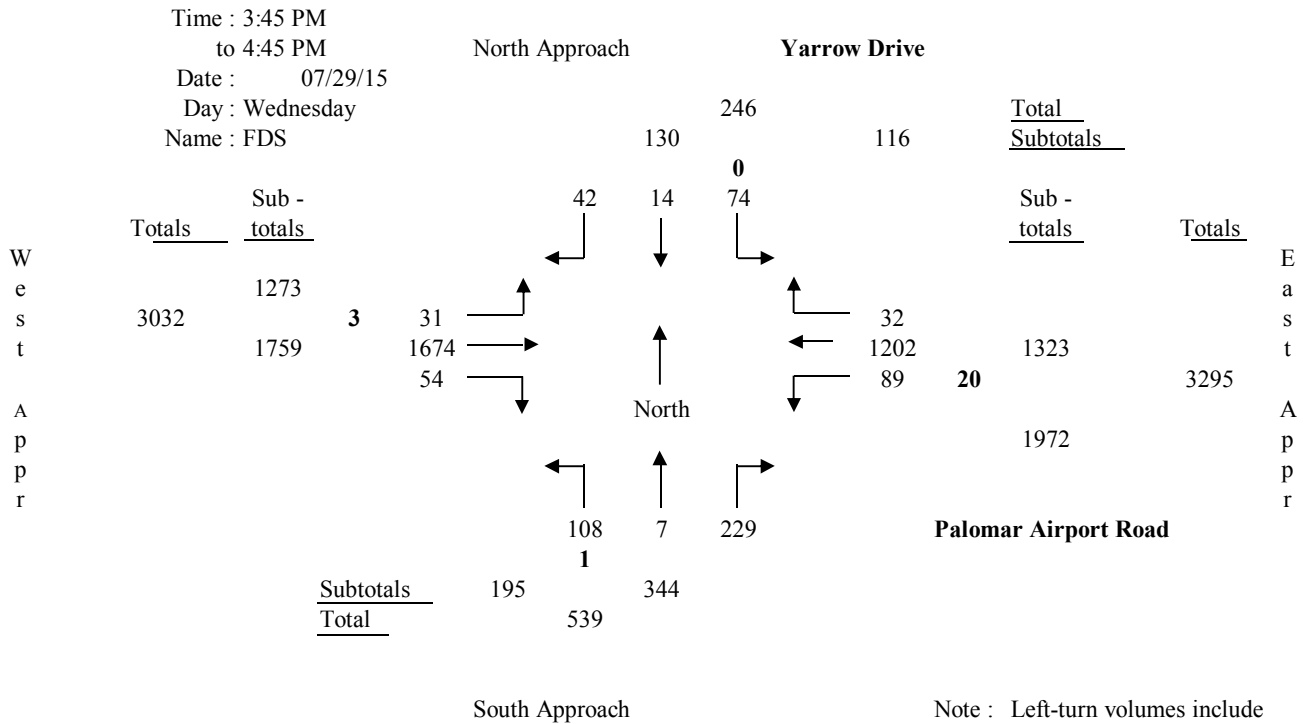
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45 PM	to												
4:45 PM													
Lane Configurations	Inside (left)	1	1		1	1	1	1			1		
		2		1					1			1	
		3					1			1			1
		4							1	1		1	1
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	0	0	1	3	0	1	3	0
Capacity		1800	2000	1800	1800	0	0	1800	6000	0	1800	6000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		108	7	229	74	14	42	31	1674	54	89	1202	32
Adjusted Hourly Volume		108	7	229	130	0	0	31	1728	0	89	1234	0
Utilization Factor		0.06	0.00	0.13	0.07	0.00	0.00	0.02	0.29	0.00	0.05	0.21	0.00
Critical Factors					0.13	0.07				0.29	0.05		

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of :

Palomar Airport Road and Yarrow Drive



N-S STREET: Yarrow Dr.

DATE: 07/29/2015

LOCATION: Carlsbad

 E-W STREET: Palomar Airport Rd.
 CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-018

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	0	1	0	1	3	0	1	3	0	
6:30 AM	9	1	4	1	0	1	3	178	21	63	332	7	620
6:45 AM	12	1	5	1	0	0	4	222	20	64	341	8	678
7:00 AM	2	1	7	1	1	4	9	189	19	63	316	11	623
7:15 AM	3	1	15	0	0	0	6	223	28	43	309	9	637
7:30 AM	9	0	14	1	1	3	8	273	38	38	422	18	825
7:45 AM	14	1	13	2	1	7	58	215	38	96	389	18	852
8:00 AM	11	0	10	2	2	5	19	323	26	50	330	20	798
8:15 AM	7	1	11	4	0	2	11	232	27	43	260	9	607
8:30 AM	7	1	8	6	0	3	14	233	21	39	330	14	676
8:45 AM	9	5	18	3	1	2	14	272	33	45	310	16	728
9:00 AM	9	0	15	5	0	7	5	247	30	54	252	17	641
9:15 AM	6	1	9	3	1	0	6	173	16	22	215	5	457
Volumes	98	13	129	29	7	34	157	2780	317	620	3806	152	8142
Approach %	40.83	5.42	53.75	41.43	10.00	48.57	4.82	85.43	9.74	13.54	83.14	3.32	
App/Depart	240	/	322	70	/	944	3254	/	2938	4578	/	3938	
Peak Volumes	37	2	52	5	4	15	91	1034	130	227	1450	65	3112
Approach %	40.66	2.20	57.14	20.83	16.67	62.50	7.25	82.39	10.36	13.03	83.24	3.73	
Pk Hr FACTOR:	0.81			0.60			0.85			0.87			0.9131
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	32	4	56	9	4	8	2	427	18	21	251	3	835
3:45 PM	24	0	47	18	2	10	9	395	12	24	253	6	800
4:00 PM	32	4	60	23	7	12	8	442	18	19	308	10	943
4:15 PM	19	2	45	12	2	10	7	386	17	22	295	10	827
4:30 PM	33	1	77	21	3	10	7	451	7	24	346	6	986
4:45 PM	21	1	51	11	2	6	3	376	9	18	257	8	763
5:00 PM	24	0	51	13	2	11	5	324	12	24	249	8	723
5:15 PM	19	0	35	24	5	7	2	306	8	15	271	5	697
5:30 PM	27	1	40	11	7	14	7	316	10	19	292	11	755
5:45 PM	32	3	30	7	1	13	1	349	9	16	255	8	724
6:00 PM	12	0	20	12	3	15	7	405	10	19	241	4	748
6:15 PM	4	2	17	3	0	5	5	201	6	11	158	4	416
Volumes	279	18	529	164	38	121	63	4378	136	232	3176	83	9217
Approach %	33.78	2.18	64.04	50.77	11.76	37.46	1.38	95.65	2.97	6.65	90.98	2.38	
App/Depart	826	/	164	323	/	406	4577	/	5071	3491	/	3576	
Peak Volumes	108	7	229	74	14	42	31	1674	54	89	1202	32	3556
Approach %	31.40	2.03	66.57	56.92	10.77	32.31	1.76	95.17	3.07	6.73	90.85	2.42	
Pk Hr FACTOR:	0.77			0.77			0.94			0.88			0.9016
PM Pk Hr at:	345												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 19

Intersection Location: Palomar Airport Road &
Loker Avenue West

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

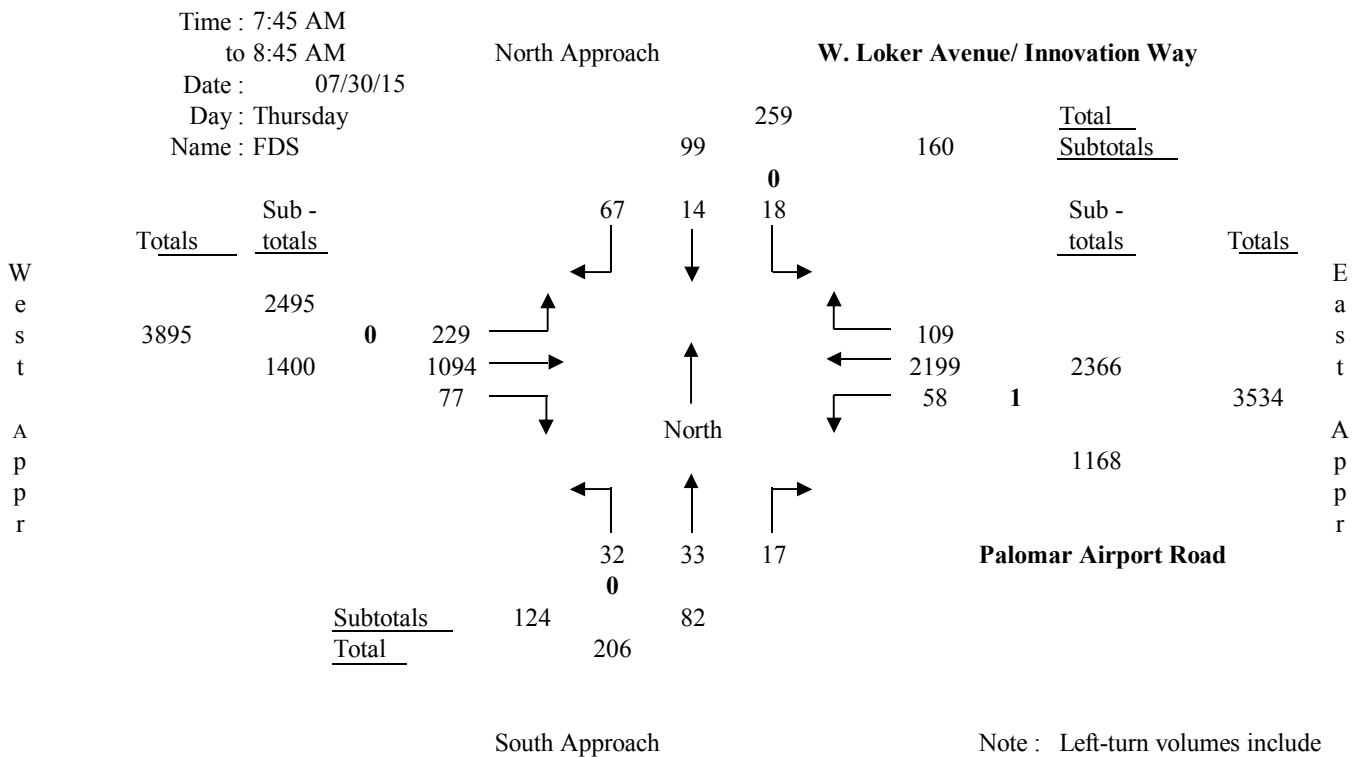
Palomar Airport Road at W. Loker Avenue/ Innovation Way

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45 AM to 8:45 AM													
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1		1			1			1	
		3					1			1			1
		4							1			1	1
		5									1		
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	1	1	1	3	1	1	3	0
Capacity		1800	2000	1800	1800	2000	1800	1800	6000	1800	1800	6000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		32	33	17	18	14	67	229	1094	77	58	2199	109
Adjusted Hourly Volume		32	33	17	18	14	67	229	1094	61	58	2308	0
Utilization Factor		0.02	0.02	0.01	0.01	0.01	0.04	0.13	0.18	0.03	0.03	0.38	0.00
Critical Factors		0.02					0.04	0.13				0.38	

ICU Ratio = 0.67 LOS = B

Turning Movements at Intersection of : **Palomar Airport Road and W. Loker Avenue/ Innovation Way**



Palomar Airport Road at W. Loker Avenue/ Innovation Way

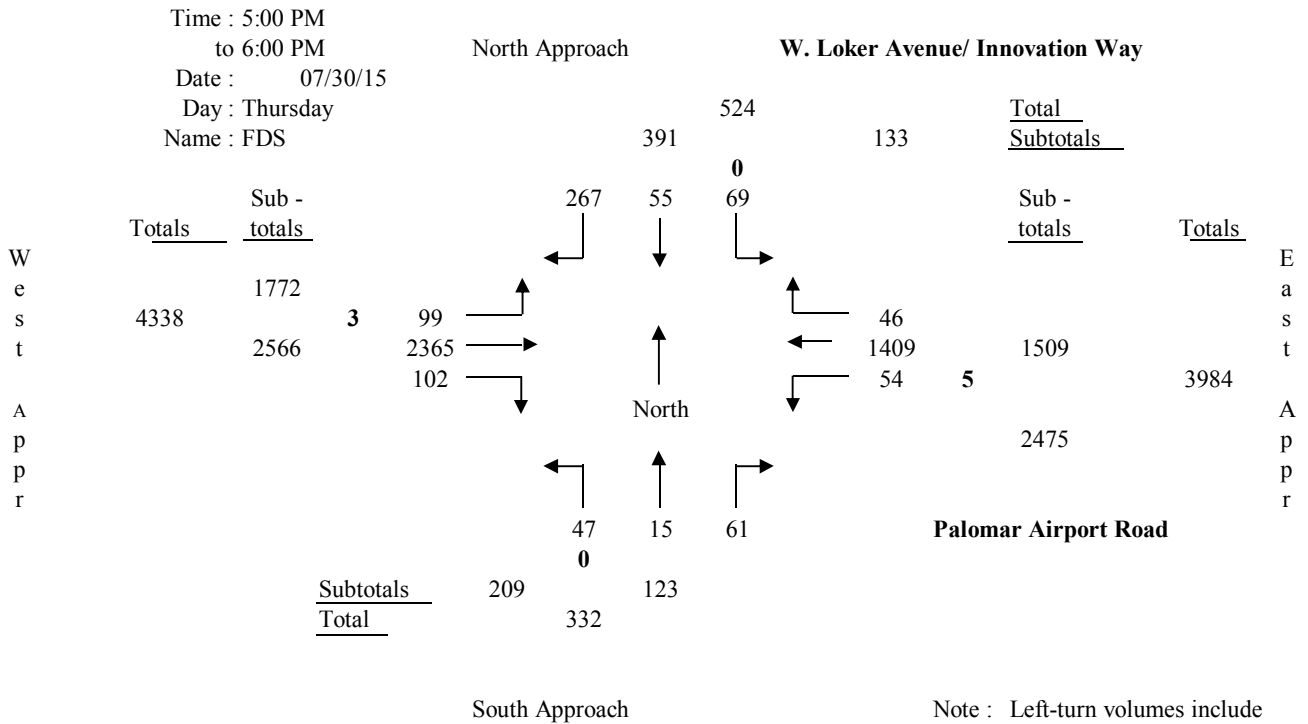
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5:00 PM	to												
6:00 PM													
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2		1		1			1			1	
		3					1			1			
		4							1			1	1
		5									1		
		6											
	Outside	7											
Free-flow													
Lane Settings		1	1	1	1	1	1	1	3	1	1	3	0
Capacity		1800	2000	1800	1800	2000	1800	1800	6000	1800	1800	6000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		47	15	61	69	55	267	99	2365	102	54	1409	46
Adjusted Hourly Volume		47	15	61	69	55	267	99	2365	78.5	54	1455	0
Utilization Factor		0.03	0.01	0.03	0.04	0.03	0.15	0.06	0.39	0.04	0.03	0.24	0.00
Critical Factors		0.03						0.15			0.03		

ICU Ratio = 0.70 LOS = B

Turning Movements at Intersection of:

Palomar Airport Road and W. Loker Avenue/ Innovation Way





N-S STREET: Loker Ave. West/

DATE: 07/30/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: THURSDAY

PROJECT# 15-1194-019

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	1	1	1	1	1	1	3	1	1	3	0	
6:30 AM	8	6	1	3	1	9	25	169	11	8	407	12	660
6:45 AM	6	7	1	2	3	13	37	211	19	11	498	27	835
7:00 AM	9	7	7	4	3	9	38	222	16	11	459	23	808
7:15 AM	10	8	3	3	4	10	35	205	14	14	462	21	789
7:30 AM	3	8	1	1	3	13	18	241	20	8	344	19	679
7:45 AM	11	11	3	4	5	13	65	236	18	6	643	38	1053
8:00 AM	7	11	5	10	4	21	63	296	22	16	580	31	1066
8:15 AM	3	7	4	2	3	17	59	288	22	16	578	23	1022
8:30 AM	11	4	5	2	2	16	42	274	15	20	398	17	806
8:45 AM	12	6	5	4	6	25	65	255	26	21	476	28	929
9:00 AM	17	14	14	11	10	26	61	263	25	14	484	26	965
9:15 AM	9	9	13	8	4	10	49	239	28	16	476	21	882
Volumes	106	98	62	54	48	182	557	2899	236	161	5805	286	10494
Approach %	39.85	36.84	23.31	19.01	16.90	64.08	15.09	78.52	6.39	2.58	92.85	4.57	
App/Depart	266	/	941	284	/	445	3692	/	3015	6252	/	6093	
Peak Volumes	32	33	17	18	14	67	229	1094	77	58	2199	109	3947
Approach %	39.02	40.24	20.73	18.18	14.14	67.68	16.36	78.14	5.50	2.45	92.94	4.61	
Pk Hr FACTOR:	0.82			0.71			0.92			0.86			0.9257
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	18	3	6	17	15	47	35	560	20	6	363	18	1108
3:45 PM	14	7	11	21	8	40	23	504	31	2	335	14	1010
4:00 PM	9	2	17	16	6	31	27	652	26	10	328	14	1138
4:15 PM	13	4	9	15	6	33	26	502	22	3	344	13	990
4:30 PM	11	1	3	13	10	49	22	464	18	1	341	10	943
4:45 PM	18	3	18	29	6	43	20	465	34	7	359	11	1013
5:00 PM	8	4	17	14	19	54	23	534	25	10	385	13	1106
5:15 PM	15	4	12	24	16	75	25	690	36	19	355	11	1282
5:30 PM	8	2	23	14	8	59	25	543	25	13	325	10	1055
5:45 PM	16	5	9	17	12	79	26	598	16	12	344	12	1146
6:00 PM	9	1	6	9	2	53	20	428	16	5	341	7	897
6:15 PM	10	1	11	16	6	35	25	506	24	4	289	15	942
Volumes	149	37	142	205	114	598	297	6446	293	92	4109	148	12630
Approach %	45.43	11.28	43.29	22.36	12.43	65.21	4.22	91.61	4.16	2.12	94.48	3.40	
App/Depart	328	/	482	917	/	499	7036	/	6793	4349	/	4856	
Peak Volumes	47	15	61	69	55	267	99	2365	102	54	1409	46	4589
Approach %	38.21	12.20	49.59	17.65	14.07	68.29	3.86	92.17	3.98	3.58	93.37	3.05	
Pk Hr FACTOR:	0.93			0.85			0.85			0.92			0.8949
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 20

Intersection Location: Palomar Airport Road &
El Fuerte Street

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

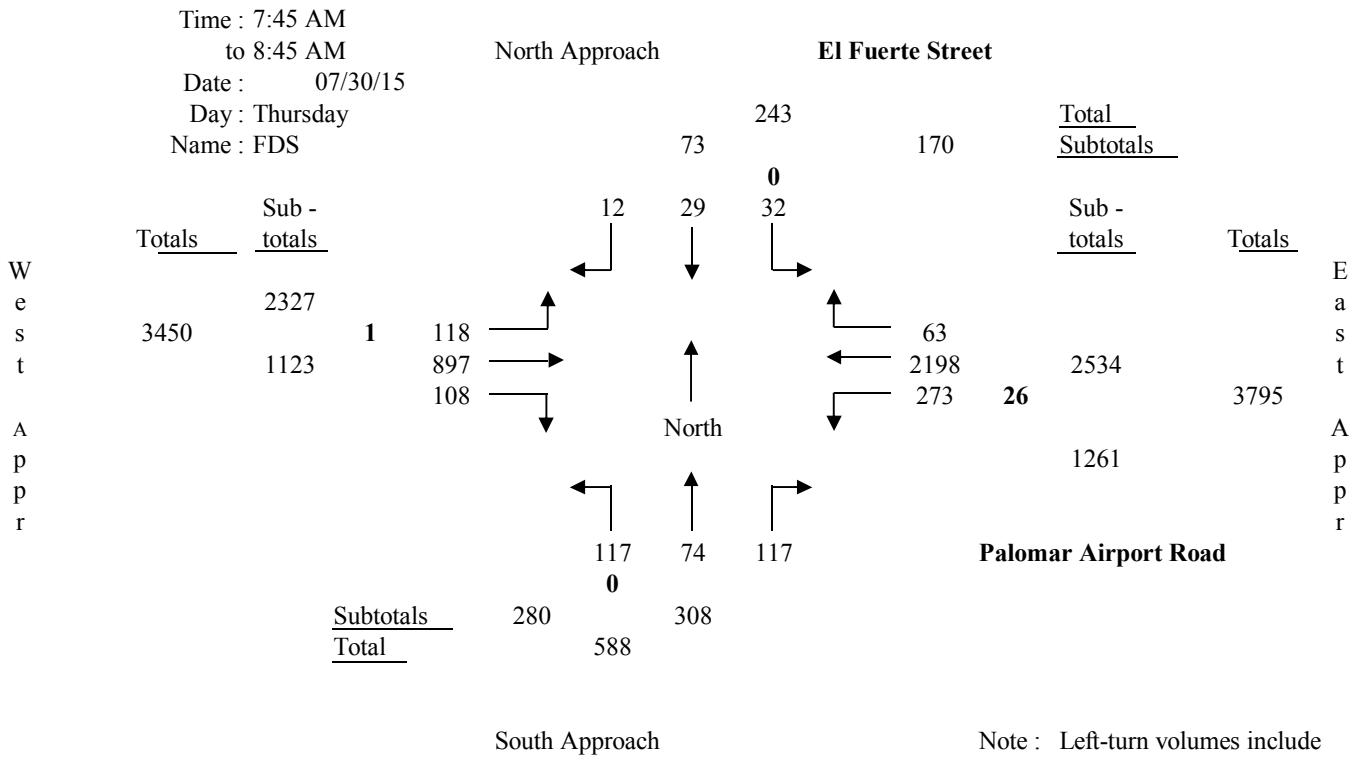
Palomar Airport Road at El Fuerte Street

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:45 AM to 8:45 AM														
Lane Configurations	Inside (left)	1	1		1			1			1			
		2	1		1			1			1			
		3		1		1			1			1		
		4		1	1		1	1		1			1	
		5							1			1	1	
		6								1				
	Outside Free-flow	7												
Lane Settings		2	1	1	2	2	0	2	3	1	2	3	0	
Capacity		3600	2000	1800	3600	4000	0	3600	6000	1800	3600	6000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		117	74	117	32	29	12	118	897	108	273	2198	63	
Adjusted Hourly Volume		117	74	117	32	41	0	118	897	108	273	2261	0	
Utilization Factor		0.03	0.04	0.07	0.01	0.01	0.00	0.03	0.15	0.06	0.08	0.38	0.00	
Critical Factors					0.07	0.01		0.03			0.38			

ICU Ratio = 0.59 LOS = A

Turning Movements at Intersection of: Palomar Airport Road and El Fuerte Street



Palomar Airport Road at El Fuerte Street

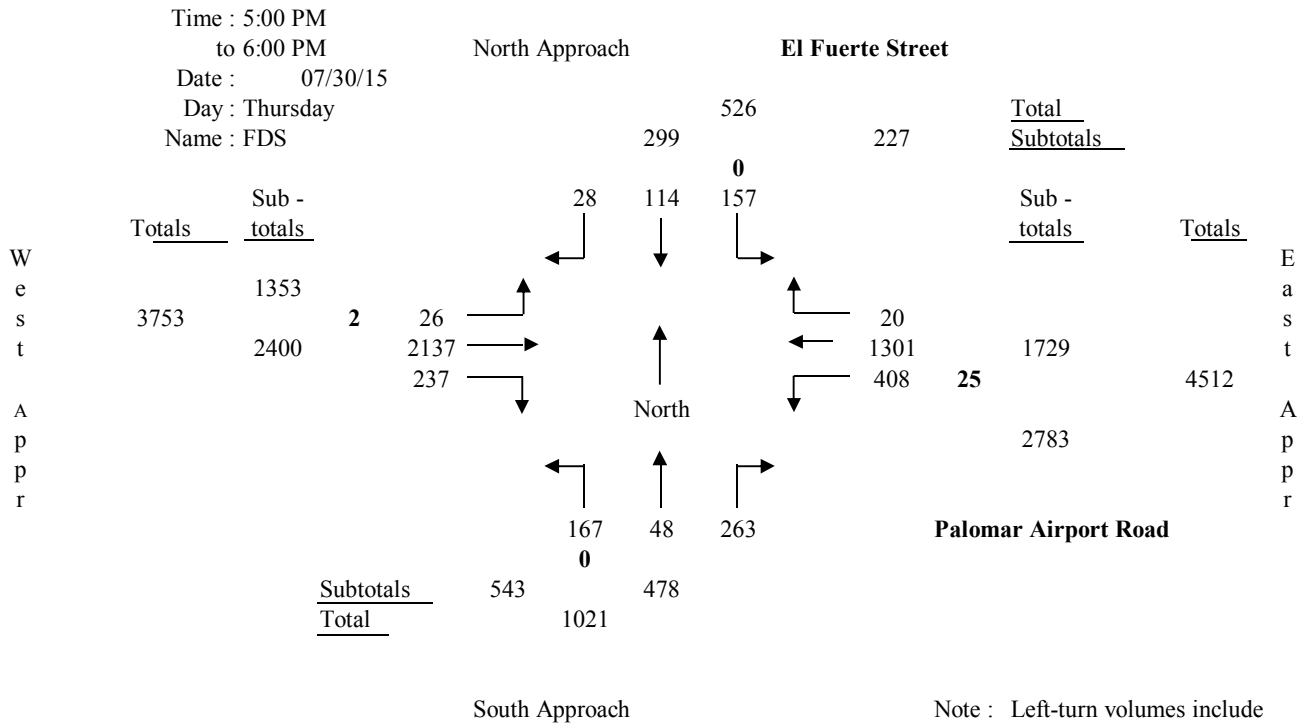
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
5:00 PM to 6:00 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1			1		1			1	
		4		1	1		1	1		1		1	
		5							1			1	1
		6									1		
	Outside Free-flow	7											
Lane Settings		2	1	1	2	2	0	2	3	1	2	3	0
Capacity		3600	2000	1800	3600	4000	0	3600	6000	1800	3600	6000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		167	48	263	157	114	28	26	2137	237	408	1301	20
Adjusted Hourly Volume		167	48	263	157	142	0	26	2137	237	408	1321	0
Utilization Factor		0.05	0.02	0.15	0.04	0.04	0.00	0.01	0.36	0.13	0.11	0.22	0.00
Critical Factors				0.15	0.04				0.36		0.11		

ICU Ratio = 0.76 LOS = C

Turning Movements at Intersection of:

Palomar Airport Road and El Fuerte Street





N-S STREET: **El Fuerte St.** DATE: **07/30/2015** LOCATION: **Carlsbad**
 E-W STREET: **Palomar Airport Rd.** DAY: **THURSDAY** PROJECT#: **15-1194-020**
 CONTROL: **Signal**

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	0	2	2	0	2	3	1	2	3	0	
6:30 AM	8	7	6	2	4	1	9	163	7	24	408	9	648
6:45 AM	10	14	3	3	1	0	16	189	11	34	439	13	733
7:00 AM	14	21	16	6	5	0	13	212	10	46	465	16	824
7:15 AM	19	25	20	5	2	2	25	196	20	58	421	14	807
7:30 AM	20	20	24	8	6	1	26	166	24	57	365	21	738
7:45 AM	24	19	28	4	3	4	29	187	25	80	658	20	1081
8:00 AM	28	14	26	7	8	1	33	222	24	62	606	13	1044
8:15 AM	24	21	33	10	7	2	30	236	29	63	558	16	1029
8:30 AM	41	20	30	11	11	5	26	252	30	68	376	14	884
8:45 AM	29	22	22	9	10	2	21	214	25	69	514	21	958
9:00 AM	33	19	28	5	7	3	14	222	21	69	494	20	935
9:15 AM	30	16	24	8	4	6	16	236	19	44	466	19	888
Volumes	280	218	260	78	68	27	258	2495	245	674	5770	196	10569
Approach %	36.94	28.76	34.30	45.09	39.31	15.61	8.61	83.22	8.17	10.15	86.90	2.95	
App/Depart	758	/	672	173	/	987	2998	/	2833	6640	/	6077	
Peak Volumes	117	74	117	32	29	12	118	897	108	273	2198	63	4038
Approach %	37.99	24.03	37.99	43.84	39.73	16.44	10.51	79.88	9.62	10.77	86.74	2.49	
Pk Hr FACTOR:	0.85			0.68			0.91			0.84			0.9339
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	41	7	41	30	28	5	8	528	41	56	339	2	1126
3:45 PM	33	11	45	29	21	4	5	499	39	90	314	2	1092
4:00 PM	45	13	50	24	25	7	9	609	59	96	286	1	1224
4:15 PM	41	15	66	28	24	11	6	455	66	97	288	2	1099
4:30 PM	39	14	69	45	29	4	8	414	60	89	298	5	1074
4:45 PM	33	11	74	42	30	7	12	422	65	98	333	2	1129
5:00 PM	30	8	78	41	28	5	7	499	58	107	344	3	1208
5:15 PM	54	16	59	54	24	8	4	614	54	95	314	6	1302
5:30 PM	41	14	66	32	41	6	9	496	75	107	299	9	1195
5:45 PM	42	10	60	30	21	9	6	528	50	99	344	2	1201
6:00 PM	29	11	54	33	14	5	6	388	54	72	314	5	985
6:15 PM	30	8	39	39	16	8	3	452	48	92	263	2	1000
Volumes	458	138	701	427	301	79	83	5904	669	1098	3736	41	13635
Approach %	35.31	10.64	54.05	52.91	37.30	9.79	1.25	88.70	10.05	22.52	76.64	0.84	
App/Depart	1297	/	262	807	/	2068	6656	/	7032	4875	/	4273	
Peak Volumes	167	48	263	157	114	28	26	2137	237	408	1301	20	4906
Approach %	34.94	10.04	55.02	52.51	38.13	9.36	1.08	89.04	9.88	23.60	75.25	1.16	
Pk Hr FACTOR:	0.93			0.87			0.89			0.95			0.942
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 21

Intersection Location: Palomar Airport Road &
Melrose Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

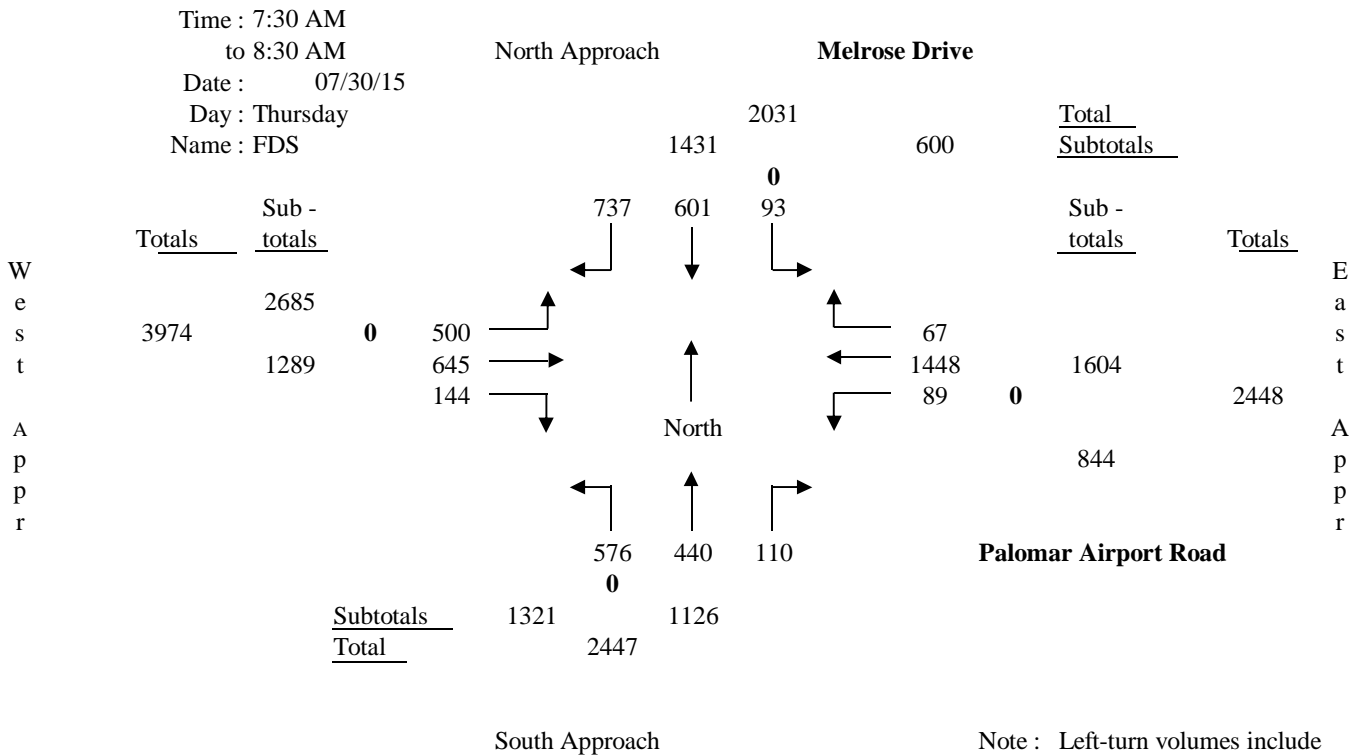
Palomar Airport Road at Melrose Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2	1		1			1			1		
		3		1					1			1	
		4		1					1			1	
		5		1					1			1	
		6		1									1
	Outside Free-flow	7								1			
Lane Settings		2	4	1	2	2	2	2	3	1	2	3	1
Capacity		3600	8000	1800	3600	4000	3600	3600	6000	1800	3600	6000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		576	440	110	93	601	737	500	645	144	89	1448	67
Adjusted Hourly Volume		576	440	66	93	601	487	500	645	144	89	1448	67
Utilization Factor		0.16	0.06	0.04	0.03	0.15	0.14	0.14	0.11	0.08	0.02	0.24	0.04
Critical Factors		0.16				0.15		0.14				0.24	

ICU Ratio = 0.79 LOS = C

Turning Movements at Intersection of : Palomar Airport Road and Melrose Drive



Note : Left-turn volumes include U-turns. U-turns in bold.

Palomar Airport Road at Melrose Drive

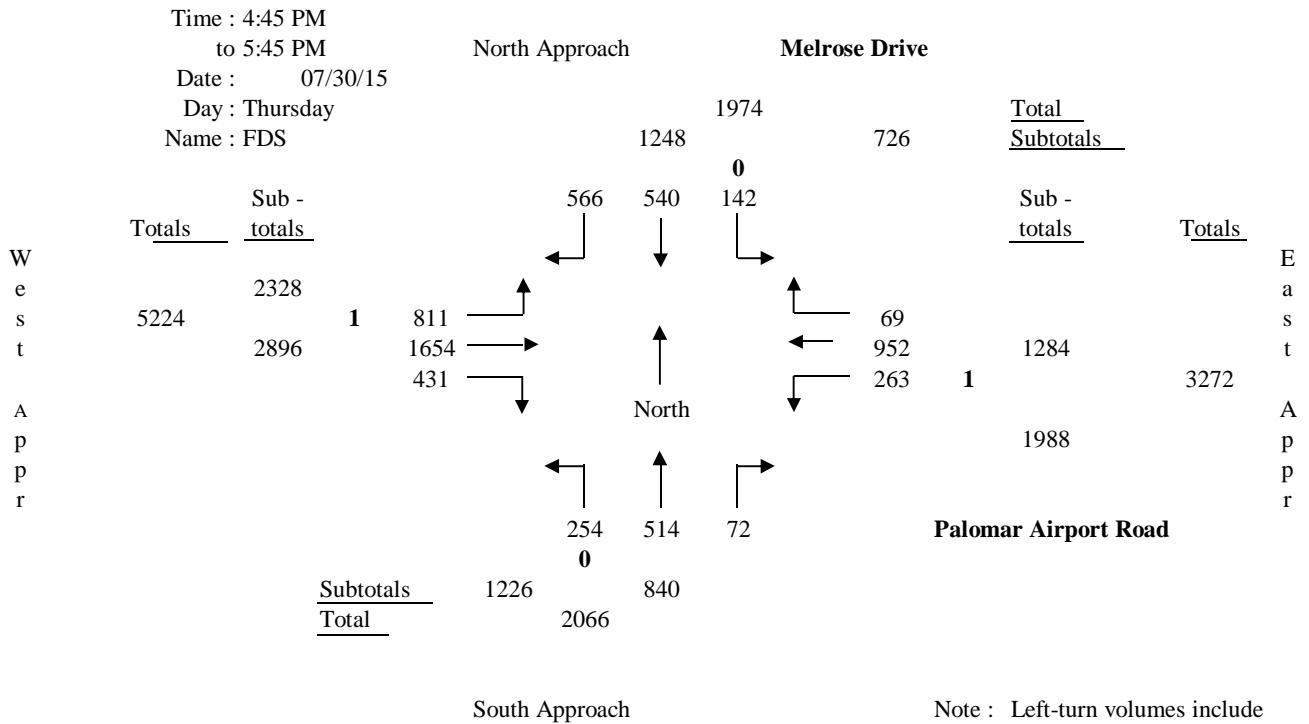
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
4:45 PM to 5:45 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2	1		1			1			1		
		3		1			1			1			1
		4		1			1			1			1
		5		1				1		1			1
		6		1							1		
	Outside Free-flow	7			1								
Lane Settings		2	4	1	2	2	2	2	3	1	2	3	1
Capacity		3600	8000	1800	3600	4000	3600	3600	6000	1800	3600	6000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		254	514	72	142	540	566	811	1654	431	263	952	69
Adjusted Hourly Volume		254	514	0	142	540	161	811	1654	431	263	952	69
Utilization Factor		0.07	0.06	0.00	0.04	0.14	0.04	0.23	0.28	0.24	0.07	0.16	0.04
Critical Factors		0.07			0.14			0.23			0.16		

ICU Ratio = 0.70 LOS = B

Turning Movements at Intersection of :

Palomar Airport Road and Melrose Drive



N-S STREET: **Melrose Dr.** DATE: **7/30/2015** LOCATION: **Carlsbad**
 E-W STREET: **Palomar Airport Rd.** DAY: **THURSDAY** PROJECT# **15-1194-021**
 CONTROL: **Signal**

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	4	1	2	2	2	2	3	1	2	3	1	
6:30 AM	52	49	16	11	81	103	44	79	9	16	261	7	728
6:45 AM	77	52	15	9	168	142	98	103	26	15	342	10	1057
7:00 AM	70	43	19	6	131	151	99	111	17	13	278	9	947
7:15 AM	89	66	23	17	159	163	124	128	40	16	334	12	1171
7:30 AM	133	122	25	22	173	145	125	136	33	19	364	16	1313
7:45 AM	163	104	29	26	163	175	121	187	50	24	431	17	1490
8:00 AM	158	108	31	25	143	234	128	159	33	21	348	19	1407
8:15 AM	122	106	25	20	122	183	126	163	28	25	305	15	1240
8:30 AM	104	133	26	14	121	159	104	139	41	26	264	16	1147
8:45 AM	108	121	19	19	104	153	121	133	44	19	324	13	1178
9:00 AM	103	87	24	19	115	142	111	128	25	23	253	19	1049
9:15 AM	100	85	25	14	103	137	59	154	18	21	172	17	905
Volumes	1279	1076	277	202	1583	1887	1260	1620	364	238	3676	170	13632
Approach %	48.59	40.88	10.52	5.50	43.11	51.39	38.84	49.94	11.22	5.83	90.01	4.16	
App/Depart	2632	/	2506	3672	/	2185	3244	/	2099	4084	/	6842	
Peak Volumes	576	440	110	93	601	737	500	645	144	89	1448	67	5450
Approach %	51.15	39.08	9.77	6.50	42.00	51.50	38.79	50.04	11.17	5.55	90.27	4.18	
Pk Hr FACTOR:	0.95			0.89			0.90			0.85			0.9144
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	43	131	22	22	77	148	162	321	58	37	199	17	1237
3:45 PM	54	123	36	13	97	116	153	383	90	38	220	13	1336
4:00 PM	41	128	16	23	87	115	131	329	77	45	206	16	1214
4:15 PM	46	143	18	18	107	126	205	375	99	55	209	13	1414
4:30 PM	60	140	10	38	109	112	159	406	86	46	224	13	1403
4:45 PM	65	122	23	31	119	135	199	399	116	53	268	14	1544
5:00 PM	58	128	15	53	137	184	192	422	98	71	254	14	1626
5:15 PM	54	131	18	29	162	142	211	431	101	68	224	21	1592
5:30 PM	77	133	16	29	122	105	209	402	116	71	206	20	1506
5:45 PM	75	128	25	20	106	130	159	333	92	50	209	15	1342
6:00 PM	85	105	28	16	98	111	157	302	98	48	197	11	1256
6:15 PM	60	111	10	19	76	84	193	264	79	49	184	13	1142
Volumes	718	1523	237	311	1297	1508	2130	4367	1110	631	2600	180	16612
Approach %	28.97	61.46	9.56	9.98	41.62	48.40	28.00	57.41	14.59	18.50	76.22	5.28	
App/Depart	2478	/	3833	3116	/	3038	7607	/	4915	3411	/	4826	
Peak Volumes	254	514	72	142	540	566	811	1654	431	263	952	69	6268
Approach %	30.24	61.19	8.57	11.38	43.27	45.35	28.00	57.11	14.88	20.48	74.14	5.37	
Pk Hr FACTOR:	0.93			0.83			0.97			0.95			0.9637
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 22

Intersection Location: Carlsbad Boulevard &
Carlsbad Village Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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Michael Baker

I N T E R N A T I O N A L

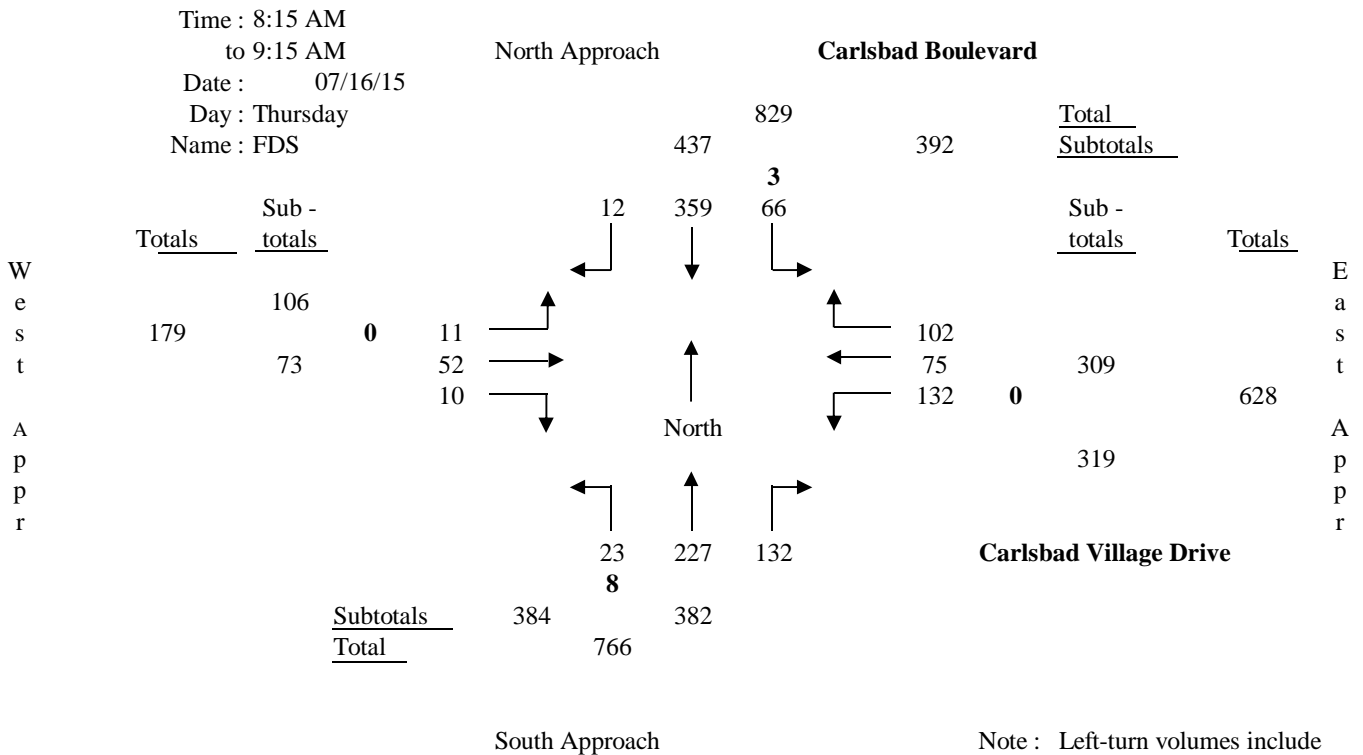
Carlsbad Boulevard at Carlsbad Village Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15 AM to 9:15 AM													
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1		1			1	1	1	1	
		3		1		1	1						1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	2	0	1	1	0	2	0	1
Capacity		1800	4000	1800	1800	4000	0	1800	2000	0	3600	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		23	227	132	66	359	12	11	52	10	132	75	102
Adjusted Hourly Volume		23	227	132	66	371	0	11	62	0	207	0	102
Utilization Factor		0.01	0.06	0.07	0.04	0.09	0.00	0.01	0.03	0.00	0.06	0.00	0.06
Critical Factors					0.07	0.04					0.03	0.06	

ICU Ratio = 0.30 LOS = A

Turning Movements at Intersection of : **Carlsbad Boulevard and Carlsbad Village Drive**



Note : Left-turn volumes include U-turns. U-turns in bold.

Carlsbad Boulevard at Carlsbad Village Drive

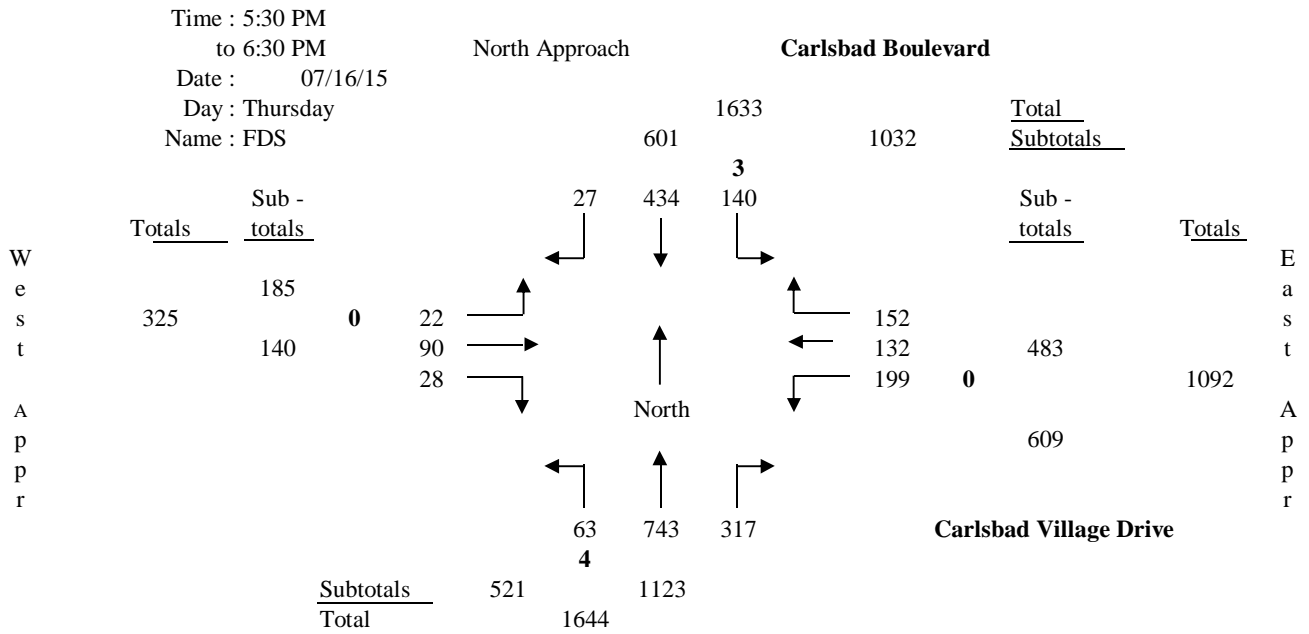
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5:30 PM to 6:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1	1	1	1	
		3		1		1	1						1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	1	2	0	1	1	0	2	0	1
Capacity		1800	4000	1800	1800	4000	0	1800	2000	0	3600	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		63	743	317	140	434	27	22	90	28	199	132	152
Adjusted Hourly Volume		63	743	317	140	461	0	22	118	0	331	0	152
Utilization Factor		0.04	0.19	0.18	0.08	0.12	0.00	0.01	0.06	0.00	0.09	0.00	0.08
Critical Factors		0.19			0.08						0.09		

ICU Ratio = 0.52 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Carlsbad Village Drive



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: Carlsbad Blvd.

DATE: 07/16/2015

LOCATION: Carlsbad

 E-W STREET: Carlsbad Village Dr.
 CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-022

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	2	0	1	1	0	1.5	0.5	1	
6:30 AM	0	24	6	6	74	3	0	4	0	13	10	10	150
6:45 AM	4	26	72	8	104	4	1	7	0	29	11	15	281
7:00 AM	2	31	15	10	99	0	6	2	1	36	15	13	230
7:15 AM	3	37	13	10	99	3	1	7	2	28	7	24	234
7:30 AM	3	41	20	13	93	1	2	11	3	38	17	20	262
7:45 AM	4	43	32	13	89	1	1	9	1	29	13	26	261
8:00 AM	3	34	32	10	71	3	1	11	4	30	20	20	239
8:15 AM	6	53	33	24	97	4	3	11	5	34	14	26	310
8:30 AM	6	55	37	11	87	1	1	17	3	33	20	23	294
8:45 AM	4	48	30	11	100	1	1	10	0	33	23	29	290
9:00 AM	7	71	32	20	75	6	6	14	2	32	18	24	307
9:15 AM	3	59	41	27	65	3	0	16	2	28	13	18	275
Volumes	45	522	363	163	1053	30	23	119	23	363	181	248	3133
Approach %	4.84	56.13	39.03	13.08	84.51	2.41	13.94	72.12	13.94	45.83	22.85	31.31	
App/Depart	930	/	793	1246	/	1439	165	/	645	792	/	256	
Peak Volumes	23	227	132	66	359	12	11	52	10	132	75	102	1201
Approach %	6.02	59.42	34.55	15.10	82.15	2.75	15.07	71.23	13.70	42.72	24.27	33.01	
Pk Hr FACTOR:	0.87			0.87			0.83			0.91			0.9685
AM Pk Hr at:	815												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	12	123	57	46	99	4	5	36	5	57	33	33	510
3:45 PM	9	126	76	32	144	2	7	28	5	64	28	40	561
4:00 PM	17	155	63	39	138	6	16	31	5	52	33	23	578
4:15 PM	14	144	61	61	136	5	4	25	3	54	23	30	560
4:30 PM	14	160	81	37	144	9	6	20	4	66	26	34	601
4:45 PM	20	146	89	32	124	8	12	19	9	49	44	27	579
5:00 PM	13	148	92	38	127	7	9	26	10	60	27	26	583
5:15 PM	23	170	68	24	103	9	7	29	15	58	39	25	570
5:30 PM	19	168	85	36	127	5	8	15	4	60	25	29	581
5:45 PM	7	192	89	31	94	7	3	23	4	48	40	33	571
6:00 PM	16	198	62	40	126	6	6	36	9	38	34	53	624
6:15 PM	21	185	81	33	87	9	5	16	11	53	33	37	571
Volumes	185	1915	904	449	1449	77	88	304	84	659	385	390	6889
Approach %	6.16	63.75	30.09	22.73	73.37	3.90	18.49	63.87	17.65	45.96	26.85	27.20	
App/Depart	3004	/	2393	1975	/	2192	476	/	1657	1434	/	647	
Peak Volumes	63	743	317	140	434	27	22	90	28	199	132	152	2347
Approach %	5.61	66.16	28.23	23.29	72.21	4.49	15.71	64.29	20.00	41.20	27.33	31.47	
Pk Hr FACTOR:	0.97			0.87			0.69			0.97			0.9403
PM Pk Hr at:	530												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 23

Intersection Location: Carlsbad Boulevard &
Tamarack Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Carlsbad Boulevard at Tamarack Avenue

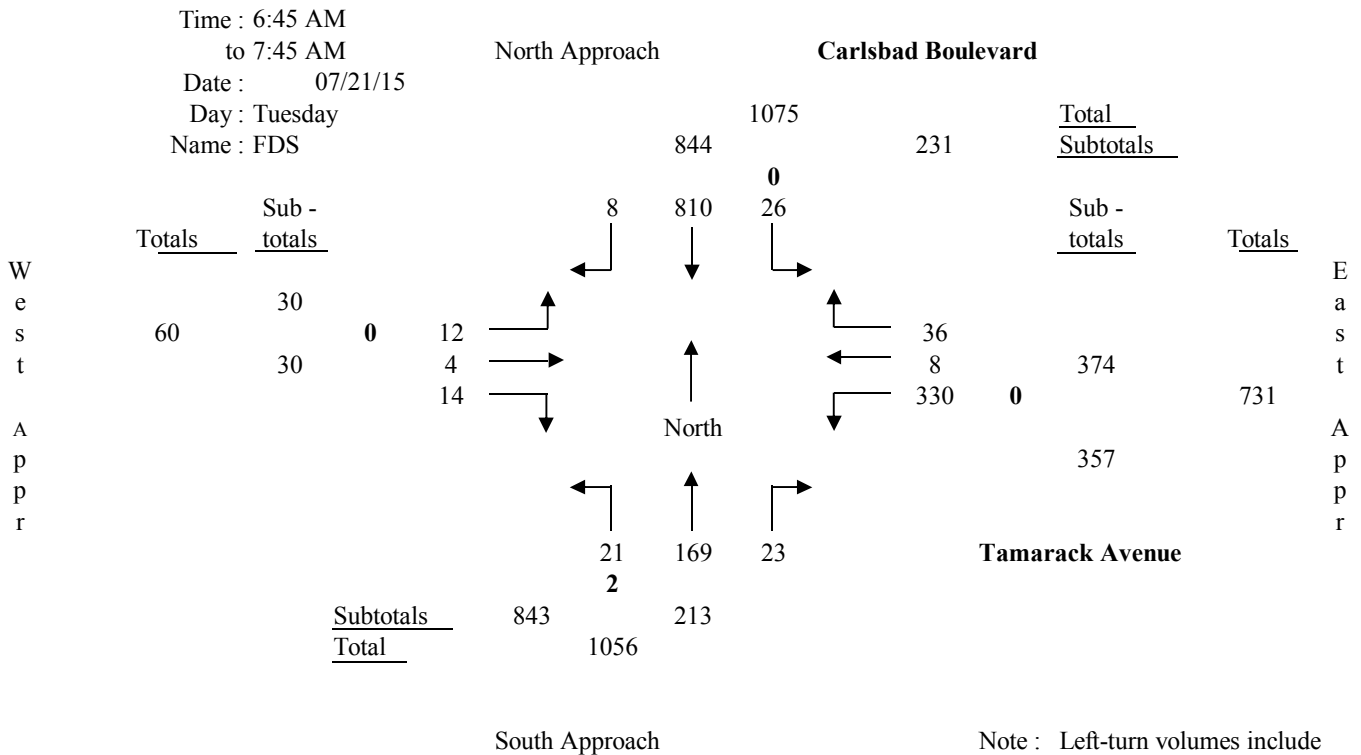
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 6:45 AM to 7:45 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1	1		1		
	(left)	2		1		1				1		1	
		3		1		1							1
		4					1						
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	0	1	2	1	1	0	1	1	0	1
Capacity		1800	4000	0	1800	4000	1800	1800	0	1800	1800	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		21	169	23	26	810	8	12	4	14	330	8	36
Adjusted Hourly Volume		21	192	0	26	810	8	16	0	14	330	0	44
Utilization Factor		0.01	0.05	0.00	0.01	0.20	0.00	0.01	0.00	0.01	0.18	0.00	0.02
Critical Factors		0.01			0.20			0.01			0.18		

ICU Ratio = 0.50 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Tamarack Avenue



Carlsbad Boulevard at Tamarack Avenue

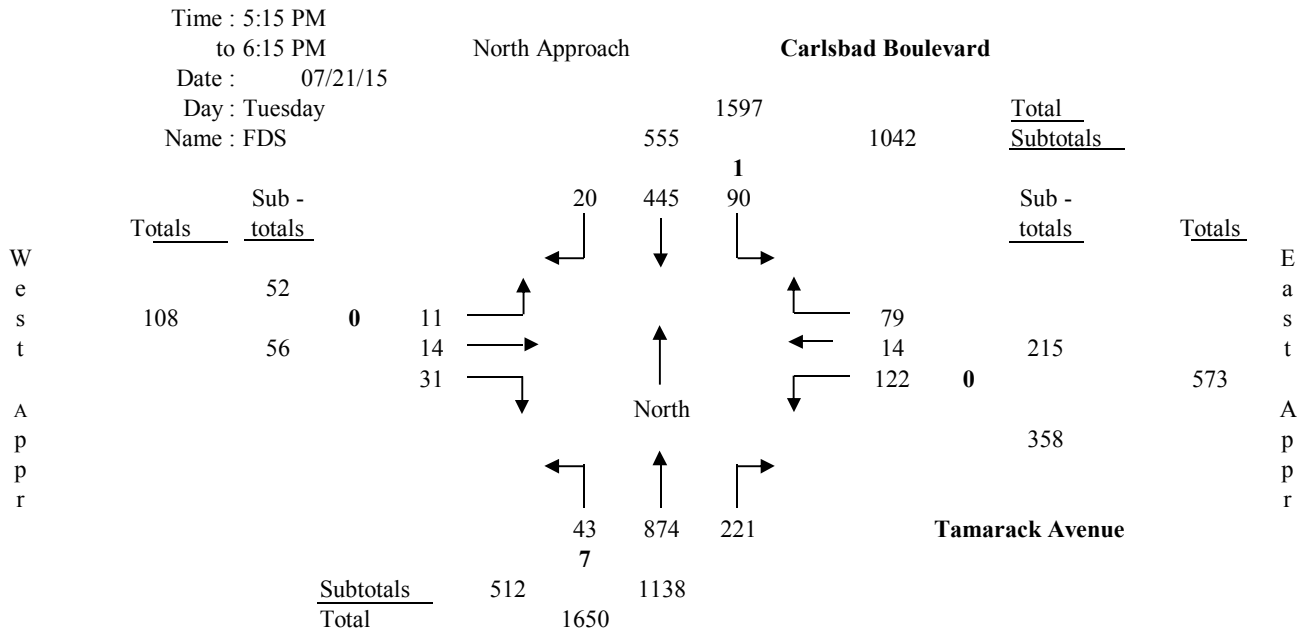
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 5:15 PM to 6:15 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1	1		1		
		2		1		1				1		1	1
		3		1	1								
		4					1						
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	0	1	2	1	1	1	1	0	1	
Capacity		1800	4000	0	1800	4000	1800	1800	2000	1800	1800	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		43	874	221	90	445	20	11	14	31	122	14	79
Adjusted Hourly Volume		43	1095	0	90	445	20	25	0	31	122	0	93
Utilization Factor		0.02	0.27	0.00	0.05	0.11	0.01	0.01	0.00	0.02	0.07	0.00	0.05
Critical Factors			0.27		0.05					0.02	0.07		

ICU Ratio = 0.51 LOS = A

Turning Movements at Intersection of:

Carlsbad Boulevard and Tamarack Avenue



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Carlsbad Blvd.

DATE: 07/21/2015

LOCATION: Carlsbad

E-W STREET: Tamarack Ave.
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-023

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	1	1	1	0	
6:30 AM	5	14	2	3	100	2	1	2	2	46	4	9	190
6:45 AM	12	68	2	10	161	1	4	2	6	109	2	9	386
7:00 AM	2	34	9	6	189	2	4	1	3	55	1	8	314
7:15 AM	3	27	3	5	213	1	4	1	2	67	3	11	340
7:30 AM	4	40	9	5	247	4	0	0	3	99	2	8	421
7:45 AM	7	38	19	10	191	0	2	3	0	96	2	6	374
8:00 AM	2	69	10	11	106	1	1	6	0	51	1	19	277
8:15 AM	8	59	11	12	94	3	2	3	2	54	2	14	264
8:30 AM	6	55	16	15	124	1	1	1	2	60	3	21	305
8:45 AM	8	64	22	7	116	0	3	1	5	62	5	23	316
9:00 AM	8	74	21	18	97	1	1	2	4	39	4	20	289
9:15 AM	6	86	14	17	110	1	0	6	3	59	3	19	324
Volumes	71	628	138	119	1748	17	23	28	32	797	32	167	3800
Approach %	8.48	75.03	16.49	6.32	92.78	0.90	27.71	33.73	38.55	80.02	3.21	16.77	
App/Depart	837	/	818	1884	/	2577	83	/	285	996	/	120	
Peak Volumes	21	169	23	26	810	8	12	4	14	330	8	36	1461
Approach %	9.86	79.34	10.80	3.08	95.97	0.95	40.00	13.33	46.67	88.24	2.14	9.63	
Pk Hr FACTOR:	0.65			0.82			0.63			0.78			0.8676
AM Pk Hr at:	645												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	8	137	45	17	127	5	2	4	4	25	5	23	402
3:45 PM	21	176	41	19	109	3	4	2	4	27	4	20	430
4:00 PM	10	188	49	22	135	7	6	6	10	32	3	19	487
4:15 PM	12	196	47	19	118	3	3	6	12	35	6	23	480
4:30 PM	7	213	43	24	113	8	4	4	5	29	2	20	472
4:45 PM	14	224	51	22	119	8	4	6	1	26	3	15	493
5:00 PM	10	204	50	18	111	10	3	5	4	38	0	16	469
5:15 PM	13	212	63	19	113	8	2	3	9	29	5	17	493
5:30 PM	10	231	55	22	115	2	3	2	7	37	2	18	504
5:45 PM	12	236	49	22	102	6	3	8	8	28	2	22	498
6:00 PM	8	195	54	27	115	4	3	1	7	28	5	22	469
6:15 PM	16	193	44	12	79	4	4	2	4	33	5	28	424
Volumes	141	2405	591	243	1356	68	41	49	75	367	42	243	5621
Approach %	4.49	76.67	18.84	14.58	81.34	4.08	24.85	29.70	45.45	56.29	6.44	37.27	
App/Depart	3137	/	2689	1667	/	1798	165	/	883	652	/	251	
Peak Volumes	43	874	221	90	445	20	11	14	31	122	14	79	1964
Approach %	3.78	76.80	19.42	16.22	80.18	3.60	19.64	25.00	55.36	56.74	6.51	36.74	
Pk Hr FACTOR:	0.96			0.95			0.74			0.94			0.9742
PM Pk Hr at:	515												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 24

Intersection Location: Carlsbad Boulevard &
Cannon Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

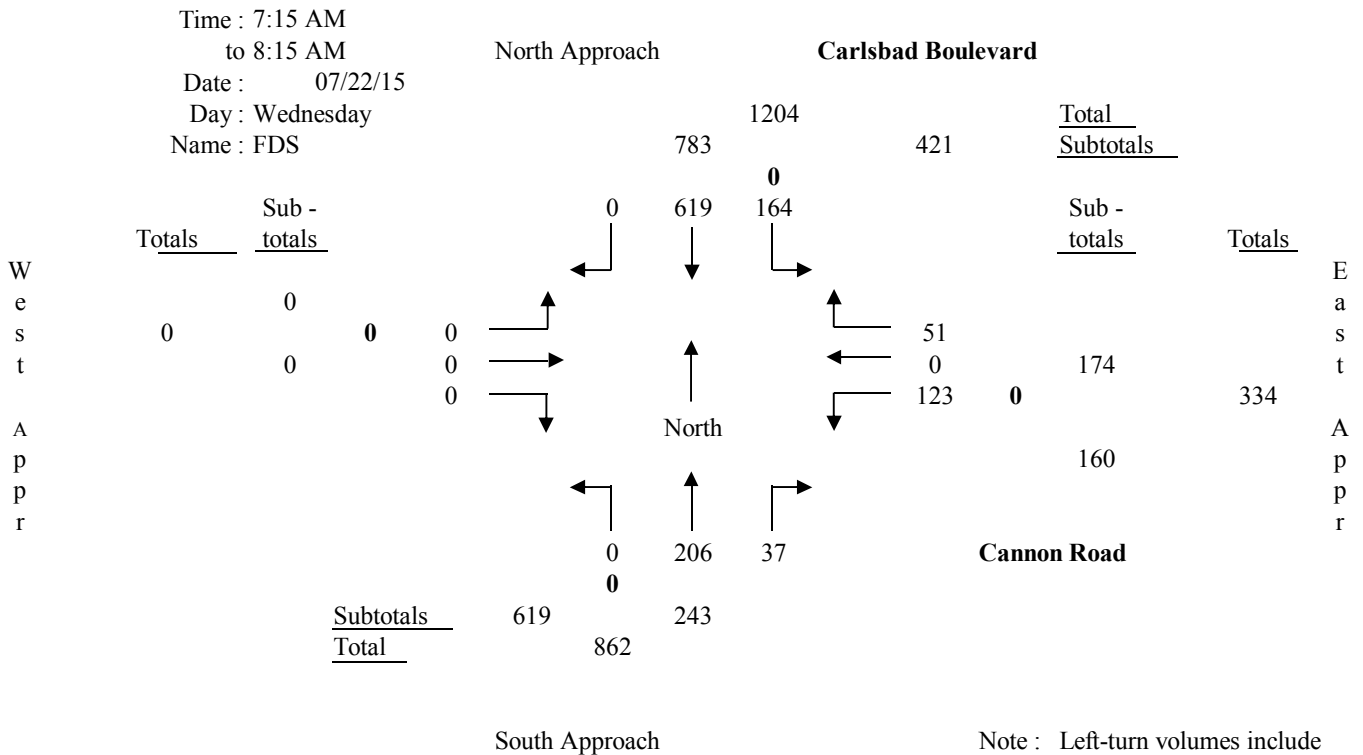
Carlsbad Boulevard at Cannon Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM													
Lane Configurations	Inside	1	1		1						1		
	(left)	2		1		1							1
		3											
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	1	1	1	1	0	0	0	0	1	0	1
Capacity		0	2000	1800	1800	2000	0	0	0	0	1800	0	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		0	206	37	164	619	0	0	0	0	123	0	51
Adjusted Hourly Volume		0	206	37	164	619	0	0	0	0	123	0	0
Utilization Factor		0.00	0.10	0.02	0.09	0.31	0.00	0.00	0.00	0.00	0.07	0.00	0.00
Critical Factors		0.00				0.31			0.00	0.00	0.07		

ICU Ratio = 0.48 LOS = A

Turning Movements at Intersection of : **Carlsbad Boulevard and Cannon Road**



Note : Left-turn volumes include U-turns. U-turns in bold.

Carlsbad Boulevard at Cannon Road

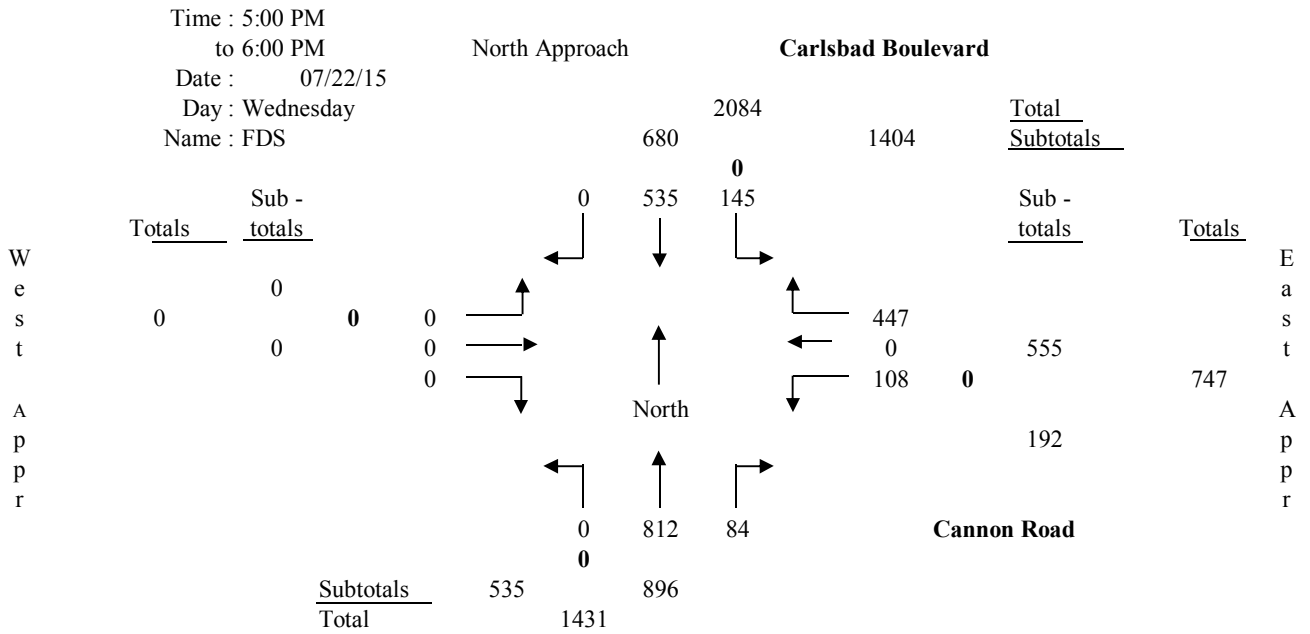
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5:00 PM to 6:00 PM													
Lane Configurations	Inside (left)	1	1		1						1		
		2		1		1							1
		3											
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	1	1	1	1	0	0	0	0	1	0	1
Capacity		0	2000	1800	1800	2000	0	0	0	0	1800	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		0	812	84	145	535	0	0	0	0	108	0	447
Adjusted Hourly Volume		0	812	84	145	535	0	0	0	0	108	0	302
Utilization Factor		0.00	0.41	0.05	0.08	0.27	0.00	0.00	0.00	0.00	0.06	0.00	0.17
Critical Factors			0.41		0.08			0.00					0.17

ICU Ratio = 0.76 LOS = C

Turning Movements at Intersection of:

Carlsbad Boulevard and Cannon Road



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: Carlsbad Blvd.

DATE: 07/22/2015

LOCATION: Carlsbad

 E-W STREET: Cannon Rd.
 CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-024

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	1	1	0	0	0	0	1	0	1	
6:30 AM	0	41	5	29	92	0	0	0	0	14	0	45	226
6:45 AM	0	34	12	28	134	0	0	0	0	37	0	35	280
7:00 AM	0	29	5	22	143	0	0	0	0	32	0	12	243
7:15 AM	0	39	9	29	164	0	0	0	0	29	0	10	280
7:30 AM	0	44	9	48	178	0	0	0	0	39	0	14	332
7:45 AM	0	63	7	50	136	0	0	0	0	34	0	10	300
8:00 AM	0	60	12	37	141	0	0	0	0	21	0	17	288
8:15 AM	0	55	14	31	133	0	0	0	0	17	0	18	268
8:30 AM	0	59	7	27	132	0	0	0	0	18	0	20	263
8:45 AM	0	87	14	30	117	0	0	0	0	25	0	23	296
9:00 AM	0	62	14	38	99	0	0	0	0	13	0	16	242
9:15 AM	0	63	7	22	77	0	0	0	0	12	0	26	207
Volumes	0	636	115	391	1546	0	0	0	0	291	0	246	3225
Approach %	0.00	84.69	15.31	20.19	79.81	0.00	#DIV/0!	#DIV/0!	#DIV/0!	54.19	0.00	45.81	
App/Depart	751	/	882	1937	/	1837	0	/	506	537	/	0	
Peak Volumes	0	206	37	164	619	0	0	0	0	123	0	51	1200
Approach %	0.00	84.77	15.23	20.95	79.05	0.00	#DIV/0!	#DIV/0!	#DIV/0!	70.69	0.00	29.31	
Pk Hr FACTOR:	0.84			0.87			0.00			0.82			0.9036
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
3:30 PM	0	145	22	45	147	0	0	0	0	22	0	59	440
3:45 PM	0	175	13	43	129	0	0	0	0	13	0	56	429
4:00 PM	0	187	27	38	152	0	0	0	0	25	0	75	504
4:15 PM	0	180	11	39	150	0	0	0	0	19	0	83	482
4:30 PM	0	143	21	24	82	0	0	0	0	21	0	64	355
4:45 PM	0	169	23	30	136	0	0	0	0	22	0	87	467
5:00 PM	0	214	22	34	149	0	0	0	0	26	0	94	539
5:15 PM	0	181	26	38	132	0	0	0	0	28	0	159	564
5:30 PM	0	201	13	37	115	0	0	0	0	30	0	110	506
5:45 PM	0	216	23	36	139	0	0	0	0	24	0	84	522
6:00 PM	0	195	20	33	102	0	0	0	0	24	0	73	447
6:15 PM	0	175	18	28	122	0	0	0	0	23	0	55	421
Volumes	0	2181	239	425	1555	0	0	0	0	277	0	999	5676
Approach %	0.00	90.12	9.88	21.46	78.54	0.00	#DIV/0!	#DIV/0!	#DIV/0!	21.71	0.00	78.29	
App/Depart	2420	/	3180	1980	/	1832	0	/	664	1276	/	0	
Peak Volumes	0	812	84	145	535	0	0	0	0	108	0	447	2131
Approach %	0.00	90.63	9.38	21.32	78.68	0.00	#DIV/0!	#DIV/0!	#DIV/0!	19.46	0.00	80.54	
Pk Hr FACTOR:	0.94			0.93			0.00			0.74			0.9446
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 25

Intersection Location: Carlsbad Boulevard &
Poinsettia Lane

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Carlsbad Boulevard at Poinsettia Lane

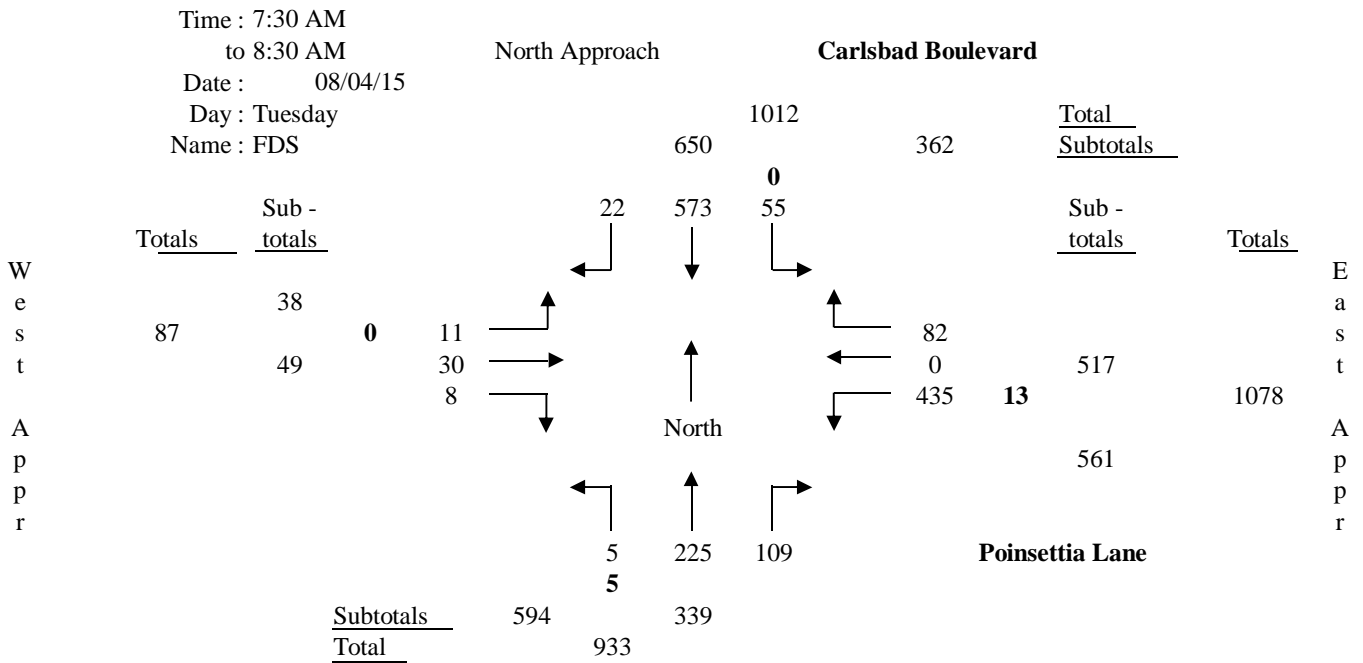
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1	1				1		1		
		3		1			1						1
		4					1						
		5					1						
		6											
	Outside Free-flow	7											
Lane Settings		1	2	1	2	2	1	1	1	1	2	0	1
Capacity		1800	4000	1800	3600	4000	1800	1800	2000	1800	3600	0	1800
Are the North/South phases split (Y/N)?													
Are the East/West phases split (Y/N)?													
Efficiency Lost Factor		0.10											
Hourly Volume		5	225	109	55	573	22	11	30	8	435	0	82
Adjusted Hourly Volume		5	225	109	55	595	0	11	30	8	435	0	82
Utilization Factor		0.00	0.06	0.06	0.02	0.15	0.00	0.01	0.02	0.00	0.12	0.00	0.05
Critical Factors		0.00				0.15			0.02		0.12		

ICU Ratio = 0.39 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Poinsettia Lane



Note : Left-turn volumes include U-turns. U-turns in bold.

Carlsbad Boulevard at Poinsettia Lane

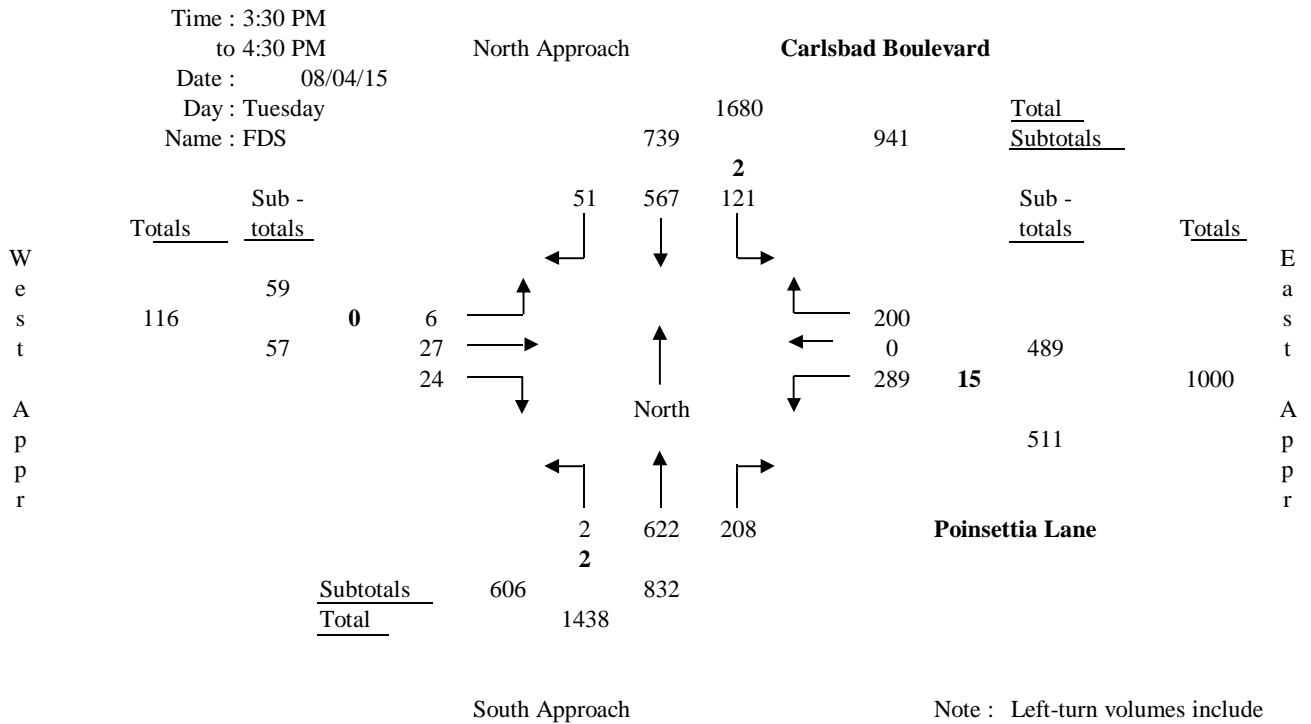
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:30 PM to 4:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1	1				1		1		
		3		1		1				1			1
		4				1							
		5				1							
		6											
	Outside Free-flow	7						1					
Lane Settings		1	2	1	2	2	1	1	1	1	2	0	1
Capacity		1800	4000	1800	3600	4000	1800	1800	2000	1800	3600	0	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		2	622	208	121	567	51	6	27	24	289	0	200
Adjusted Hourly Volume		2	622	208	121	618	0	6	27	24	289	0	200
Utilization Factor		0.00	0.16	0.12	0.03	0.15	0.00	0.00	0.01	0.01	0.08	0.00	0.11
Critical Factors			0.16		0.03				0.01				0.11

ICU Ratio = 0.41 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Poinsettia Lane





N-S STREET: Carlsbad Blvd.

DATE: 08/04/2015

LOCATION: Carlsbad

E-W STREET: Poinsettia Ln.
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-025

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	2	2	1	1	1	1	2	0	1	
6:30 AM	0	75	6	7	82	2	1	4	0	34	0	11	222
6:45 AM	0	26	13	16	111	2	1	2	1	44	0	9	225
7:00 AM	2	28	17	19	136	4	3	2	0	69	0	13	293
7:15 AM	0	43	6	12	187	6	0	3	2	71	0	21	351
7:30 AM	1	34	20	16	167	8	2	3	1	114	0	18	384
7:45 AM	0	68	33	12	157	5	5	6	1	123	0	23	433
8:00 AM	0	64	29	13	110	5	1	11	1	127	0	21	382
8:15 AM	4	59	27	14	139	4	3	10	5	71	0	20	356
8:30 AM	0	53	32	26	117	8	3	5	3	88	0	30	365
8:45 AM	2	64	29	31	92	13	3	10	0	61	0	39	344
9:00 AM	0	48	29	17	102	5	3	5	2	58	0	26	295
9:15 AM	0	61	21	21	75	9	2	8	3	50	0	22	272
Volumes	9	623	262	204	1475	71	27	69	19	910	0	253	3922
Approach %	1.01	69.69	29.31	11.66	84.29	4.06	23.48	60.00	16.52	78.25	0.00	21.75	
App/Depart	894	/	903	1750	/	2404	115	/	535	1163	/	80	
Peak Volumes	5	225	109	55	573	22	11	30	8	435	0	82	1555
Approach %	1.47	66.37	32.15	8.46	88.15	3.38	22.45	61.22	16.33	84.14	0.00	15.86	
Pk Hr FACTOR:	0.84			0.85			0.68			0.87			0.8978
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	0	142	54	37	140	13	3	12	8	73	0	57	539
3:45 PM	2	150	52	30	139	22	1	6	9	77	0	62	550
4:00 PM	0	177	52	22	147	6	2	6	0	67	0	37	516
4:15 PM	0	153	50	32	141	10	0	3	7	72	0	44	512
4:30 PM	3	126	34	12	87	5	2	10	0	51	0	40	370
4:45 PM	0	165	39	32	110	14	2	3	2	54	0	54	475
5:00 PM	2	167	49	21	119	18	2	6	1	64	0	53	502
5:15 PM	1	119	38	30	105	9	1	2	2	61	0	35	403
5:30 PM	0	133	51	27	103	11	2	10	0	80	0	46	463
5:45 PM	0	159	40	20	92	18	2	5	2	50	0	50	438
6:00 PM	0	102	49	12	78	2	2	2	2	26	0	28	303
6:15 PM	4	125	41	23	100	9	0	2	0	60	0	39	403
Volumes	12	1718	549	298	1361	137	19	67	33	735	0	545	5474
Approach %	0.53	75.38	24.09	16.59	75.78	7.63	15.97	56.30	27.73	57.42	0.00	42.58	
App/Depart	2279	/	2282	1796	/	2129	119	/	914	1280	/	149	
Peak Volumes	2	622	208	121	567	51	6	27	24	289	0	200	2117
Approach %	0.24	74.76	25.00	16.37	76.73	6.90	10.53	47.37	42.11	59.10	0.00	40.90	
Pk Hr FACTOR:	0.91			0.97			0.62			0.88			0.9623
PM Pk Hr at:	330												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 26

Intersection Location: Carlsbad Boulevard &
Avenida Encinas

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Carlsbad Boulevard at Avenida Encinas

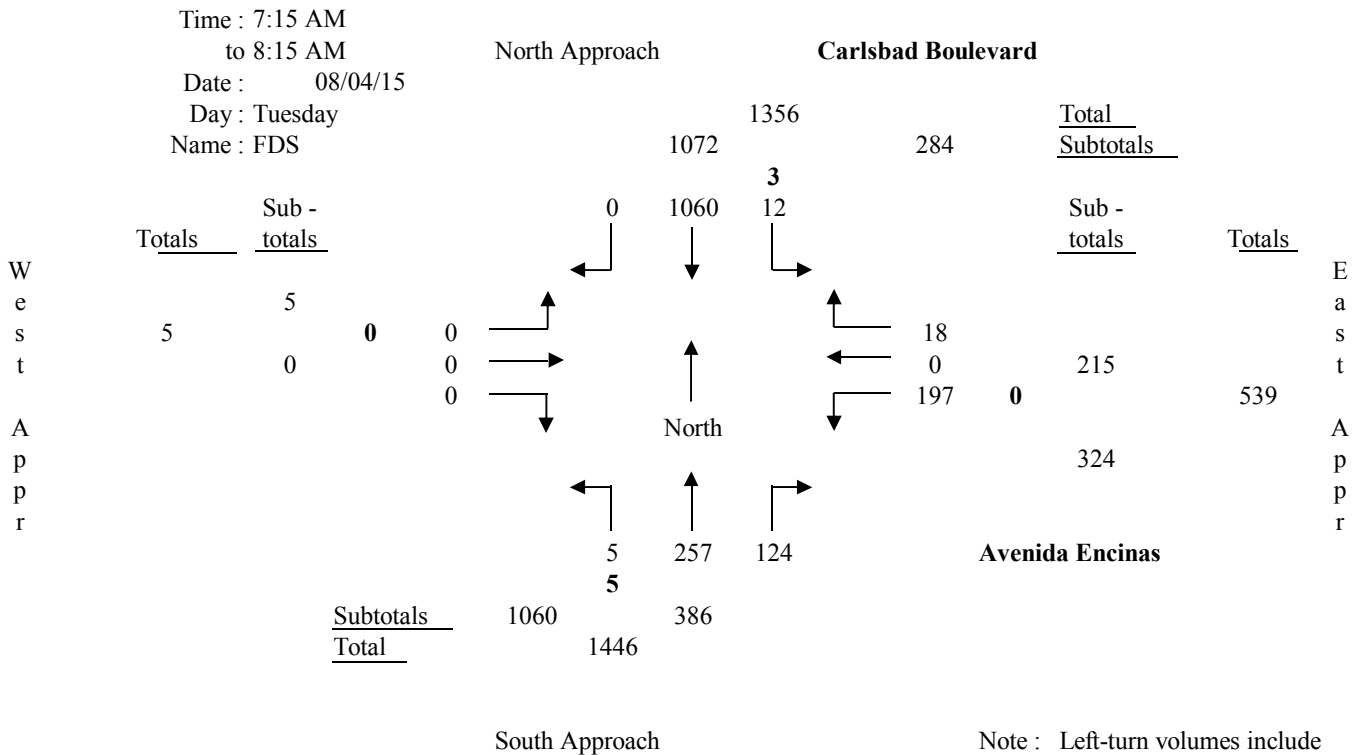
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM													
Lane Configurations	Inside (left)	1	1		1						1		
		2	1			1					1	1	1
		3		1		1							
		4											
		5											
	Outside	6											
	Free-flow	7											
Lane Settings		0	2	1	1	2	0	0	0	0	2	0	0
Capacity		0	4000	1800	1800	4000	0	0	0	0	3600	0	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		5	257	124	12	1060	0	0	0	0	197	0	18
Adjusted Hourly Volume		5	257	26	12	1060	0	0	0	0	215	0	0
Utilization Factor		0.00	0.06	0.01	0.01	0.27	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Critical Factors		0.00				0.27			0.00	0.00	0.06		

ICU Ratio = 0.43 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Avenida Encinas



Note : Left-turn volumes include U-turns. U-turns in bold.

Carlsbad Boulevard at Avenida Encinas

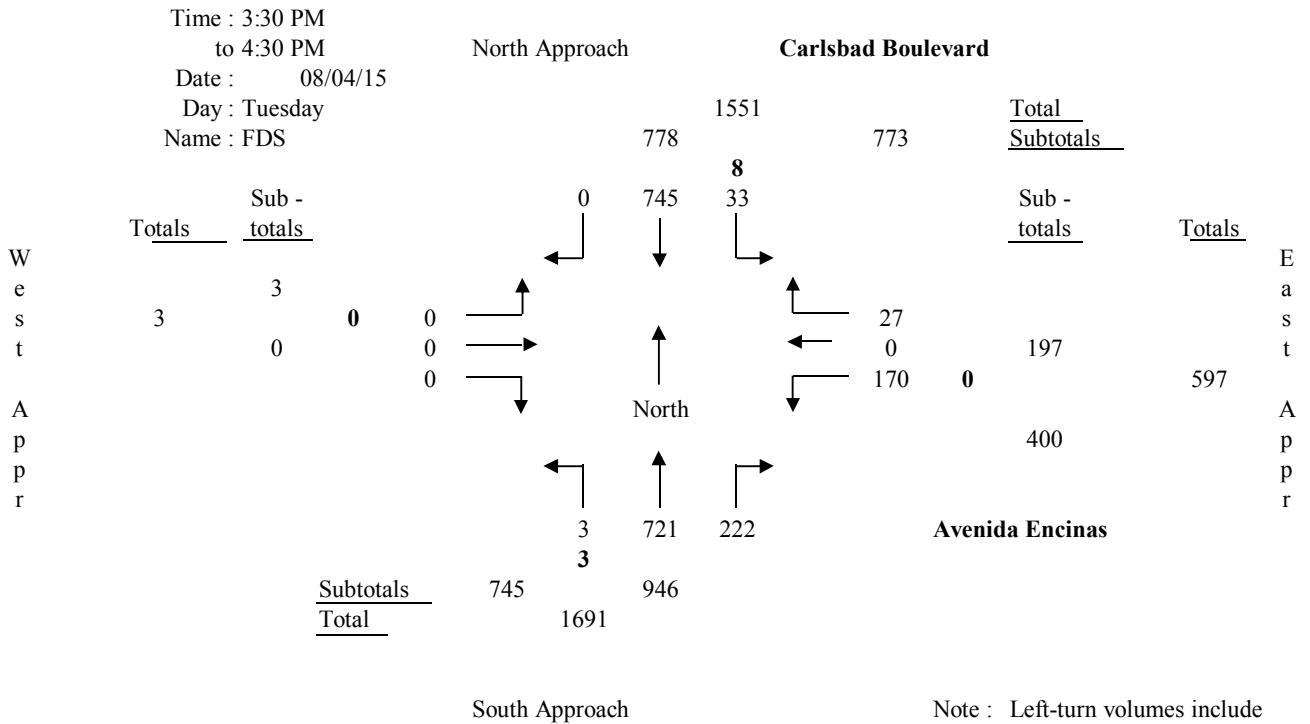
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:30 PM to 4:30 PM													
Lane Configurations	Inside (left)	1	1		1						1		
		2	1			1				1	1	1	
		3		1		1							
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	2	1	1	2	0	0	0	0	2	0	0
Capacity		0	4000	1800	1800	4000	0	0	0	0	3600	0	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		3	721	222	33	745	0	0	0	0	170	0	27
Adjusted Hourly Volume		3	721	137	33	745	0	0	0	0	197	0	0
Utilization Factor		0.00	0.18	0.08	0.02	0.19	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Critical Factors			0.18		0.02					0.00	0.00	0.05	

ICU Ratio = 0.35 LOS = A

Turning Movements at Intersection of :

Carlsbad Boulevard and Avenida Encinas



N-S STREET: Carlsbad Blvd.

DATE: 08/04/2015

LOCATION: Carlsbad

E-W STREET: Avenida Encinas
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-026

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	26	7	0	99	0	0	0	0	19	0	3	154
6:45 AM	0	26	20	3	141	0	0	0	0	35	0	5	230
7:00 AM	0	38	10	2	175	0	0	0	0	22	0	2	249
7:15 AM	1	49	28	3	256	0	0	0	0	37	0	5	379
7:30 AM	2	42	21	0	288	0	0	0	0	44	0	0	397
7:45 AM	0	84	39	4	286	0	0	0	0	63	0	10	486
8:00 AM	2	82	36	5	230	0	0	0	0	53	0	3	411
8:15 AM	1	58	35	2	204	0	0	0	0	50	0	1	351
8:30 AM	0	78	22	9	183	0	0	0	0	30	0	2	324
8:45 AM	0	77	28	3	160	0	0	0	0	45	0	10	323
9:00 AM	0	66	24	5	121	0	0	0	0	31	0	2	249
9:15 AM	0	85	29	2	129	0	0	0	0	30	0	5	280
Volumes	6	711	299	38	2272	0	0	0	0	459	0	48	3833
Approach %	0.59	69.98	29.43	1.65	98.35	0.00	#DIV/0!	#DIV/0!	#DIV/0!	90.53	0.00	9.47	
App/Depart	1016	/	759	2310	/	2731	0	/	337	507	/	6	
Peak Volumes	5	257	124	12	1060	0	0	0	0	197	0	18	1673
Approach %	1.30	66.58	32.12	1.12	98.88	0.00	#DIV/0!	#DIV/0!	#DIV/0!	91.63	0.00	8.37	
Pk Hr FACTOR:	0.78			0.92			0.00			0.74			0.8606
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	1	183	57	9	218	0	0	0	0	56	0	9	533
3:45 PM	2	162	51	9	191	0	0	0	0	39	0	5	459
4:00 PM	0	187	58	11	164	0	0	0	0	34	0	4	458
4:15 PM	0	189	56	4	172	0	0	0	0	41	0	9	471
4:30 PM	0	176	52	5	154	0	0	0	0	35	0	2	424
4:45 PM	0	173	42	6	121	0	0	0	0	48	0	9	399
5:00 PM	1	204	50	4	150	0	0	0	0	43	0	3	455
5:15 PM	0	190	38	12	179	0	0	0	0	37	0	3	459
5:30 PM	0	218	49	3	142	0	0	0	0	36	0	4	452
5:45 PM	0	204	34	3	138	0	0	0	0	24	0	4	407
6:00 PM	0	193	61	10	129	0	0	0	0	37	0	3	433
6:15 PM	1	154	64	1	121	0	0	0	0	55	0	6	402
Volumes	5	2233	612	77	1879	0	0	0	0	485	0	61	5352
Approach %	0.18	78.35	21.47	3.94	96.06	0.00	#DIV/0!	#DIV/0!	#DIV/0!	88.83	0.00	11.17	
App/Depart	2850	/	2294	1956	/	2364	0	/	689	546	/	5	
Peak Volumes	3	721	222	33	745	0	0	0	0	170	0	27	1921
Approach %	0.32	76.22	23.47	4.24	95.76	0.00	#DIV/0!	#DIV/0!	#DIV/0!	86.29	0.00	13.71	
Pk Hr FACTOR:	0.97			0.86			0.00			0.76			0.901
PM Pk Hr at:	330												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 27

Intersection Location: Rancho Santa Fe Road &
La Costa Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

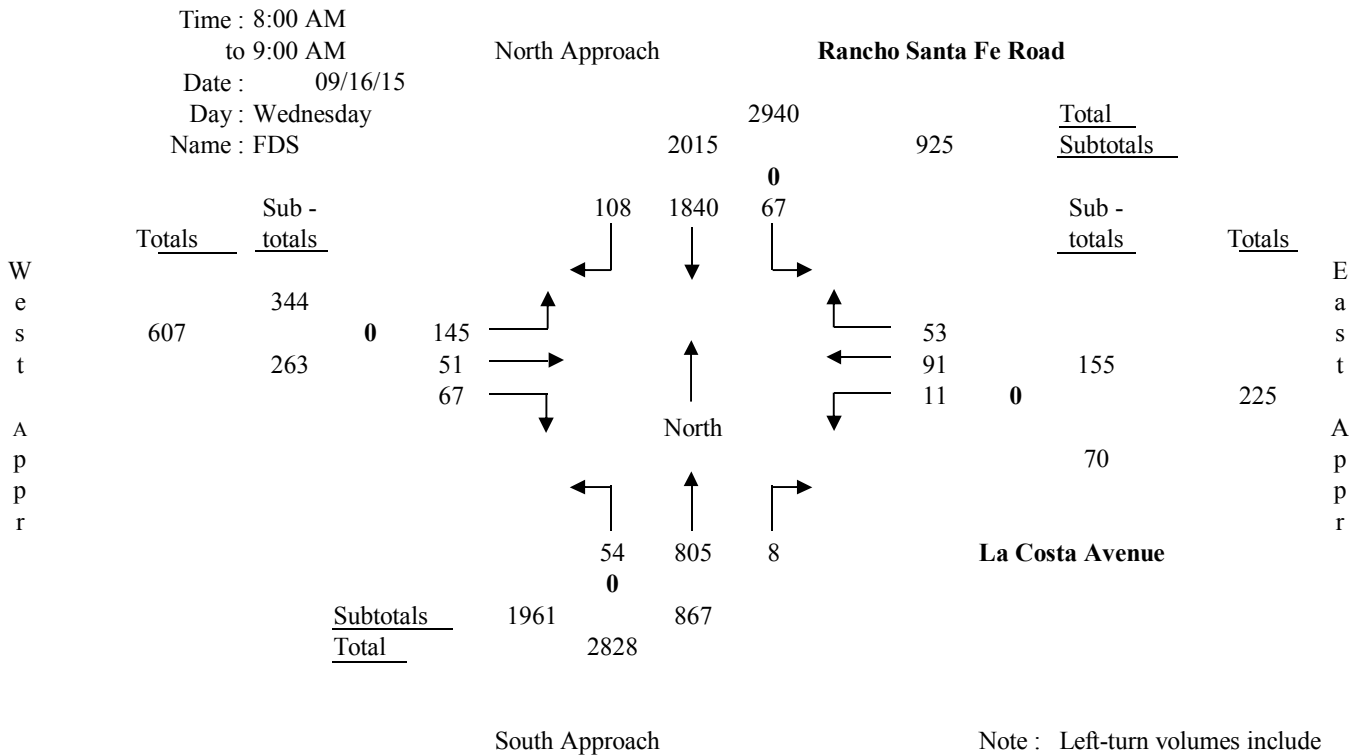
Rancho Santa Fe Road at La Costa Avenue

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00 AM	to												
9:00 AM													
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1		1			1				1	
		3		1					1	1			1
		4		1								1	
		5		1	1								
		6											
	Outside Free-flow	7											
Lane Settings		2	3	0	2	3	0	2	0	1	1	2	0
Capacity		3600	6000	0	3600	6000	0	3600	0	1800	1800	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		54	805	8	67	1840	108	145	51	67	11	91	53
Adjusted Hourly Volume		54	813	0	67	1948	0	145	0	118	11	144	0
Utilization Factor		0.02	0.14	0.00	0.02	0.32	0.00	0.04	0.00	0.07	0.01	0.04	0.00
Critical Factors		0.02				0.32		0.04				0.04	

ICU Ratio = 0.52 LOS = A

Turning Movements at Intersection of : Rancho Santa Fe Road and La Costa Avenue



Note : Left-turn volumes include U-turns. U-turns in bold.

Rancho Santa Fe Road at La Costa Avenue

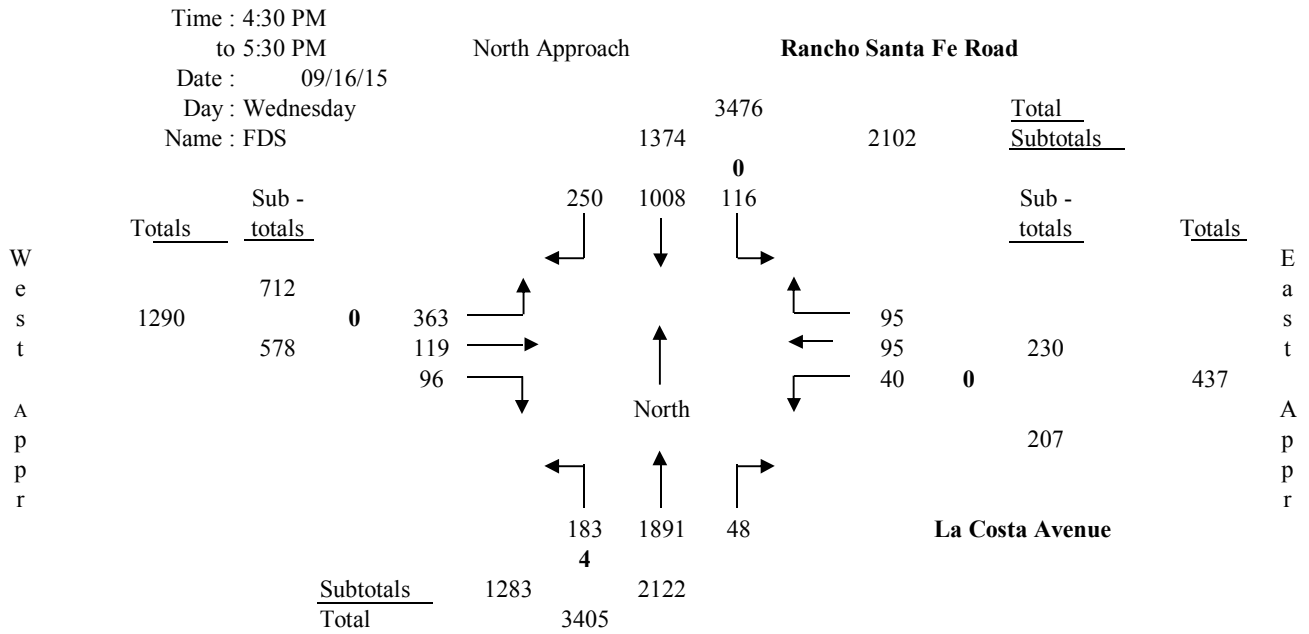
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:30 PM to 5:30 PM														
Lane Configurations	Inside (left)	1	1		1			1			1			
		2	1		1			1				1		
		3		1		1			1	1		1	1	
		4		1		1								
		5		1	1		1	1						
		6												
	Outside Free-flow	7												
Lane Settings		2	3	0	2	3	0	2	1	0	1	1	1	
Capacity		3600	6000	0	3600	6000	0	3600	2000	0	1800	2000	1800	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		183	1891	48	116	1008	250	363	119	96	40	95	95	
Adjusted Hourly Volume		183	1939	0	116	1258	0	363	215	0	40	95	95	
Utilization Factor		0.05	0.32	0.00	0.03	0.21	0.00	0.10	0.11	0.00	0.02	0.05	0.05	
Critical Factors			0.32		0.03			0.10					0.05	

ICU Ratio = 0.60 LOS = A

Turning Movements at Intersection of:

Rancho Santa Fe Road and La Costa Avenue



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Rancho Santa Fe Rd.

DATE: 09/16/2015

LOCATION: Carlsbad

E-W STREET: La Costa Ave.
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-027

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	0	2	0.5	0.5	1	2	0	
6:30 AM	3	101	4	4	341	28	24	5	9	3	13	9	544
6:45 AM	2	126	2	7	452	24	25	7	16	2	19	6	688
7:00 AM	5	144	6	5	363	29	28	4	9	5	14	9	621
7:15 AM	8	128	3	8	396	30	32	8	6	2	21	6	648
7:30 AM	12	145	2	18	452	32	35	16	9	1	25	3	750
7:45 AM	10	163	5	14	465	28	30	13	16	4	21	11	780
8:00 AM	14	188	2	13	454	25	33	11	14	1	25	10	790
8:15 AM	16	193	1	19	491	24	29	10	20	5	24	14	846
8:30 AM	13	196	4	14	458	29	42	14	19	2	20	16	827
8:45 AM	11	228	1	21	437	30	41	16	14	3	22	13	837
9:00 AM	10	207	2	20	366	32	24	13	20	3	17	11	725
9:15 AM	14	204	3	29	363	25	28	12	22	2	18	7	727
Volumes	118	2023	35	172	5038	336	371	129	174	33	239	115	8783
Approach %	5.42	92.97	1.61	3.10	90.84	6.06	55.04	19.14	25.82	8.53	61.76	29.72	
App/Depart	2176	/	2509	5546	/	5245	674	/	336	387	/	693	
Peak Volumes	54	805	8	67	1840	108	145	51	67	11	91	53	3300
Approach %	6.23	92.85	0.92	3.33	91.32	5.36	55.13	19.39	25.48	7.10	58.71	34.19	
Pk Hr FACTOR:	0.90			0.94			0.88			0.90			0.9752
AM Pk Hr at:	800												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	29	355	9	13	194	42	76	32	28	19	41	29	867
3:45 PM	24	369	9	16	188	41	60	30	25	13	42	42	859
4:00 PM	42	363	6	14	239	54	89	29	24	7	29	41	937
4:15 PM	44	437	8	24	247	60	90	24	21	10	30	24	1019
4:30 PM	46	474	5	25	233	66	98	28	25	11	32	25	1068
4:45 PM	50	458	16	32	231	59	103	32	26	13	28	20	1068
5:00 PM	42	496	13	30	261	50	85	30	20	9	21	26	1083
5:15 PM	45	463	14	29	283	75	77	29	25	7	14	24	1085
5:30 PM	40	452	7	24	269	54	70	42	28	5	19	25	1035
5:45 PM	33	382	4	20	266	50	75	41	24	8	13	24	940
6:00 PM	31	366	8	22	261	45	60	24	24	6	11	20	878
6:15 PM	32	374	5	20	283	41	65	28	41	9	14	19	931
Volumes	458	4989	104	269	2955	637	948	369	311	117	294	319	11770
Approach %	8.25	89.88	1.87	6.97	76.53	16.50	58.23	22.67	19.10	16.03	40.27	43.70	
App/Depart	5551	/	6256	3861	/	3383	1628	/	742	730	/	1389	
Peak Volumes	183	1891	48	116	1008	250	363	119	96	40	95	95	4304
Approach %	8.62	89.11	2.26	8.44	73.36	18.20	62.80	20.59	16.61	17.39	41.30	41.30	
Pk Hr FACTOR:	0.96			0.89			0.90			0.85			0.9917
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 28

Intersection Location: Rancho Santa Fe Road &
Calle Barcelona

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

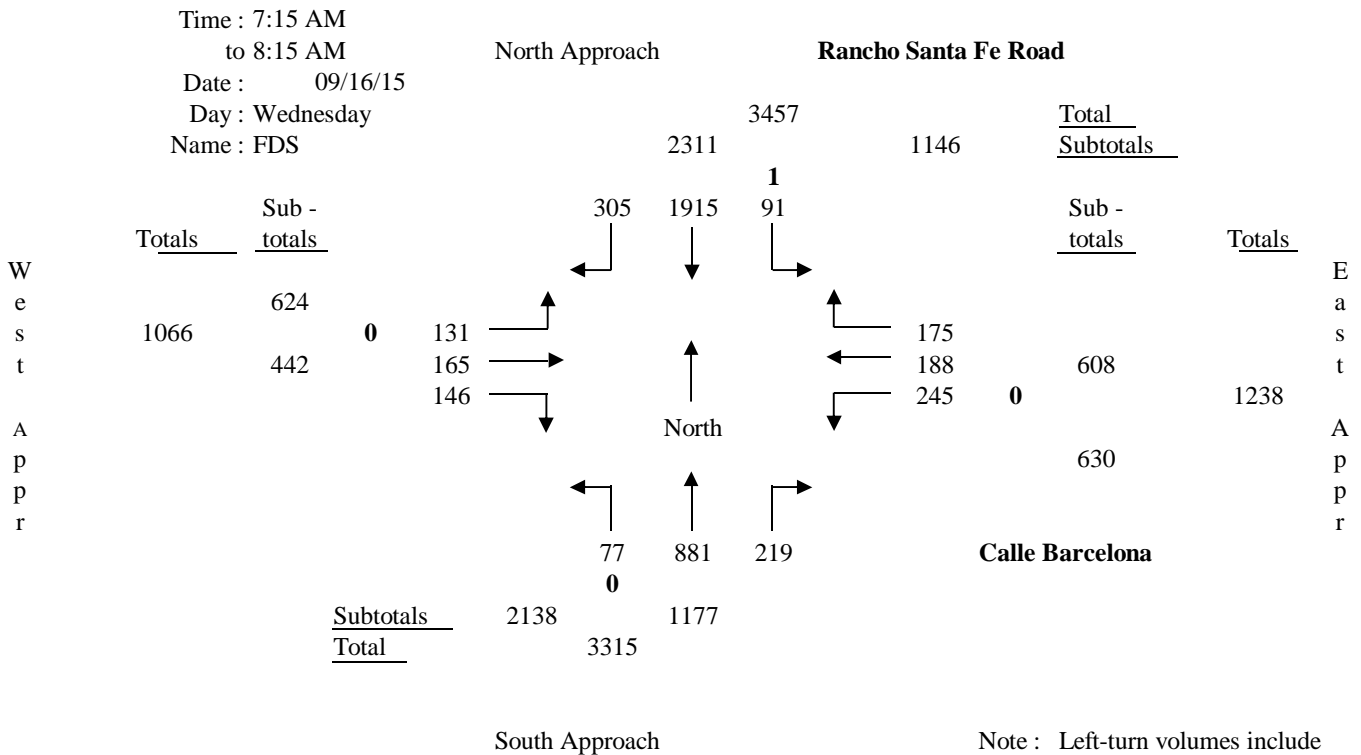
Rancho Santa Fe Road at Calle Barcelona

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1		1	1	
		3		1		1				1			1
		4		1	1		1	1					
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	1	1	1	1	1
Capacity		1800	6000	0	1800	6000	0	1800	2000	1800	1800	2000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				Y									
Efficiency Lost Factor	0.10												
Hourly Volume		77	881	219	91	1915	305	131	165	146	245	188	175
Adjusted Hourly Volume		77	1100	0	91	2220	0	131	165	146	203	203	202
Utilization Factor		0.04	0.18	0.00	0.05	0.37	0.00	0.07	0.08	0.08	0.11	0.10	0.11
Critical Factors		0.04			0.37			0.08			0.11		

ICU Ratio = 0.70 LOS = B

Turning Movements at Intersection of : **Rancho Santa Fe Road and Calle Barcelona**



Rancho Santa Fe Road at Calle Barcelona

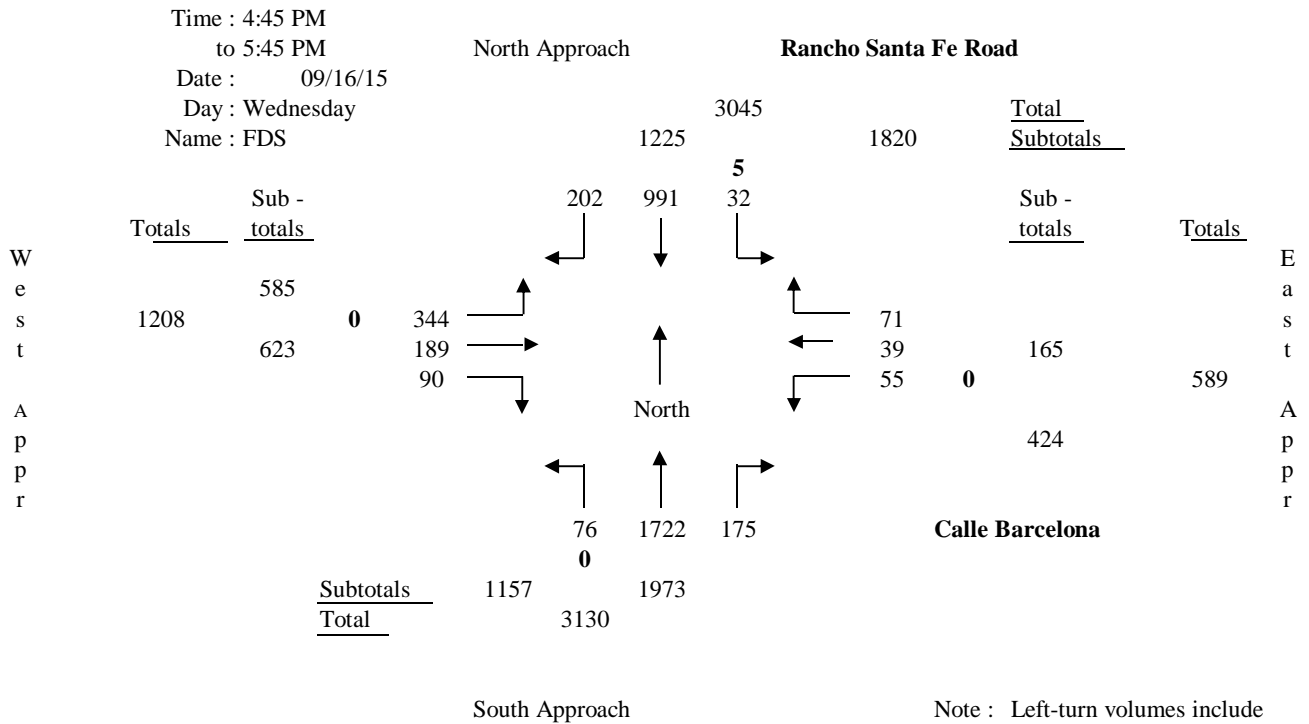
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
4:45 PM to 5:45 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
	2		1			1			1		1	1	
	3		1			1				1			1
	4		1	1		1	1						
	5												
	6												
	Outside Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	1	1	3	1	1
Capacity		1800	6000	0	1800	6000	0	1800	2000	1800	4680	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		76	1722	175	32	991	202	344	189	90	55	39	71
Adjusted Hourly Volume		76	1897	0	32	1193	0	344	189	90	55	55	55
Utilization Factor		0.04	0.32	0.00	0.02	0.20	0.00	0.19	0.09	0.05	0.01	0.03	0.03
Critical Factors			0.32		0.02			0.19					0.03

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of :

Rancho Santa Fe Road and Calle Barcelona





N-S STREET: Rancho Santa Fe Rd.

DATE: 09/16/2015

LOCATION: Carlsbad

E-W STREET: Calle Barcelona
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-028

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	3	0	1	1	1	1.5	1	0.5	
6:30 AM	2	73	5	1	312	23	17	1	12	13	6	1	466
6:45 AM	2	71	7	7	375	21	13	4	15	19	12	5	551
7:00 AM	5	218	52	4	438	37	30	22	18	32	16	4	876
7:15 AM	27	253	115	12	401	89	44	92	17	59	46	10	1165
7:30 AM	9	237	38	15	534	91	22	32	26	54	54	34	1146
7:45 AM	24	191	48	52	498	54	29	34	33	74	43	70	1150
8:00 AM	17	200	18	12	482	71	36	7	70	58	45	61	1077
8:15 AM	36	226	12	5	446	38	19	2	47	33	19	21	904
8:30 AM	15	166	14	3	349	30	19	4	16	17	20	11	664
8:45 AM	9	205	15	3	426	49	21	4	19	28	18	5	802
9:00 AM	11	140	7	10	312	37	11	6	9	23	12	5	583
9:15 AM	11	127	12	7	330	30	16	4	16	22	9	14	598
Volumes	168	2107	343	131	4903	570	277	212	298	432	300	241	9982
Approach %	6.42	80.48	13.10	2.34	87.49	10.17	35.20	26.94	37.87	44.40	30.83	24.77	
App/Depart	2618	/	2625	5604	/	5633	787	/	686	973	/	1038	
Peak Volumes	77	881	219	91	1915	305	131	165	146	245	188	175	4538
Approach %	6.54	74.85	18.61	3.94	82.86	13.20	29.64	37.33	33.03	40.30	30.92	28.78	
Pk Hr FACTOR:	0.74			0.90			0.72			0.81			0.9738
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	13	374	32	2	245	50	60	17	27	17	14	14	865
3:45 PM	18	385	40	5	255	47	43	14	24	18	14	11	874
4:00 PM	16	421	28	12	234	39	42	18	16	22	5	15	868
4:15 PM	12	399	33	14	263	34	47	28	33	10	12	12	897
4:30 PM	14	406	33	12	256	36	57	17	20	14	11	16	892
4:45 PM	16	392	33	11	297	41	70	27	29	16	13	23	968
5:00 PM	21	379	36	10	208	60	84	40	18	17	10	19	902
5:15 PM	21	450	59	6	226	46	93	59	26	11	8	19	1024
5:30 PM	18	501	47	5	260	55	97	63	17	11	8	10	1092
5:45 PM	20	388	52	5	187	42	108	56	18	10	12	15	913
6:00 PM	10	468	33	4	235	45	65	25	22	16	10	8	941
6:15 PM	22	329	38	8	195	44	62	17	15	11	10	2	753
Volumes	201	4892	464	94	2861	539	828	381	265	173	127	164	10989
Approach %	3.62	88.03	8.35	2.69	81.88	15.43	56.17	25.85	17.98	37.28	27.37	35.34	
App/Depart	5557	/	5884	3494	/	3299	1474	/	939	464	/	867	
Peak Volumes	76	1722	175	32	991	202	344	189	90	55	39	71	3986
Approach %	3.85	87.28	8.87	2.61	80.90	16.49	55.22	30.34	14.45	33.33	23.64	43.03	
Pk Hr FACTOR:	0.87			0.88			0.88			0.79			0.9125
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 29

Intersection Location: Olivenhain Road & Rancho Santa
Fe Road/Camino Alvaro

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

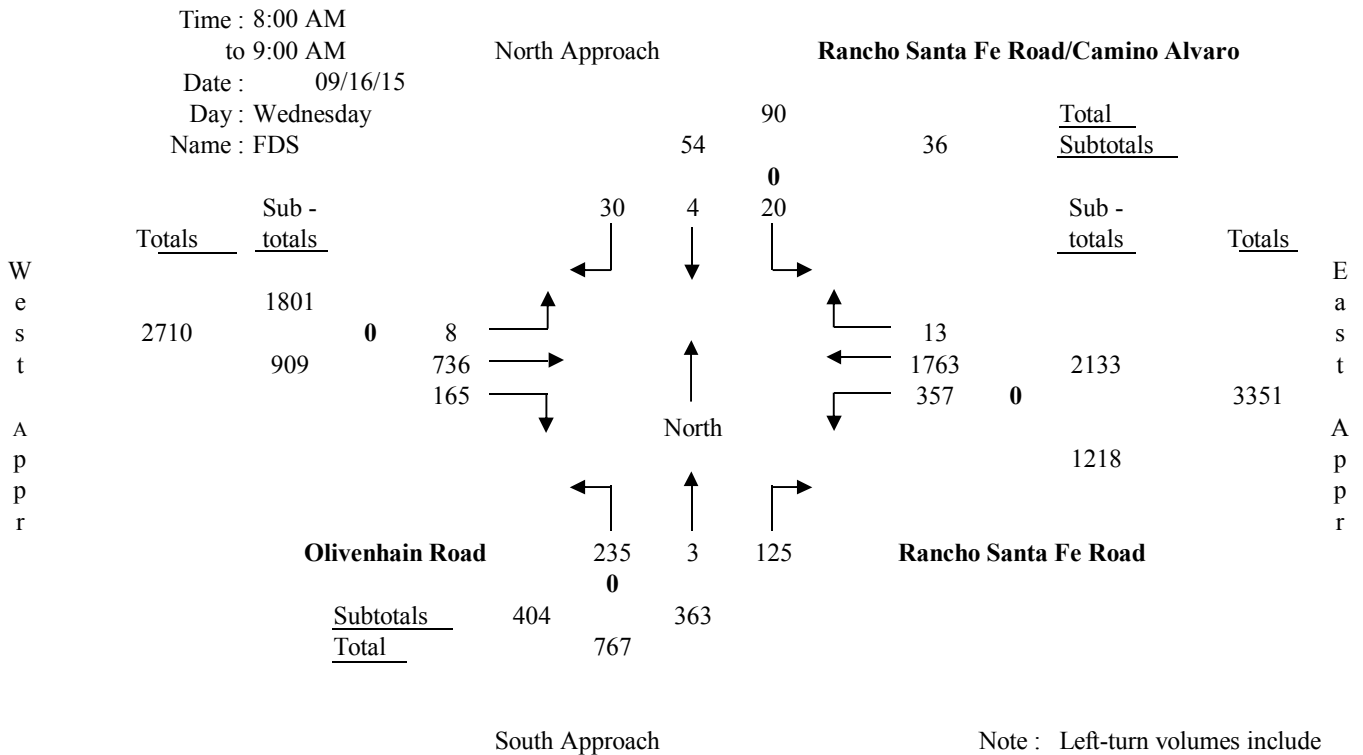
Olivenhain Road at Rancho Santa Fe Road/Camino Alvaro

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:00 AM to 9:00 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1		1	1	1	1			1		
		2	1	1					1		1		
		3							1				
		4								1			
		5										1	
		6											
	Outside Free-flow	7											
Lane Settings		2	0	1	0	0	1	1	2	1	2	2	1
Capacity		3600	0	1800	0	0	1800	1800	4000	1800	3600	4000	1800
Are the North/South phases split (Y/N)?					Y								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		235	3	125	20	4	30	8	736	165	357	1763	13
Adjusted Hourly Volume		238	0	0	0	0	54	8	736	46	357	1763	13
Utilization Factor		0.07	0.00	0.00	0.00	0.00	0.03	0.00	0.18	0.03	0.10	0.44	0.01
Critical Factors		0.07						0.03			0.00		

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of : **Olivenhain Road and Rancho Santa Fe Road/Camino Alvaro**



Note : Left-turn volumes include U-turns. U-turns in bold.

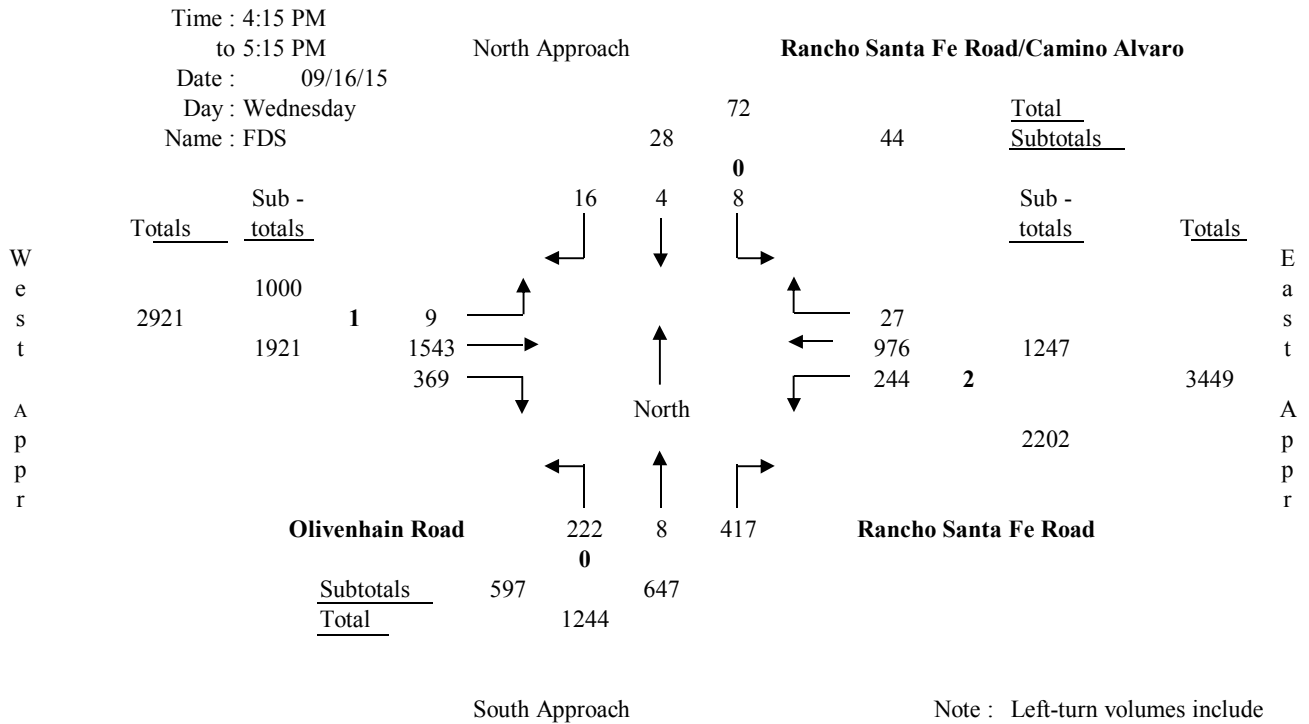
Olivenhain Road at Rancho Santa Fe Road/Camino Alvaro

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:15 PM to 5:15 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1	1	1	1			1		
	(left)	2	1	1					1		1		
		3							1			1	
		4								1		1	
		5											1
		6											
	Outside	7											
	Free-flow			1									
Lane Settings		2	0	1	0	0	1	1	2	1	2	2	1
Capacity		3600	0	1800	0	0	1800	1800	4000	1800	3600	4000	1800
Are the North/South phases split (Y/N)?					Y								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		222	8	417	8	4	16	9	1543	369	244	976	27
Adjusted Hourly Volume		230	0	0	0	0	28	9	1543	254	244	976	27
Utilization Factor		0.06	0.00	0.00	0.00	0.00	0.02	0.01	0.39	0.14	0.07	0.24	0.02
Critical Factors		0.06						0.02			0.07		

ICU Ratio = 0.64 LOS = B

Turning Movements at Intersection of: **Olivenhain Road and Rancho Santa Fe Road/Camino Alvaro**





N-S STREET: Rancho Santa Fe Rd. -
Camino Alvaro
E-W STREET: Rancho Santa Fe Rd. -
Olivehain Rd.
CONTROL: Signal

DATE: 09/16/2015

LOCATION: Carlsbad

DAY: WEDNESDAY

PROJECT# 15-1194-029

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.5	0.5	1	0	1	0	1	2	1	2	2	1	
6:30 AM	19	1	19	4	1	4	1	119	28	60	284	2	542
6:45 AM	22	0	22	2	2	7	2	137	24	66	340	5	629
7:00 AM	20	0	20	5	1	4	6	154	29	96	299	1	635
7:15 AM	24	1	25	2	2	5	3	180	30	85	318	4	679
7:30 AM	41	0	24	3	1	2	2	193	32	125	352	2	777
7:45 AM	45	0	29	6	2	3	5	191	41	131	407	5	865
8:00 AM	50	1	30	6	1	6	2	170	42	122	393	2	825
8:15 AM	59	0	32	3	0	9	1	172	41	100	452	3	872
8:30 AM	66	1	33	6	1	6	4	178	28	66	466	6	861
8:45 AM	60	1	30	5	2	9	1	216	54	69	452	2	901
9:00 AM	68	2	24	4	1	5	5	189	41	60	363	5	767
9:15 AM	74	1	28	5	1	8	6	216	42	76	326	2	785
Volumes	548	8	316	51	15	68	38	2115	432	1056	4452	39	9138
Approach %	62.84	0.92	36.24	38.06	11.19	50.75	1.47	81.82	16.71	19.04	80.26	0.70	
App/Depart	872	/	85	134	/	1503	2585	/	2482	5547	/	5068	
Peak Volumes	235	3	125	20	4	30	8	736	165	357	1763	13	3459
Approach %	64.74	0.83	34.44	37.04	7.41	55.56	0.88	80.97	18.15	16.74	82.65	0.61	
Pk Hr FACTOR:	0.91			0.84			0.84			0.96			0.9598
AM Pk Hr at:	800												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	69	1	76	2	2	1	2	313	65	28	212	5	776
3:45 PM	67	1	89	1	3	2	4	308	76	41	215	4	811
4:00 PM	60	0	111	2	2	5	1	391	80	55	230	7	944
4:15 PM	65	2	104	1	1	2	2	405	87	59	238	11	977
4:30 PM	58	1	101	4	0	3	1	375	85	66	218	7	919
4:45 PM	54	4	104	1	1	6	4	391	96	60	268	4	993
5:00 PM	45	1	108	2	2	5	2	372	101	59	252	5	954
5:15 PM	50	2	106	3	1	2	2	346	104	50	230	2	898
5:30 PM	54	3	96	6	1	3	3	335	122	45	201	3	872
5:45 PM	52	2	99	2	4	2	2	375	104	42	182	6	872
6:00 PM	55	5	60	5	1	5	2	353	85	41	152	5	769
6:15 PM	41	2	65	2	2	2	4	383	96	54	138	8	797
Volumes	670	24	1119	31	20	38	29	4347	1101	600	2536	67	10582
Approach %	36.96	1.32	61.72	34.83	22.47	42.70	0.53	79.37	20.10	18.73	79.18	2.09	
App/Depart	1813	/	120	89	/	1721	5477	/	5497	3203	/	3244	
Peak Volumes	222	8	417	8	4	16	9	1543	369	244	976	27	3843
Approach %	34.31	1.24	64.45	28.57	14.29	57.14	0.47	80.32	19.21	19.57	78.27	2.17	
Pk Hr FACTOR:	0.95			0.78			0.97			0.94			0.9675
PM Pk Hr at:	415												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 30

Intersection Location: Carlsbad Village Drive &
State Street

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

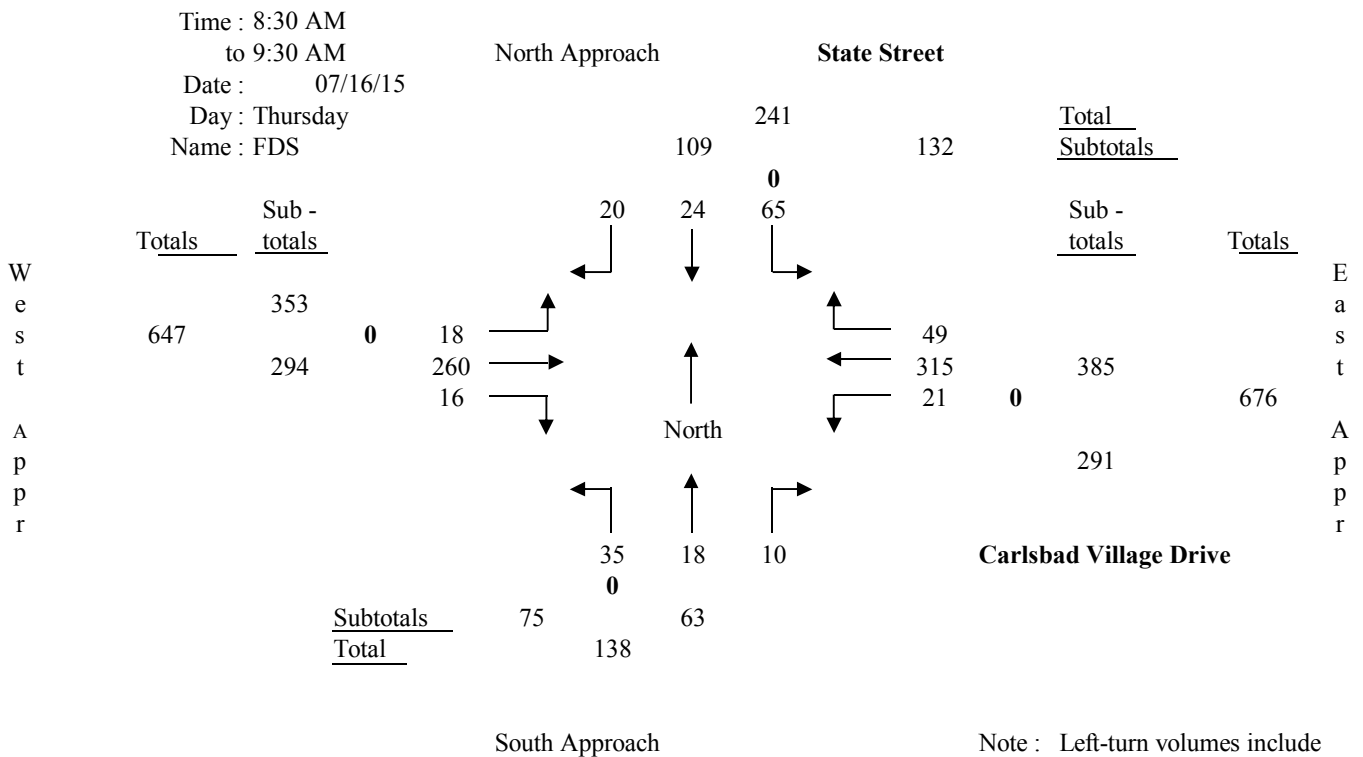
Carlsbad Village Drive at State Street

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:30 AM to 9:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1	1	1	1	1	1			1		
	(left)	2							1			1	
		3							1	1		1	1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	0	1	0	0	1	2	0	1	2	0
Capacity		1800	0	0	1800	0	0	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		35	18	10	65	24	20	18	260	16	21	315	49
Adjusted Hourly Volume		63	28	0	109	0	0	18	276	0	21	364	0
Utilization Factor		0.04	0.00	0.00	0.06	0.00	0.00	0.01	0.07	0.00	0.01	0.09	0.00
Critical Factors		0.00		0.00	0.06			0.01			0.09		

ICU Ratio = 0.26 LOS = A

Turning Movements at Intersection of : **Carlsbad Village Drive and State Street**



Carlsbad Village Drive at State Street

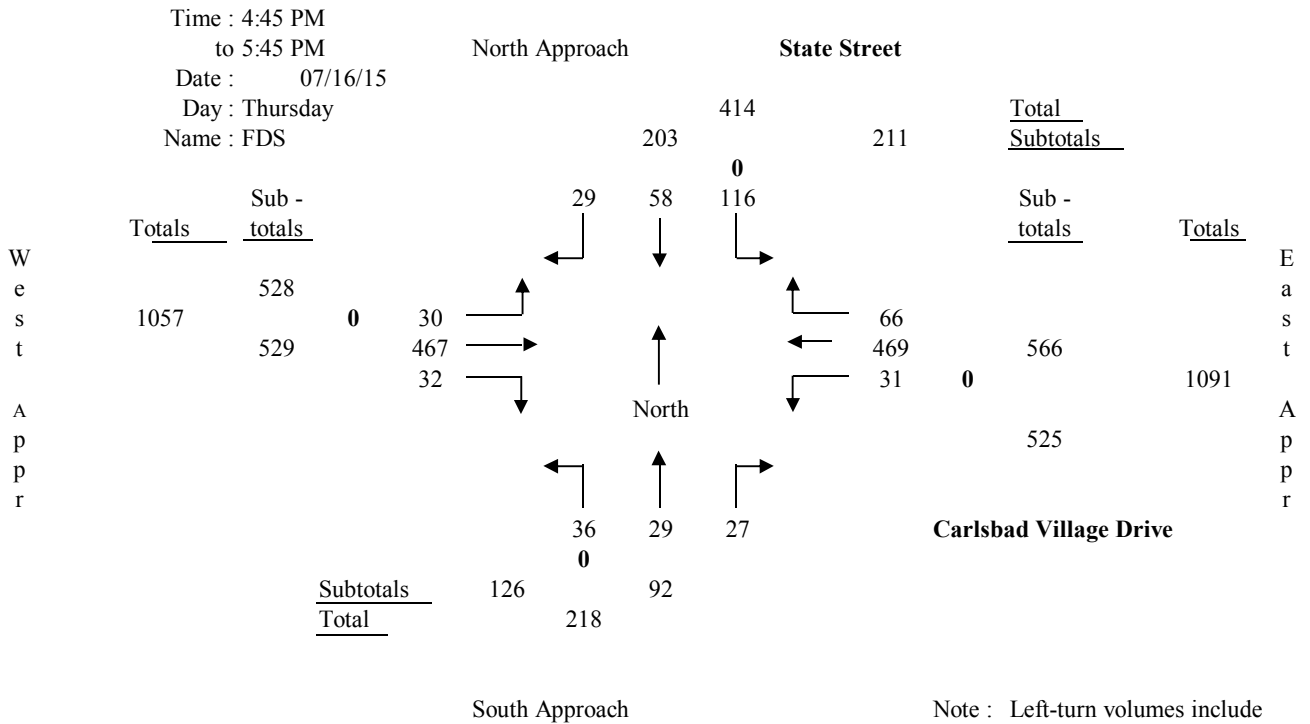
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)				North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM	to													
5:45 PM														
Lane Config - urations	Inside	1	1	1	1	1	1	1	1			1		
	(left)	2								1			1	
		3								1	1		1	1
		4												
		5												
		6												
	Outside	7												
	Free-flow													
Lane Settings		1	0	0	1	0	0	1	2	0	1	2	0	
Capacity		1800	0	0	1800	0	0	1800	4000	0	1800	4000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		36	29	27	116	58	29	30	467	32	31	469	66	
Adjusted Hourly Volume		92	0	0	203	0	0	30	499	0	31	535	0	
Utilization Factor		0.05	0.00	0.00	0.11	0.00	0.00	0.02	0.12	0.00	0.02	0.13	0.00	
Critical Factors			0.00	0.00	0.11			0.02				0.13		

ICU Ratio = 0.36 LOS = A

Turning Movements at Intersection of:

Carlsbad Village Drive and State Street





N-S STREET: State St.

DATE: 07/16/2015

LOCATION: Carlsbad

E-W STREET: Carlsbad Village Dr.

DAY: THURSDAY

PROJECT# 15-1194-030

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	1	2	0	1	2	0	
6:30 AM	1	1	1	7	3	4	0	17	2	0	42	8	86
6:45 AM	7	4	1	8	6	1	1	89	0	3	68	8	196
7:00 AM	2	4	0	14	5	1	0	36	4	2	63	10	141
7:15 AM	4	1	2	11	5	2	1	36	1	4	73	7	147
7:30 AM	11	0	3	12	4	9	6	52	5	4	77	20	203
7:45 AM	5	4	3	13	4	4	2	57	2	3	70	12	179
8:00 AM	6	1	1	11	7	5	4	57	5	3	71	8	179
8:15 AM	1	5	3	15	8	2	4	80	5	0	78	12	213
8:30 AM	5	3	2	15	8	3	1	57	4	0	78	12	188
8:45 AM	7	4	0	13	8	6	3	58	2	7	102	8	218
9:00 AM	11	5	3	17	3	8	7	67	7	8	77	13	226
9:15 AM	12	6	5	20	5	3	7	78	3	6	58	16	219
Volumes	72	38	24	156	66	48	36	684	40	40	857	134	2195
Approach %	53.73	28.36	17.91	57.78	24.44	17.78	4.74	90.00	5.26	3.88	83.12	13.00	
App/Depart	134	/	208	270	/	146	760	/	864	1031	/	977	
Peak Volumes	35	18	10	65	24	20	18	260	16	21	315	49	851
Approach %	55.56	28.57	15.87	59.63	22.02	18.35	6.12	88.44	5.44	5.45	81.82	12.73	
Pk Hr FACTOR:	0.68			0.97			0.84			0.82			0.9414
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	13	5	5	17	16	13	9	136	2	3	108	13	340
3:45 PM	9	1	3	25	9	10	7	129	9	9	118	9	338
4:00 PM	9	3	2	16	14	9	6	132	10	6	100	9	316
4:15 PM	12	5	1	12	10	3	6	130	9	13	115	10	326
4:30 PM	6	5	3	18	6	12	10	119	7	6	114	15	321
4:45 PM	8	11	10	37	28	9	6	124	5	5	110	15	368
5:00 PM	11	6	3	29	4	6	7	141	13	10	115	15	360
5:15 PM	11	5	7	22	14	6	5	105	8	6	123	16	328
5:30 PM	6	7	7	28	12	8	12	97	6	10	121	20	334
5:45 PM	9	2	3	18	15	13	13	135	6	6	127	19	366
6:00 PM	6	4	5	24	11	4	10	117	7	4	129	15	336
6:15 PM	7	6	2	18	8	9	5	121	3	6	136	15	336
Volumes	107	60	51	264	147	102	96	1486	85	84	1416	171	4069
Approach %	49.08	27.52	23.39	51.46	28.65	19.88	5.76	89.14	5.10	5.03	84.74	10.23	
App/Depart	218	/	327	513	/	316	1667	/	1801	1671	/	1625	
Peak Volumes	36	29	27	116	58	29	30	467	32	31	469	66	1390
Approach %	39.13	31.52	29.35	57.14	28.57	14.29	5.67	88.28	6.05	5.48	82.86	11.66	
Pk Hr FACTOR:	0.79			0.69			0.82			0.94			0.9443
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 31

Intersection Location: Carlsbad Village Drive &
Harding Street

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

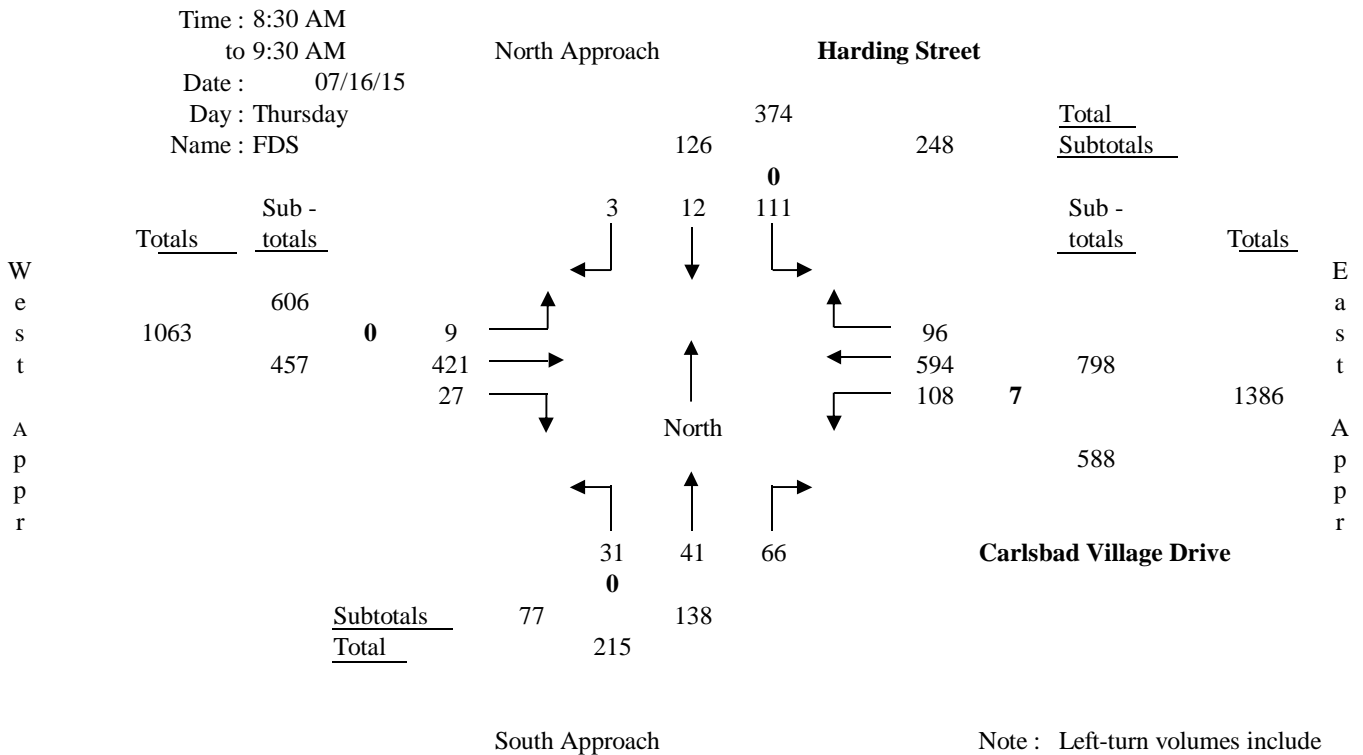
Carlsbad Village Drive at Harding Street

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:30 AM to 9:30 AM		South Appr (NB)				North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1	1	1	1	1	1	1			1		
		2								1			1	
		3								1	1		1	1
		4												
		5												
	Outside	6												
	Free-flow	7												
Lane Settings		0	0	1	1	0	0	1	2	0	1	2	0	
Capacity		0	0	1800	1800	0	0	1800	4000	0	1800	4000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		31	41	66	111	12	3	9	421	27	108	594	96	
Adjusted Hourly Volume		0	0	138	126	0	0	9	448	0	108	690	0	
Utilization Factor		0.00	0.00	0.08	0.07	0.00	0.00	0.01	0.11	0.00	0.06	0.17	0.00	
Critical Factors					0.08	0.07				0.01				

ICU Ratio = 0.43 LOS = A

Turning Movements at Intersection of : Carlsbad Village Drive and Harding Street



Carlsbad Village Drive at Harding Street

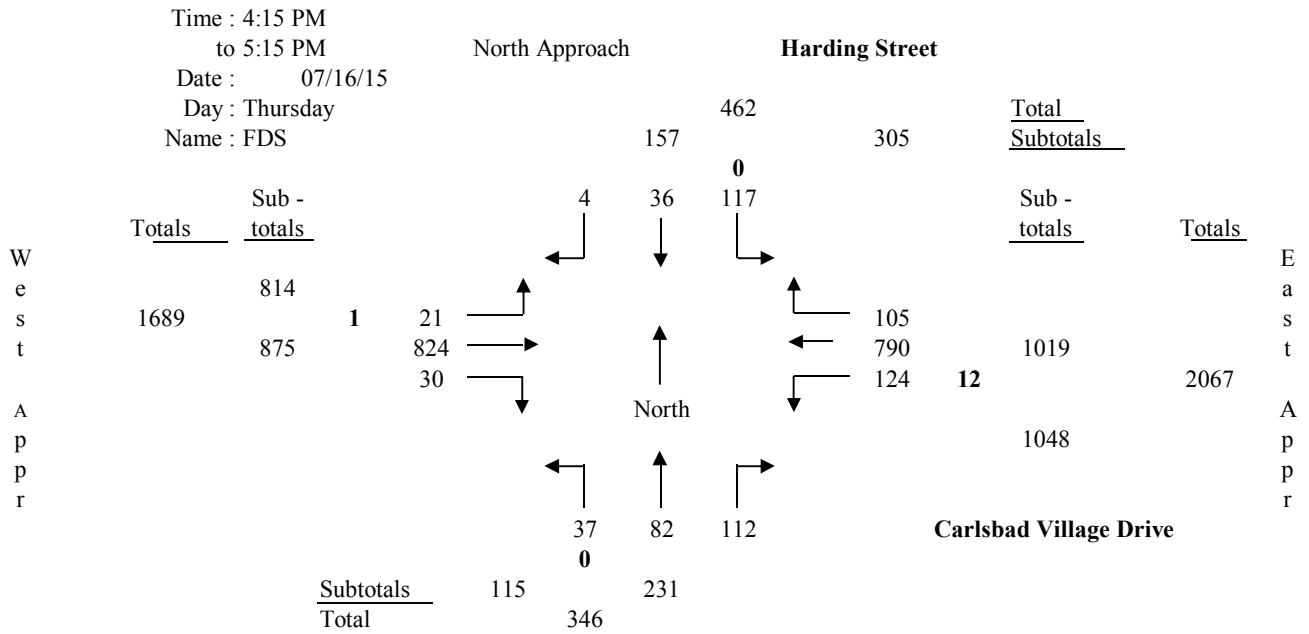
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:15 PM to 5:15 PM		South Appr (NB)				North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config- urations	Inside (left)	1	1	1	1	1	1	1	1			1		
		2								1			1	
		3								1	1		1	1
		4												
		5												
		6												
	Outside Free-flow	7												
Lane Settings		0	0	1	1	0	0	1	2	0	1	2	0	
Capacity		0	0	1800	1800	0	0	1800	4000	0	1800	4000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		37	82	112	117	36	4	21	824	30	124	790	105	
Adjusted Hourly Volume		0	119	231	157	0	0	21	854	0	124	895	0	
Utilization Factor		0.00	0.00	0.13	0.09	0.00	0.00	0.01	0.21	0.00	0.07	0.22	0.00	
Critical Factors				0.13	0.09				0.21		0.07			

ICU Ratio = 0.60 LOS = A

Turning Movements at Intersection of:

Carlsbad Village Drive and Harding Street



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: **Harding St.** DATE: **07/16/2015** LOCATION: **Carlsbad**
 E-W STREET: **Carlsbad Village Dr.** DAY: **THURSDAY** PROJECT# **15-1194-031**
 CONTROL: **Signal**

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	1	2	0	1	2	0	
6:30 AM	2	6	11	7	2	0	1	42	2	8	76	9	166
6:45 AM	3	5	10	7	1	1	2	41	6	16	60	9	161
7:00 AM	2	8	14	11	2	1	3	54	3	12	87	13	210
7:15 AM	5	14	20	13	1	2	2	60	2	14	85	16	234
7:30 AM	2	10	21	16	3	1	1	76	5	10	89	14	248
7:45 AM	4	11	25	14	2	0	4	87	2	14	133	21	317
8:00 AM	8	12	24	21	1	1	1	105	1	20	131	20	345
8:15 AM	5	14	21	25	4	2	5	104	4	15	128	33	360
8:30 AM	9	10	14	30	1	1	2	101	1	21	154	26	370
8:45 AM	11	11	19	29	2	0	3	103	8	31	147	21	385
9:00 AM	7	8	13	24	3	1	2	89	11	27	141	28	354
9:15 AM	4	12	20	28	6	1	2	128	7	29	152	21	410
Volumes	62	121	212	225	28	11	28	990	52	217	1383	231	3560
Approach %	15.70	30.63	53.67	85.23	10.61	4.17	2.62	92.52	4.86	11.85	75.53	12.62	
App/Depart	395	/	380	264	/	297	1070	/	1427	1831	/	1456	
Peak Volumes	31	41	66	111	12	3	9	421	27	108	594	96	1519
Approach %	22.46	29.71	47.83	88.10	9.52	2.38	1.97	92.12	5.91	13.53	74.44	12.03	
Pk Hr FACTOR:	0.84			0.90			0.83			0.99			0.9262
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	4	13	28	23	11	0	2	187	5	28	206	25	532
3:45 PM	2	16	21	24	7	1	3	198	7	26	176	33	514
4:00 PM	6	14	25	28	11	2	2	230	4	28	164	32	546
4:15 PM	9	21	24	41	14	1	6	203	11	30	195	27	582
4:30 PM	11	25	26	24	8	0	4	222	7	32	224	31	614
4:45 PM	10	20	30	24	5	1	7	185	4	32	195	24	537
5:00 PM	7	16	32	28	9	2	4	214	8	30	176	23	549
5:15 PM	4	14	25	32	13	3	9	208	5	38	161	16	528
5:30 PM	8	21	28	30	11	6	5	222	9	38	164	22	564
5:45 PM	13	20	29	33	10	2	6	211	16	35	188	17	580
6:00 PM	11	13	30	29	7	5	3	196	13	33	191	24	555
6:15 PM	10	18	32	28	7	2	3	208	8	34	197	31	578
Volumes	95	211	330	344	113	25	54	2484	97	384	2237	305	6679
Approach %	14.94	33.18	51.89	71.37	23.44	5.19	2.05	94.27	3.68	13.12	76.45	10.42	
App/Depart	636	/	570	482	/	594	2635	/	3158	2926	/	2357	
Peak Volumes	37	82	112	117	36	4	21	824	30	124	790	105	2282
Approach %	16.02	35.50	48.48	74.52	22.93	2.55	2.40	94.17	3.43	12.17	77.53	10.30	
Pk Hr FACTOR:	0.93			0.70			0.94			0.89			0.9292
PM Pk Hr at:	415												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 32

Intersection Location: Poinsettia Lane & Aviara Parkway

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Poinsettia Lane at Aviara Parkway

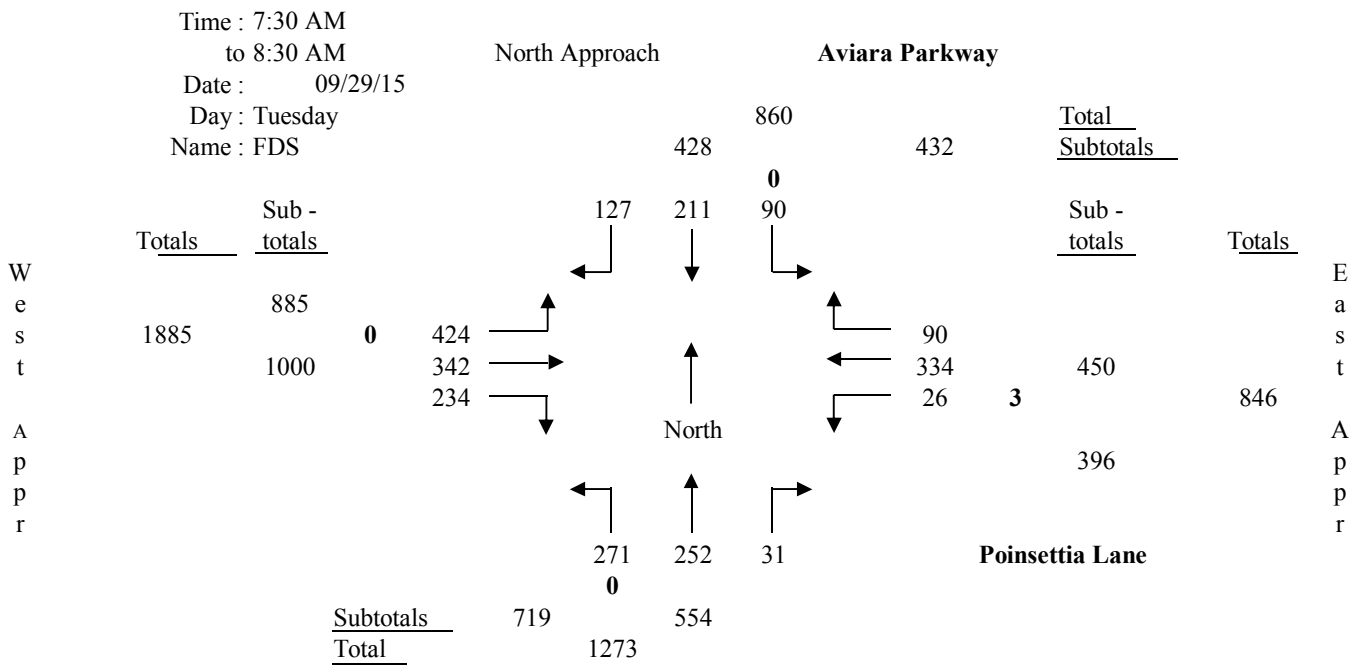
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1			1		1				1	
		3		1			1		1				1
		4		1	1								1
		5											1
		6											
	Outside Free-flow	7											
Lane Settings		2	2	0	1	2	0	2	1	2	1	2	0
Capacity		3600	4000	0	1800	4000	0	3600	2000	3600	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		271	252	31	90	211	127	424	342	234	26	334	90
Adjusted Hourly Volume		271	283	0	90	338	0	424	342	99	26	424	0
Utilization Factor		0.08	0.07	0.00	0.05	0.08	0.00	0.12	0.17	0.03	0.01	0.11	0.00
Critical Factors		0.08			0.08			0.12			0.11		

ICU Ratio = 0.49 LOS = A

Turning Movements at Intersection of :

Poinsettia Lane and Aviara Parkway



Poinsettia Lane at Aviara Parkway

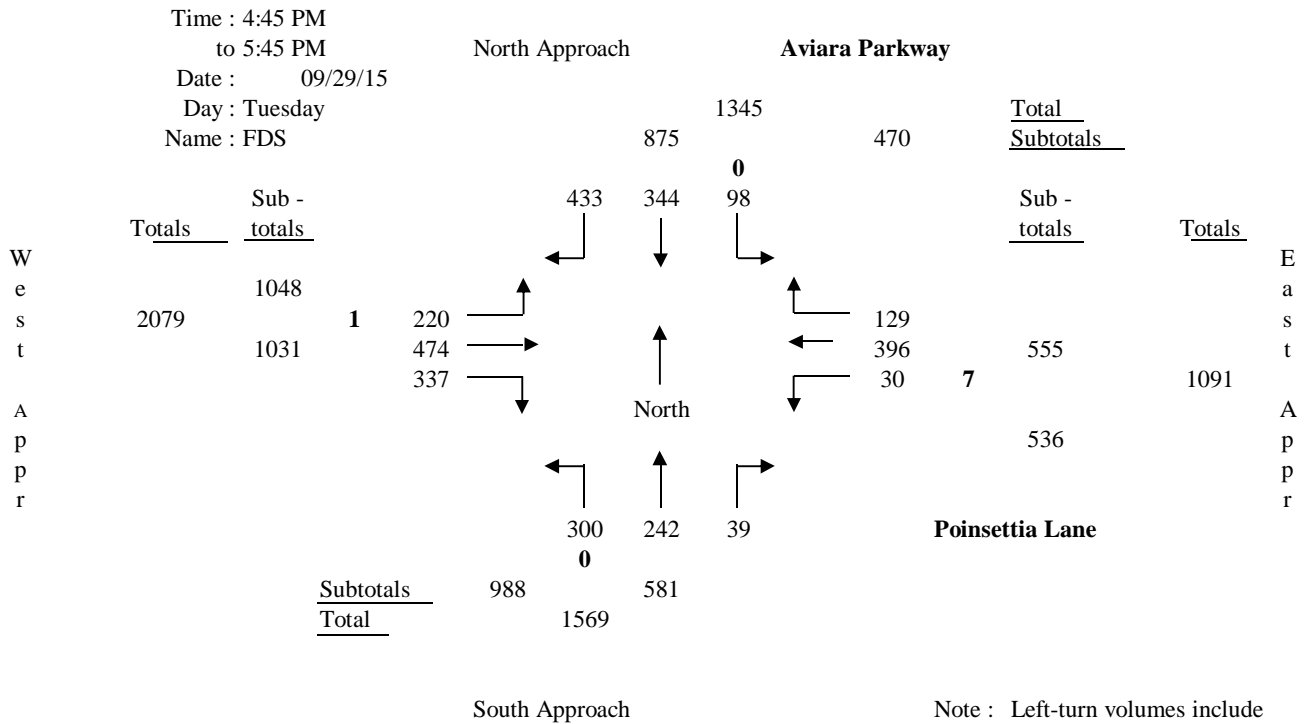
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:45 PM to 5:45 PM														
Lane Configurations	Inside (left)	1	1		1			1			1			
		2	1			1		1				1		
		3		1		1	1		1			1	1	
		4		1	1						1			
		5									1			
		6												
	Outside Free-flow	7												
Lane Settings		2	2	0	1	1	1	2	1	2	1	2	0	
Capacity		3600	4000	0	1800	2000	1800	3600	2000	3600	1800	4000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		300	242	39	98	344	433	220	474	337	30	396	129	
Adjusted Hourly Volume		300	281	0	98	344	433	220	474	187	30	525	0	
Utilization Factor		0.08	0.07	0.00	0.05	0.17	0.24	0.06	0.24	0.05	0.02	0.13	0.00	
Critical Factors		0.08						0.24			0.02			

ICU Ratio = 0.68 LOS = B

Turning Movements at Intersection of :

Poinsettia Lane and Aviara Parkway



N-S STREET: **Aviara Pkwy.** DATE: **09/29/2015** LOCATION: **Carlsbad**
 E-W STREET: **Poinsettia Ln.** DAY: **TUESDAY** PROJECT# **15-1194-032**
 CONTROL: **Signal**

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	0	1	2	0	2	1	2	1	2	0	
6:30 AM	42	17	0	4	10	17	28	31	8	0	51	8	216
6:45 AM	38	38	2	13	18	24	48	41	32	1	78	21	354
7:00 AM	61	32	1	17	39	29	48	42	44	2	75	22	412
7:15 AM	64	45	9	20	70	40	63	67	64	7	72	28	549
7:30 AM	79	70	15	22	51	34	88	60	43	5	83	30	580
7:45 AM	77	62	4	22	62	27	128	64	59	5	80	25	615
8:00 AM	57	56	5	29	48	36	81	108	65	7	84	23	599
8:15 AM	58	64	7	17	50	30	127	110	67	9	87	12	638
8:30 AM	38	38	5	7	39	32	129	98	39	4	68	15	512
8:45 AM	72	58	5	14	25	33	114	118	53	8	68	21	589
9:00 AM	42	33	3	12	29	26	87	90	32	12	75	23	464
9:15 AM	45	35	9	9	28	20	69	34	41	9	49	16	364
Volumes	673	548	65	186	469	348	1010	863	547	69	870	244	5892
Approach %	52.33	42.61	5.05	18.54	46.76	34.70	41.74	35.66	22.60	5.83	73.54	20.63	
App/Depart	1286	/	1802	1003	/	1085	2420	/	1114	1183	/	1891	
Peak Volumes	271	252	31	90	211	127	424	342	234	26	334	90	2432
Approach %	48.92	45.49	5.60	21.03	49.30	29.67	42.40	34.20	23.40	5.78	74.22	20.00	
Pk Hr FACTOR:	0.84			0.95			0.82			0.95			0.953
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	72	40	3	12	53	54	43	77	68	3	60	21	506
3:45 PM	62	48	3	25	58	52	37	74	68	8	70	16	521
4:00 PM	60	42	4	24	51	64	47	84	69	4	66	31	546
4:15 PM	70	47	6	22	61	73	37	91	94	6	79	19	605
4:30 PM	66	38	3	25	60	76	39	84	72	3	63	21	550
4:45 PM	76	77	11	22	88	102	57	113	96	8	89	25	764
5:00 PM	72	46	6	21	80	121	40	116	81	8	97	33	721
5:15 PM	81	73	12	27	74	116	58	126	86	7	108	38	806
5:30 PM	71	46	10	28	102	94	65	119	74	7	102	33	751
5:45 PM	80	48	7	26	66	84	61	92	93	6	79	21	663
6:00 PM	52	36	6	32	57	80	43	85	63	5	90	18	567
6:15 PM	57	45	8	32	64	74	38	95	59	11	90	18	591
Volumes	819	586	79	296	814	990	565	1156	923	76	993	294	7591
Approach %	55.19	39.49	5.32	14.10	38.76	47.14	21.37	43.72	34.91	5.58	72.85	21.57	
App/Depart	1484	/	1445	2100	/	1813	2644	/	1531	1363	/	2802	
Peak Volumes	300	242	39	98	344	433	220	474	337	30	396	129	3042
Approach %	51.64	41.65	6.71	11.20	39.31	49.49	21.34	45.97	32.69	5.41	71.35	23.24	
Pk Hr FACTOR:	0.88			0.98			0.95			0.91			0.9435
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 33

Intersection Location: Poinsettia Lane & Paseo Del Norte

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Poinsettia Lane at Paseo Del Norte

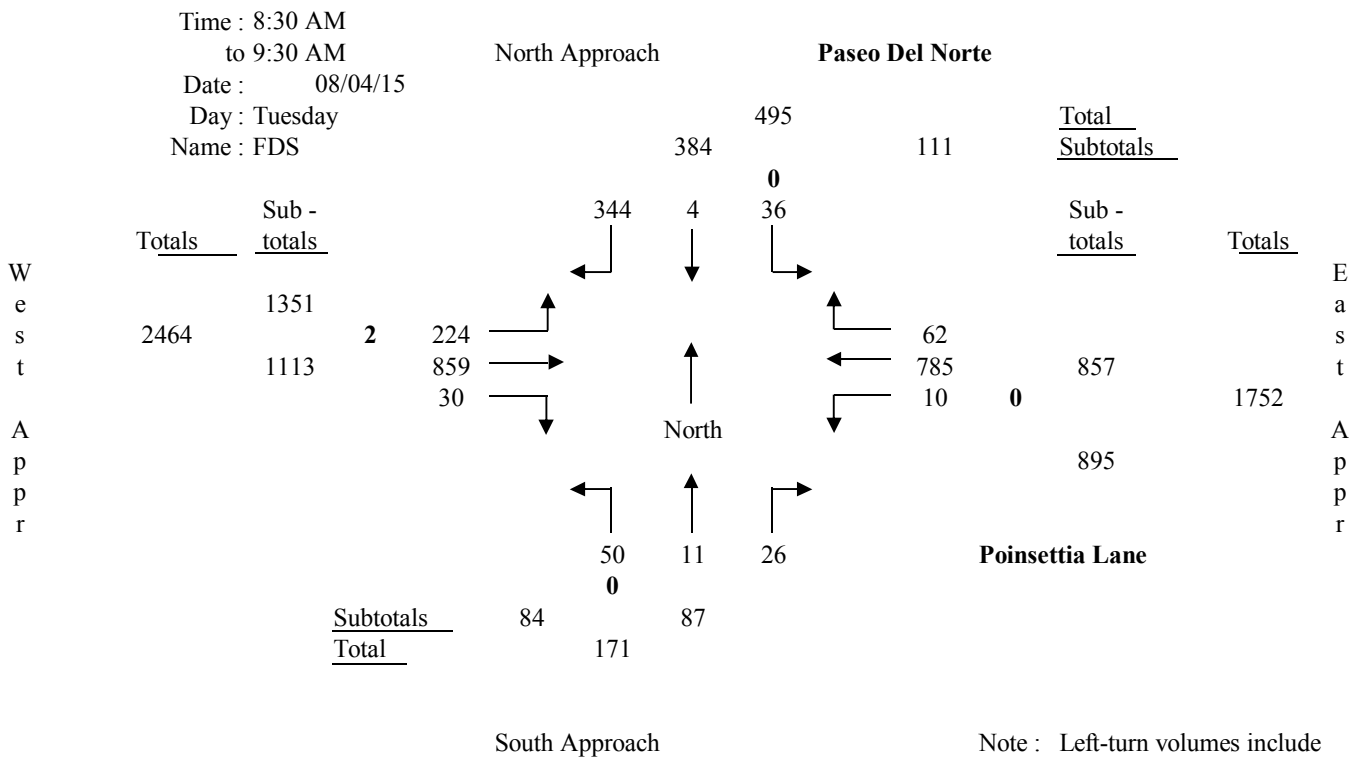
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:30 AM	to												
9:30 AM													
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1	1		1	1		1		1	
		3							1			1	1
		4							1				
		5								1			
		6											
	Outside Free-flow	7											
Lane Settings		1	0	1	1	0	1	2	2	1	1	2	0
Capacity		1800	0	1800	1800	0	1800	3600	4000	1800	1800	4000	0
Are the North/South phases split (Y/N)?				Y									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		50	11	26	36	4	344	224	859	30	10	785	62
Adjusted Hourly Volume		50	0	37	36	0	348	224	859	30	10	847	0
Utilization Factor		0.03	0.00	0.02	0.02	0.00	0.19	0.06	0.21	0.02	0.01	0.21	0.00
Critical Factors		0.03					0.19	0.06				0.21	

ICU Ratio = 0.59 LOS = A

Turning Movements at Intersection of :

Poinsettia Lane and Paseo Del Norte



Note : Left-turn volumes include U-turns. U-turns in bold.

Poinsettia Lane at Paseo Del Norte

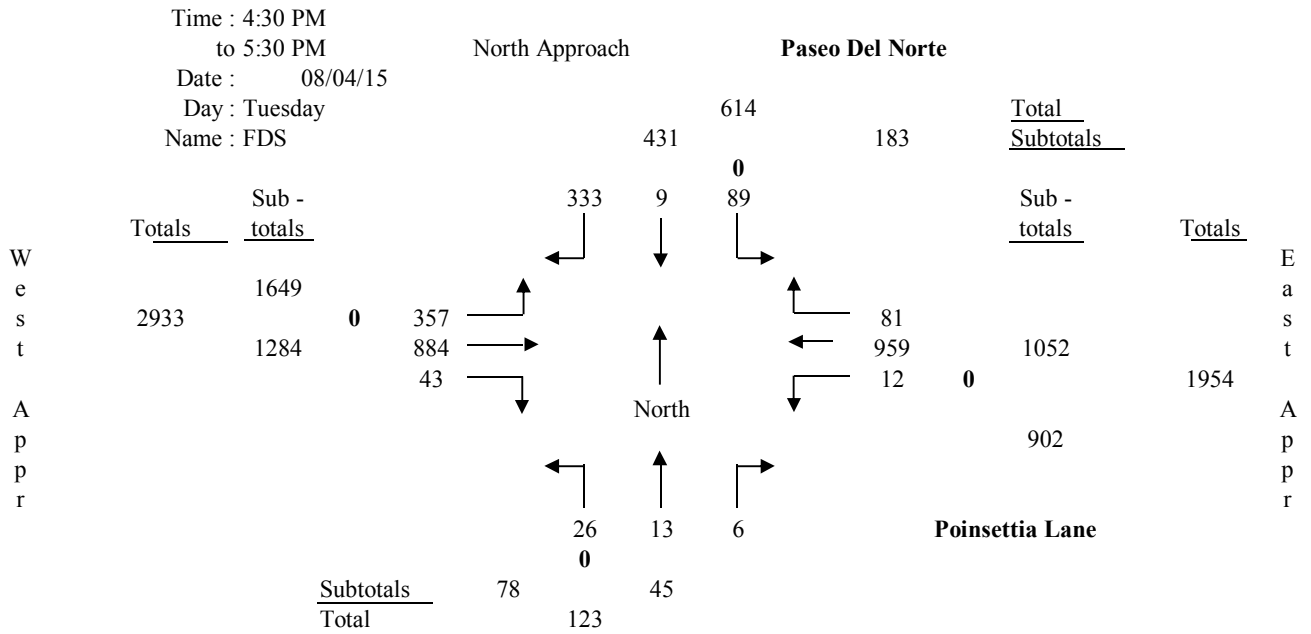
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:30 PM to 5:30 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2		1	1		1	1				1	
		3							1			1	1
		4							1				
		5								1			
		6											
	Outside	7											
	Free-flow												
Lane Settings		1	1	0	1	0	1	2	2	1	1	2	0
Capacity		1800	2000	0	1800	0	1800	3600	4000	1800	1800	4000	0
Are the North/South phases split (Y/N)?				Y									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		26	13	6	89	9	333	357	884	43	12	959	81
Adjusted Hourly Volume		26	13	19	89	0	342	357	884	43	12	1040	0
Utilization Factor		0.01	0.01	0.00	0.05	0.00	0.19	0.10	0.22	0.02	0.01	0.26	0.00
Critical Factors		0.01					0.19	0.10				0.26	

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of :

Poinsettia Lane and Paseo Del Norte



West Approach

East Approach



N-S STREET: Paseo Del Norte/

DATE: 08/04/2015

LOCATION: Carlsbad

E-W STREET: Poinsettia Ln.

DAY: TUESDAY

PROJECT# 15-1194-033

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	1	0	1	1	0	2	2	1	1	2	0	
6:30 AM	5	4	2	1	0	43	36	111	1	2	143	5	353
6:45 AM	7	2	2	1	0	66	36	115	1	1	150	5	386
7:00 AM	8	3	1	6	0	72	27	94	0	0	158	8	377
7:15 AM	6	2	3	4	0	77	40	135	2	1	187	8	465
7:30 AM	13	1	2	9	0	83	30	192	4	1	197	14	546
7:45 AM	9	2	6	23	2	75	29	258	4	2	238	19	667
8:00 AM	13	1	2	3	1	64	58	241	8	1	220	12	624
8:15 AM	9	1	1	8	0	62	61	192	7	1	184	9	535
8:30 AM	12	1	5	11	2	73	56	189	7	1	197	11	565
8:45 AM	15	4	9	9	1	77	55	241	7	1	185	16	620
9:00 AM	11	1	7	12	0	116	53	237	11	2	202	19	671
9:15 AM	12	5	5	4	1	78	60	192	5	6	201	16	585
Volumes	120	27	45	91	7	886	541	2197	57	19	2262	142	6394
Approach %	62.50	14.06	23.44	9.25	0.71	90.04	19.36	78.60	2.04	0.78	93.36	5.86	
App/Depart	192	/	710	984	/	83	2795	/	2333	2423	/	3268	
Peak Volumes	50	11	26	36	4	344	224	859	30	10	785	62	2441
Approach %	57.47	12.64	29.89	9.38	1.04	89.58	20.13	77.18	2.70	1.17	91.60	7.23	
Pk Hr FACTOR:	0.78			0.75			0.92			0.96			0.9095
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	12	3	2	18	2	70	71	186	10	5	190	18	587
3:45 PM	6	2	2	10	1	65	73	208	11	6	210	14	608
4:00 PM	4	2	1	25	2	70	97	174	7	4	162	14	562
4:15 PM	4	1	1	20	4	75	69	219	16	5	195	9	618
4:30 PM	3	5	2	22	2	88	88	220	9	4	238	18	699
4:45 PM	6	4	2	20	2	82	96	225	11	4	209	24	685
5:00 PM	7	1	2	25	4	76	85	238	14	2	265	19	738
5:15 PM	10	3	0	22	1	87	88	201	9	2	247	20	690
5:30 PM	7	0	2	20	2	85	87	208	7	0	188	16	622
5:45 PM	3	0	0	19	3	76	120	228	15	2	180	24	670
6:00 PM	9	3	1	18	0	104	93	249	14	3	189	24	707
6:15 PM	6	1	2	24	0	66	86	219	7	4	190	17	622
Volumes	77	25	17	243	23	944	1053	2575	130	41	2463	217	7808
Approach %	64.71	21.01	14.29	20.08	1.90	78.02	28.02	68.52	3.46	1.51	90.52	7.98	
App/Depart	119	/	1295	1210	/	194	3758	/	2835	2721	/	3484	
Peak Volumes	26	13	6	89	9	333	357	884	43	12	959	81	2812
Approach %	57.78	28.89	13.33	20.65	2.09	77.26	27.80	68.85	3.35	1.14	91.16	7.70	
Pk Hr FACTOR:	0.87			0.96			0.95			0.92			0.9526
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 34

Intersection Location: Poinsettia Lane & Avenida Encinas

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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Poinsettia Lane at Avenida Encinas

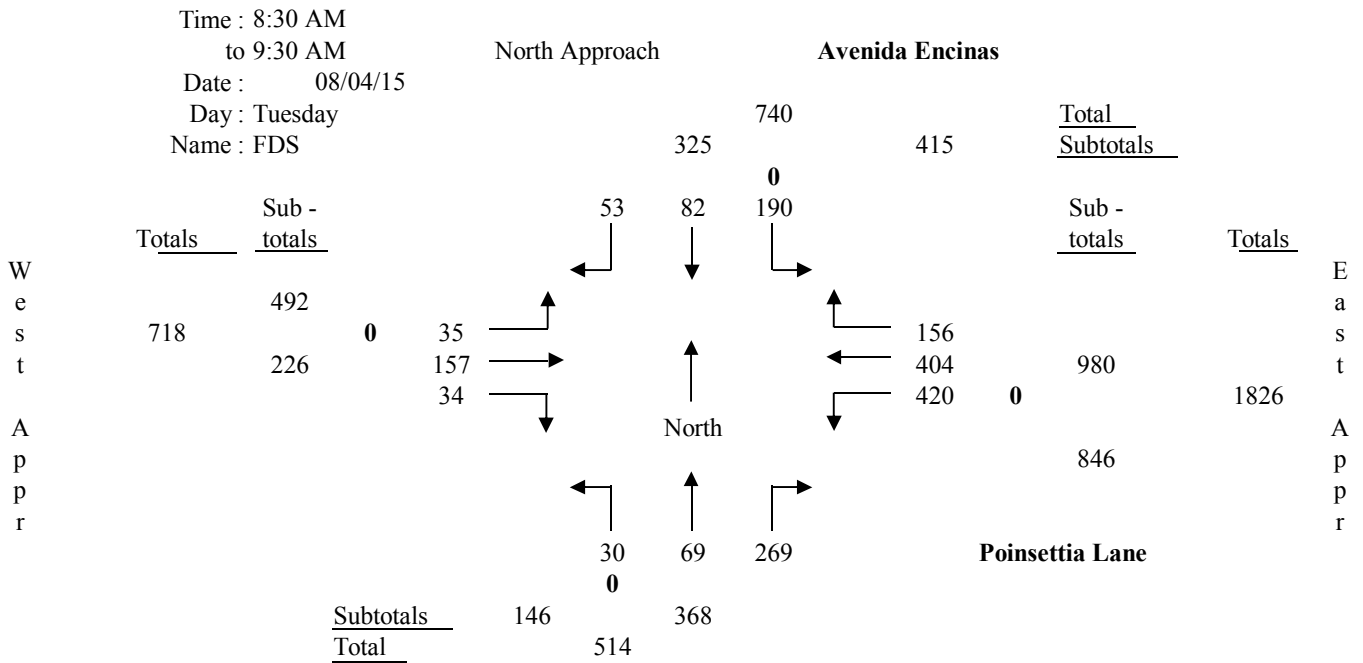
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:30 AM	to												
9:30 AM													
Lane Config - urations	Inside (left)	1	1		1			1			1		
		2		1		1			1		1		
		3					1					1	
		4							1	1		1	
		5											1
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	1	1	1	3	0	2	2	1
Capacity		1800	2000	1800	1800	2000	1800	1800	6000	0	3600	4000	1800
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		30	69	269	190	82	53	35	157	34	420	404	156
Adjusted Hourly Volume		30	69	269	190	82	53	35	191	0	420	404	156
Utilization Factor		0.02	0.03	0.15	0.11	0.04	0.03	0.02	0.03	0.00	0.12	0.10	0.09
Critical Factors				0.15	0.11				0.03		0.12		

ICU Ratio = 0.51 LOS = A

Turning Movements at Intersection of :

Poinsettia Lane and Avenida Encinas



Note : Left-turn volumes include U-turns. U-turns in bold.

Poinsettia Lane at Avenida Encinas

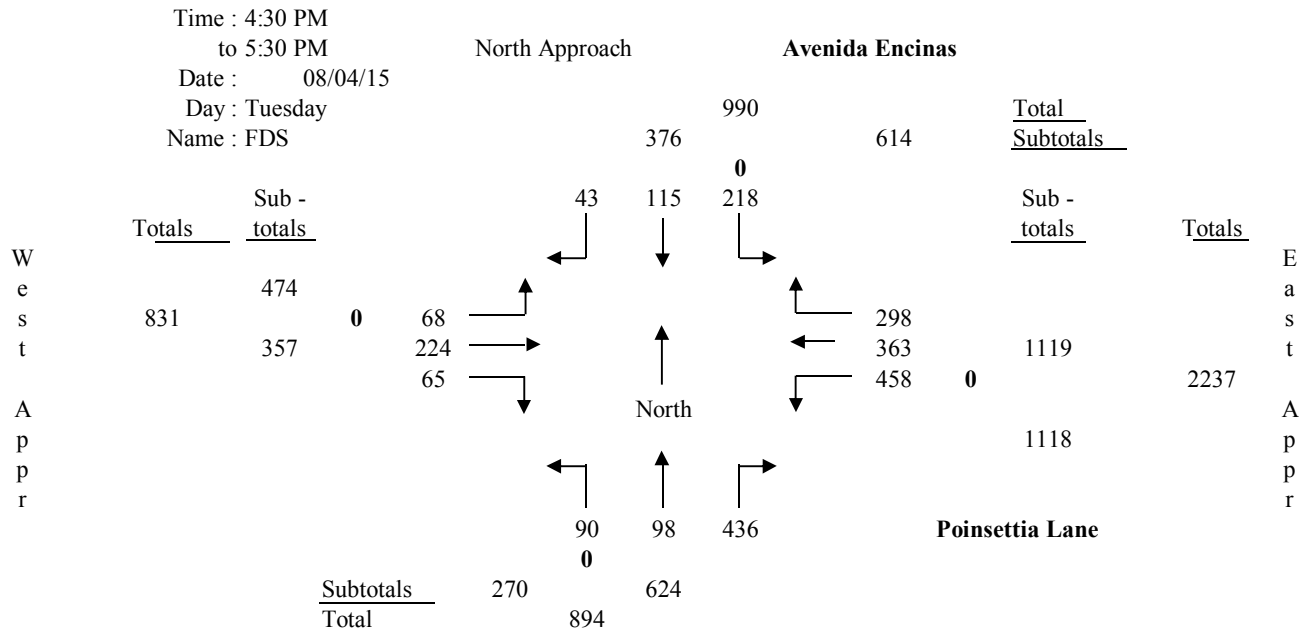
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM	to												
5:30 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1		1		
		3					1		1			1	
		4							1	1		1	
		5											1
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	1	1	3	0	2	2	1	
Capacity		1800	2000	1800	1800	2000	1800	1800	6000	0	3600	4000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		90	98	436	218	115	43	68	224	65	458	363	298
Adjusted Hourly Volume		90	98	436	218	115	43	68	289	0	458	363	298
Utilization Factor		0.05	0.05	0.24	0.12	0.06	0.02	0.04	0.05	0.00	0.13	0.09	0.17
Critical Factors					0.24	0.12				0.04			

ICU Ratio = 0.67 LOS = B

Turning Movements at Intersection of:

Poinsettia Lane and Avenida Encinas



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Avenida Encinas

DATE: 08/04/2015

LOCATION: Carlsbad

E-W STREET: Poinsettia Ln.

DAY: TUESDAY

PROJECT# 15-1194-034

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	1	1	1	1	1	1	3	0	2	2	1	
6:30 AM	4	6	29	14	8	6	2	26	7	29	30	25	186
6:45 AM	2	7	30	21	9	5	5	24	7	42	29	32	213
7:00 AM	5	10	54	30	11	4	2	28	5	41	41	35	266
7:15 AM	2	11	41	29	10	7	6	32	8	54	45	36	281
7:30 AM	6	8	42	42	14	11	3	30	11	65	88	43	363
7:45 AM	3	12	66	41	16	6	2	29	10	60	80	41	366
8:00 AM	2	15	60	24	20	9	5	32	14	85	87	32	385
8:15 AM	5	13	65	28	21	14	2	30	16	87	75	30	386
8:30 AM	8	16	75	54	25	10	8	33	13	105	80	33	460
8:45 AM	11	14	59	50	21	11	11	36	9	100	133	39	494
9:00 AM	7	20	60	45	14	13	10	45	6	104	104	43	471
9:15 AM	4	19	75	41	22	19	6	43	6	111	87	41	474
Volumes	59	151	656	419	191	115	62	388	112	883	879	430	4345
Approach %	6.81	17.44	75.75	57.79	26.34	15.86	11.03	69.04	19.93	40.28	40.10	19.62	
App/Depart	866	/	643	725	/	1186	562	/	1463	2192	/	1053	
Peak Volumes	30	69	269	190	82	53	35	157	34	420	404	156	1899
Approach %	8.15	18.75	73.10	58.46	25.23	16.31	15.49	69.47	15.04	42.86	41.22	15.92	
Pk Hr FACTOR:	0.93			0.91			0.93			0.90			0.961
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	19	22	78	41	28	15	8	63	16	60	59	49	458
3:45 PM	20	19	89	30	24	13	11	41	16	85	60	54	462
4:00 PM	17	14	103	29	29	16	10	54	12	87	65	65	501
4:15 PM	18	21	111	42	33	14	14	58	17	104	87	60	579
4:30 PM	20	20	104	41	30	10	19	45	15	121	85	85	595
4:45 PM	25	29	122	54	32	11	13	54	20	122	89	87	658
5:00 PM	24	24	104	58	28	9	22	65	14	104	99	60	611
5:15 PM	21	25	106	65	25	13	14	60	16	111	90	66	612
5:30 PM	14	21	103	60	24	16	19	66	13	103	87	59	585
5:45 PM	19	28	104	66	29	14	20	39	11	90	75	65	560
6:00 PM	20	30	122	43	30	11	21	43	11	99	74	60	564
6:15 PM	25	29	107	41	32	8	14	41	17	89	76	69	548
Volumes	242	282	1253	570	344	150	185	629	178	1175	946	779	6733
Approach %	13.62	15.87	70.51	53.57	32.33	14.10	18.65	63.41	17.94	40.52	32.62	26.86	
App/Depart	1777	/	1246	1064	/	1697	992	/	2452	2900	/	1338	
Peak Volumes	90	98	436	218	115	43	68	224	65	458	363	298	2476
Approach %	14.42	15.71	69.87	57.98	30.59	11.44	19.05	62.75	18.21	40.93	32.44	26.63	
Pk Hr FACTOR:	0.89			0.91			0.88			0.94			0.9407
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 35

Intersection Location: Melrose Drive & Alga Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
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Michael Baker

I N T E R N A T I O N A L

Melrose Drive at Alga Road

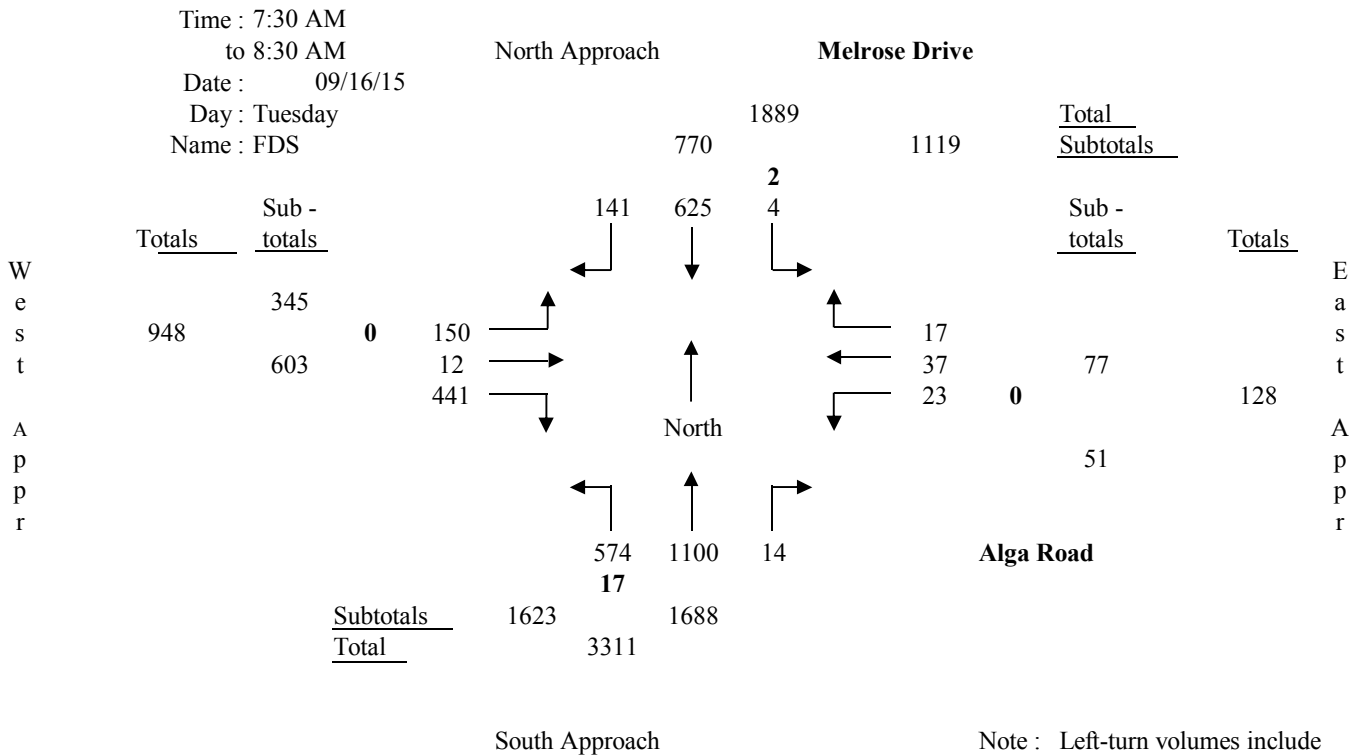
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
7:30 AM to 8:30 AM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1	1		1	1
		3		1		1				1			
		4		1	1								
		5				1	1						
		6											
	Outside Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	0	2	1	1	0
Capacity		1800	6000	0	1800	6000	0	1800	0	3600	1800	2000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		574	1100	14	4	625	141	150	12	441	23	37	17
Adjusted Hourly Volume		574	1114	0	4	766	0	150	0	453	23	54	0
Utilization Factor		0.32	0.19	0.00	0.00	0.13	0.00	0.08	0.00	0.13	0.01	0.03	0.00
Critical Factors		0.32				0.13				0.13	0.01		

ICU Ratio = 0.69 LOS = B

Turning Movements at Intersection of :

Melrose Drive and Alga Road



Melrose Drive at Alga Road

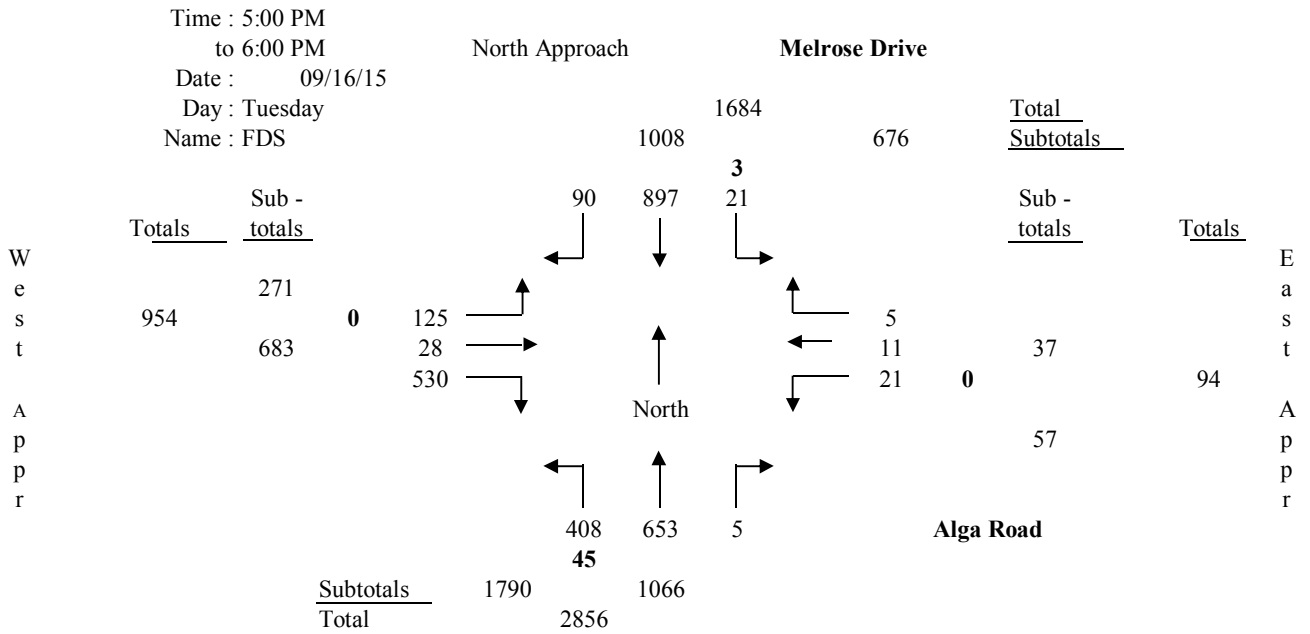
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
5:00 PM to 6:00 PM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1	1		1	1
		3		1		1				1			
		4		1	1		1	1					
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	3	0	1	3	0	1	0	2	1	1	0
Capacity		1800	6000	0	1800	6000	0	1800	0	3600	1800	2000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		408	653	5	21	897	90	125	28	530	21	11	5
Adjusted Hourly Volume		408	658	0	21	987	0	125	0	558	21	16	0
Utilization Factor		0.23	0.11	0.00	0.01	0.16	0.00	0.07	0.00	0.16	0.01	0.01	0.00
Critical Factors		0.23			0.16						0.16 0.01		

ICU Ratio = 0.66 LOS = B

Turning Movements at Intersection of:

Melrose Drive and Alga Road



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: Melrose Dr.

DATE: 09/16/2015

LOCATION: Carlsbad

 E-W STREET: Alga Rd.
 CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-035

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	3	0	1	0.5	1.5	1	1	0	
6:30 AM	28	80	0	0	67	14	15	0	43	1	1	1	250
6:45 AM	32	104	0	0	119	18	18	1	51	3	4	1	351
7:00 AM	52	138	1	1	127	22	15	0	88	4	5	2	455
7:15 AM	94	155	2	1	141	16	34	2	138	12	3	4	602
7:30 AM	119	229	0	0	153	39	35	3	167	8	2	6	761
7:45 AM	159	321	1	0	153	19	38	0	77	3	3	3	777
8:00 AM	143	326	3	3	152	35	47	1	93	4	14	3	824
8:15 AM	153	224	10	1	167	48	30	8	104	8	18	5	776
8:30 AM	121	229	5	4	158	36	39	6	107	2	31	5	743
8:45 AM	105	179	3	2	139	19	49	4	105	9	2	6	622
9:00 AM	82	100	0	1	112	28	16	0	52	2	1	0	394
9:15 AM	58	95	2	1	77	21	16	2	102	4	5	2	385
Volumes	1146	2180	27	14	1565	315	352	27	1127	60	89	38	6940
Approach %	34.18	65.02	0.81	0.74	82.63	16.63	23.37	1.79	74.83	32.09	47.59	20.32	
App/Depart	3353	/	2570	1894	/	2752	1506	/	68	187	/	1550	
Peak Volumes	574	1100	14	4	625	141	150	12	441	23	37	17	3138
Approach %	34.00	65.17	0.83	0.52	81.17	18.31	24.88	1.99	73.13	29.87	48.05	22.08	
Pk Hr FACTOR:	0.88			0.89			0.74			0.62			0.9521
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	67	88	0	2	82	5	16	3	67	0	6	1	337
3:45 PM	130	154	1	5	149	21	35	1	92	2	1	3	594
4:00 PM	103	130	0	5	162	12	27	4	103	3	0	1	550
4:15 PM	133	173	1	1	181	17	29	8	115	4	3	2	667
4:30 PM	112	154	1	7	186	23	34	1	132	5	1	2	658
4:45 PM	101	143	0	6	192	29	21	2	126	6	0	0	626
5:00 PM	119	168	0	9	191	31	28	4	111	6	2	1	670
5:15 PM	80	149	2	6	269	23	47	9	139	3	6	2	735
5:30 PM	116	171	2	4	239	19	33	7	157	5	1	1	755
5:45 PM	93	165	1	2	198	17	17	8	123	7	2	1	634
6:00 PM	84	162	0	2	167	22	24	11	97	5	3	1	578
6:15 PM	80	119	1	0	155	18	15	9	103	4	2	1	507
Volumes	1218	1776	9	49	2171	237	326	67	1365	50	27	16	7311
Approach %	40.56	59.14	0.30	1.99	88.36	9.65	18.54	3.81	77.65	53.76	29.03	17.20	
App/Depart	3003	/	2118	2457	/	3586	1758	/	125	93	/	1482	
Peak Volumes	408	653	5	21	897	90	125	28	530	21	11	5	2794
Approach %	38.27	61.26	0.47	2.08	88.99	8.93	18.30	4.10	77.60	56.76	29.73	13.51	
Pk Hr FACTOR:	0.92			0.85			0.87			0.84			0.9252
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 36

Intersection Location: Jefferson Street & Marron Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

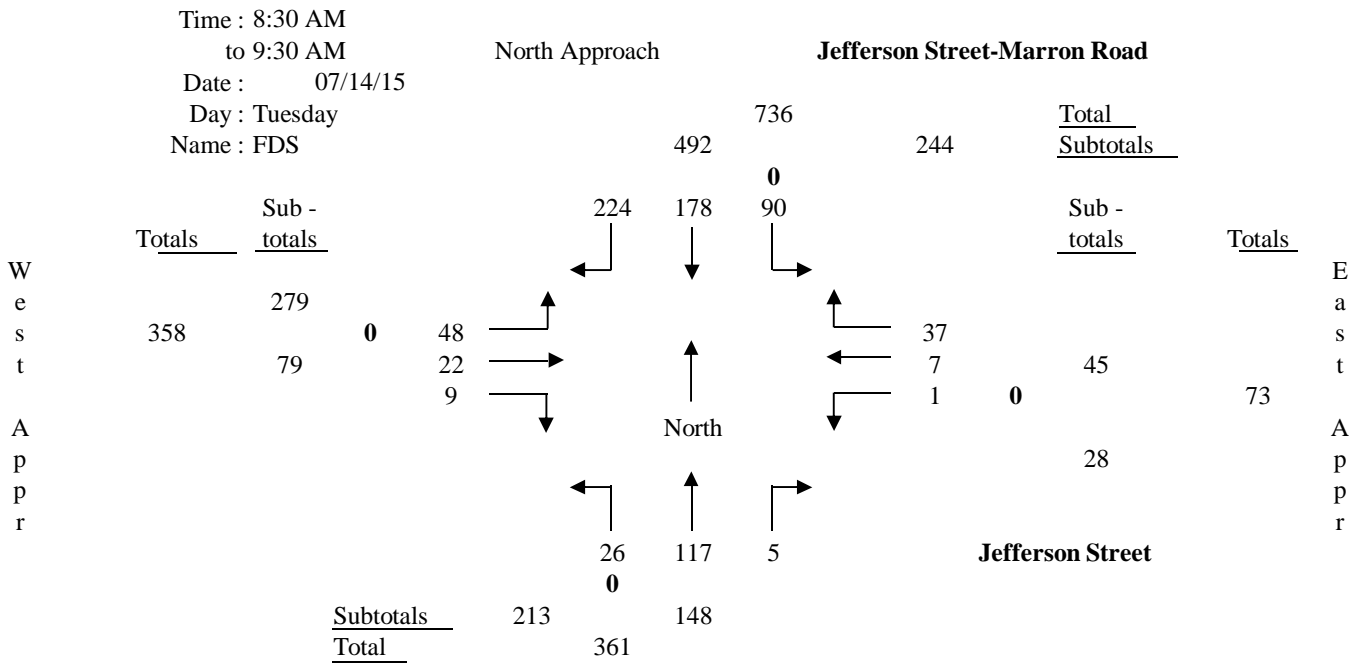
Jefferson Street at Jefferson Street-Marron Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
8:30 AM to 9:30 AM		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Config - urations	Inside (left)	1	1		1			1			1			
		2		1	1				1	1		1		
		3		1		1							1	
		4				1								
		5					1							
		6												
	Outside Free-flow	7												
Lane Settings		1	2	0	2	2	1	1	1	0	1	1	1	
Capacity		1800	4000	0	3600	4000	1800	1800	2000	0	1800	2000	1800	
Are the North/South phases split (Y/N)?				N										
Are the East/West phases split (Y/N)?				N										
Efficiency Lost Factor		0.10												
Hourly Volume		26	117	5	90	178	224	48	22	9	1	7	37	
Adjusted Hourly Volume		26	122	0	90	178	224	48	22	31	1	44	0	
Utilization Factor		0.01	0.03	0.00	0.03	0.04	0.12	0.03	0.01	0.00	0.00	0.02	0.00	
Critical Factors		0.01						0.12	0.03					0.02

ICU Ratio = 0.28 LOS = A

Turning Movements at Intersection of : Jefferson Street and Jefferson Street-Marron Road



Jefferson Street at Jefferson Street-Marron Road

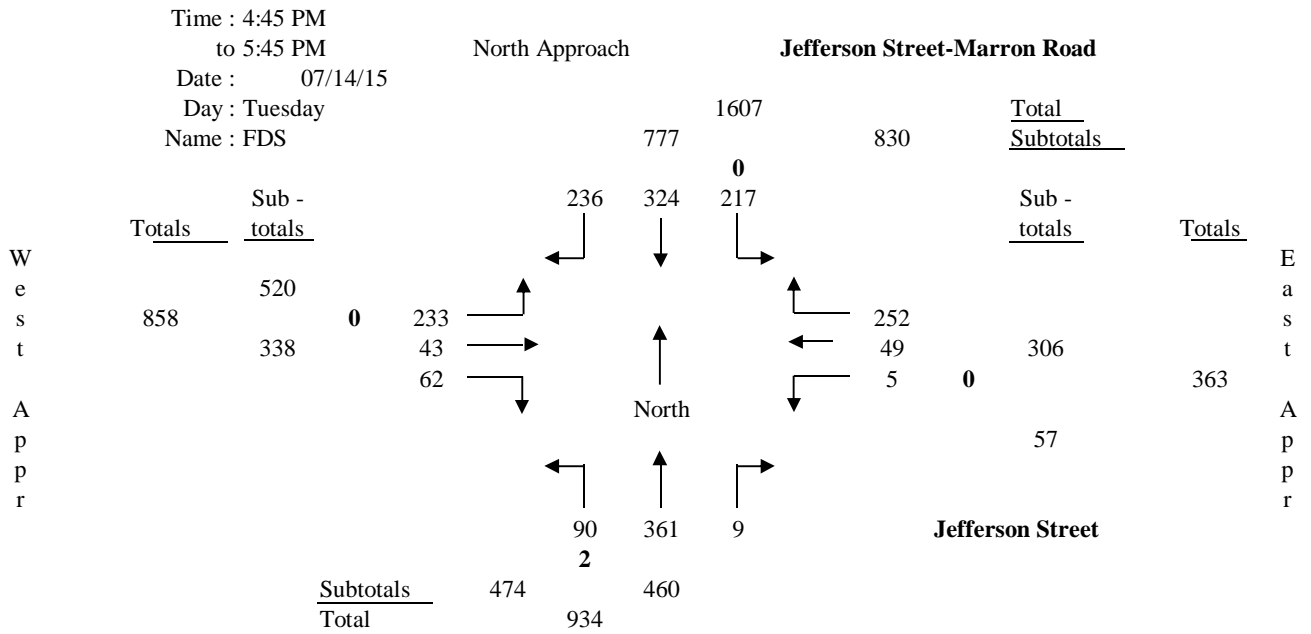
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:45 PM to 5:45 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2		1	1				1	1		1	
		3		1		1							1
		4				1							
		5					1						
		6											
	Outside Free-flow	7											
Lane Settings		1	2	0	2	2	1	1	0	1	1	1	1
Capacity		1800	4000	0	3600	4000	1800	1800	0	1800	1800	2000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		90	361	9	217	324	236	233	43	62	5	49	252
Adjusted Hourly Volume		90	370	0	217	324	236	233	0	105	5	49	144
Utilization Factor		0.05	0.09	0.00	0.06	0.08	0.13	0.13	0.00	0.06	0.00	0.02	0.08
Critical Factors		0.05						0.13			0.13		

ICU Ratio = 0.49 LOS = A

Turning Movements at Intersection of :

Jefferson Street and Jefferson Street-Marron Road



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: Marron Rd. DATE: 07/14/2015 LOCATION: Carlsbad
 E-W STREET: Jefferson St. DAY: TUESDAY PROJECT#: 15-1194-036
 CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	2	2	1	1	1	0	1	1	1	
6:30 AM	7	13	0	5	28	28	8	0	9	0	1	2	101
6:45 AM	8	14	0	9	24	54	5	0	11	2	2	4	133
7:00 AM	5	21	0	5	26	41	9	1	7	1	0	2	118
7:15 AM	9	30	0	6	33	54	13	0	5	0	1	5	156
7:30 AM	11	33	0	10	30	58	8	1	6	0	1	2	160
7:45 AM	10	26	1	6	32	99	7	2	3	1	0	3	190
8:00 AM	14	24	0	13	28	78	14	1	2	0	1	6	181
8:15 AM	8	28	0	14	36	50	16	2	5	0	2	5	166
8:30 AM	5	30	1	20	54	66	13	3	2	0	1	8	203
8:45 AM	7	33	2	23	41	63	11	6	1	0	3	11	201
9:00 AM	8	26	1	19	42	50	10	5	4	0	2	7	174
9:15 AM	6	28	1	28	41	45	14	8	2	1	1	11	186
Volumes	98	306	6	158	415	686	128	29	57	5	15	66	1969
Approach %	23.90	74.63	1.46	12.55	32.96	54.49	59.81	13.55	26.64	5.81	17.44	76.74	
App/Depart	410	/	500	1259	/	477	214	/	193	86	/	799	
Peak Volumes	26	117	5	90	178	224	48	22	9	1	7	37	764
Approach %	17.57	79.05	3.38	18.29	36.18	45.53	60.76	27.85	11.39	2.22	15.56	82.22	
Pk Hr FACTOR:	0.88			0.88			0.82			0.80			0.9409
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	23	90	6	60	41	41	49	9	13	1	9	41	383
3:45 PM	21	99	3	50	85	54	43	6	14	3	8	75	461
4:00 PM	22	89	2	77	89	58	33	4	18	2	11	54	459
4:15 PM	14	74	1	54	99	65	30	7	13	1	10	58	426
4:30 PM	18	75	4	60	90	60	32	11	11	2	14	50	427
4:45 PM	23	87	2	50	87	59	54	8	10	1	16	75	472
5:00 PM	20	90	2	54	75	54	75	14	14	1	13	54	466
5:15 PM	22	99	3	58	80	58	50	10	18	2	9	58	467
5:30 PM	25	85	2	55	82	65	54	11	20	1	11	65	476
5:45 PM	24	87	1	60	77	60	41	7	21	0	10	60	448
6:00 PM	34	66	4	66	74	66	42	7	14	1	14	66	454
6:15 PM	20	69	2	44	76	39	29	8	16	2	8	63	376
Volumes	266	1010	32	688	955	679	532	102	182	17	133	719	5315
Approach %	20.34	77.22	2.45	29.63	41.13	29.24	65.20	12.50	22.30	1.96	15.30	82.74	
App/Depart	1308	/	2261	2322	/	1154	816	/	822	869	/	1078	
Peak Volumes	90	361	9	217	324	236	233	43	62	5	49	252	1881
Approach %	19.57	78.48	1.96	27.93	41.70	30.37	68.93	12.72	18.34	1.63	16.01	82.35	
Pk Hr FACTOR:	0.93			0.96			0.82			0.83			0.9879
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 37

Intersection Location: Monroe Street & Marron Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Monroe Street at Marron Road

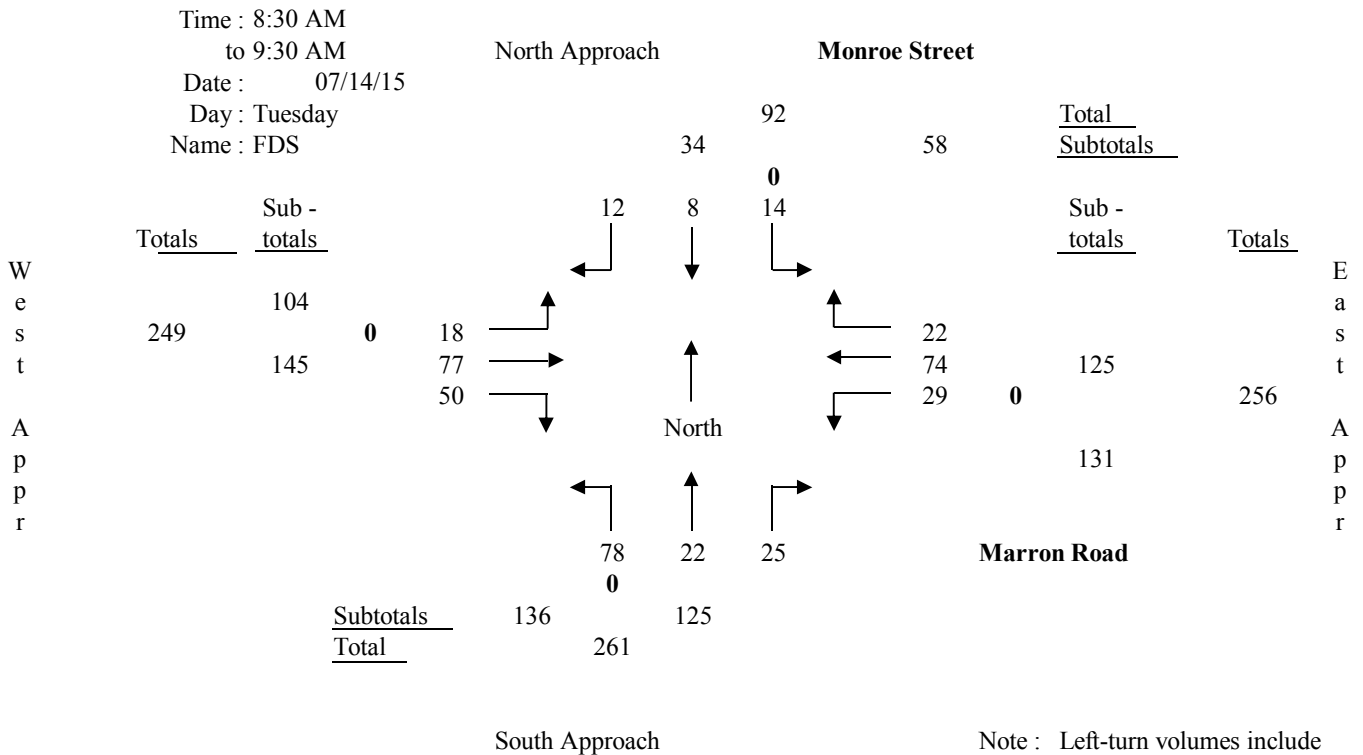
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:30 AM to 9:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1		1			1			1		
		2		1		1			1			1	
		3	1	1		1	1		1	1		1	1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	1	1	1	2	0	1	2	0
Capacity		1800	2000	1800	1800	2000	1800	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		78	22	25	14	8	12	18	77	50	29	74	22
Adjusted Hourly Volume		78	22	25	14	8	12	18	127	0	29	96	0
Utilization Factor		0.04	0.01	0.01	0.01	0.00	0.01	0.01	0.03	0.00	0.02	0.02	0.00
Critical Factors		0.04						0.01			0.03		

ICU Ratio = 0.20 LOS = A

Turning Movements at Intersection of :

Monroe Street and Marron Road



Note : Left-turn volumes include U-turns. U-turns in bold.

Monroe Street at Marron Road

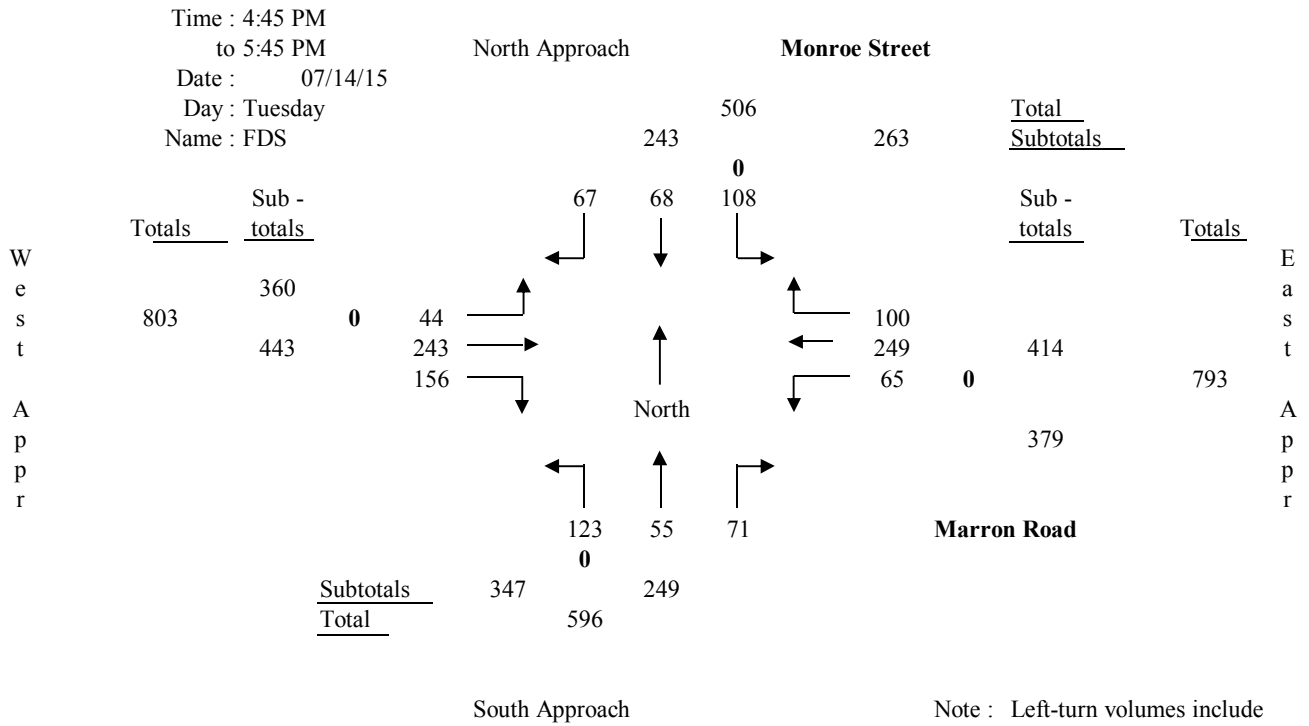
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM to 5:45 PM													
Lane Configurations	Inside (left)	1	1		1			1			1		
		2		1		1			1			1	
		3		1	1		1		1	1		1	1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	1	1	1	2	0	1	2	0	1	2	0
Capacity		1800	2000	1800	1800	4000	0	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		123	55	71	108	68	67	44	243	156	65	249	100
Adjusted Hourly Volume		123	55	71	108	68	0	44	399	0	65	349	0
Utilization Factor		0.07	0.03	0.04	0.06	0.02	0.00	0.02	0.10	0.00	0.04	0.09	0.00
Critical Factors				0.04	0.06				0.10		0.04		

ICU Ratio = 0.34 LOS = A

Turning Movements at Intersection of:

Monroe Street and Marron Road



N-S STREET: Monroe St.

DATE: 07/14/2015

LOCATION: Carlsbad

E-W STREET: Marron Rd.
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-037

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	1	2	0	1	2	0	
6:30 AM	16	2	4	1	1	2	1	9	22	7	13	3	81
6:45 AM	19	3	2	0	2	3	0	9	36	11	13	2	100
7:00 AM	11	2	3	1	3	3	1	11	32	7	11	5	90
7:15 AM	10	2	2	2	2	2	2	13	21	4	10	4	74
7:30 AM	18	1	5	2	1	1	3	16	14	2	14	7	84
7:45 AM	20	2	8	1	0	4	2	14	19	5	19	4	98
8:00 AM	21	5	11	2	1	1	1	21	13	9	13	5	103
8:15 AM	25	2	10	5	2	2	1	24	11	3	20	2	107
8:30 AM	24	3	7	2	1	3	2	25	7	6	21	3	104
8:45 AM	21	6	4	3	4	2	5	20	11	9	14	6	105
9:00 AM	14	5	8	6	1	5	4	13	14	6	19	5	100
9:15 AM	19	8	6	3	2	2	7	19	18	8	20	8	120
Volumes	218	41	70	28	20	30	29	194	218	77	187	54	1166
Approach %	66.26	12.46	21.28	35.90	25.64	38.46	6.58	43.99	49.43	24.21	58.81	16.98	
App/Depart	329	/	124	78	/	315	441	/	292	318	/	435	
Peak Volumes	78	22	25	14	8	12	18	77	50	29	74	22	429
Approach %	62.40	17.60	20.00	41.18	23.53	35.29	12.41	53.10	34.48	23.20	59.20	17.60	
Pk Hr FACTOR:	0.92			0.71			0.82			0.87			0.8938
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	22	11	21	22	17	20	9	42	21	11	69	19	284
3:45 PM	20	13	25	13	19	13	6	41	28	13	60	21	272
4:00 PM	25	19	24	16	13	16	9	58	26	16	54	24	300
4:15 PM	24	14	26	14	22	17	5	54	33	17	41	25	292
4:30 PM	29	10	22	21	20	11	7	65	30	13	42	32	302
4:45 PM	33	11	20	25	17	13	11	60	41	19	66	30	346
5:00 PM	30	13	21	30	19	19	10	66	43	17	60	26	354
5:15 PM	32	16	14	29	13	14	14	63	39	13	65	24	336
5:30 PM	28	15	16	24	19	21	9	54	33	16	58	20	313
5:45 PM	25	18	13	25	13	20	6	50	30	13	57	22	292
6:00 PM	21	13	18	20	11	19	11	43	42	19	75	13	305
6:15 PM	14	19	13	22	8	12	7	41	21	14	69	16	256
Volumes	303	172	233	261	191	195	104	637	387	181	716	272	3652
Approach %	42.80	24.29	32.91	40.34	29.52	30.14	9.22	56.47	34.31	15.48	61.25	23.27	
App/Depart	708	/	548	647	/	759	1128	/	1131	1169	/	1214	
Peak Volumes	123	55	71	108	68	67	44	243	156	65	249	100	1349
Approach %	49.40	22.09	28.51	44.44	27.98	27.57	9.93	54.85	35.21	15.70	60.14	24.15	
Pk Hr FACTOR:	0.97			0.89			0.93			0.90			0.9527
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 38

Intersection Location: Cannon Road & Paseo Del Norte

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Cannon Road at Paseo Del Norte

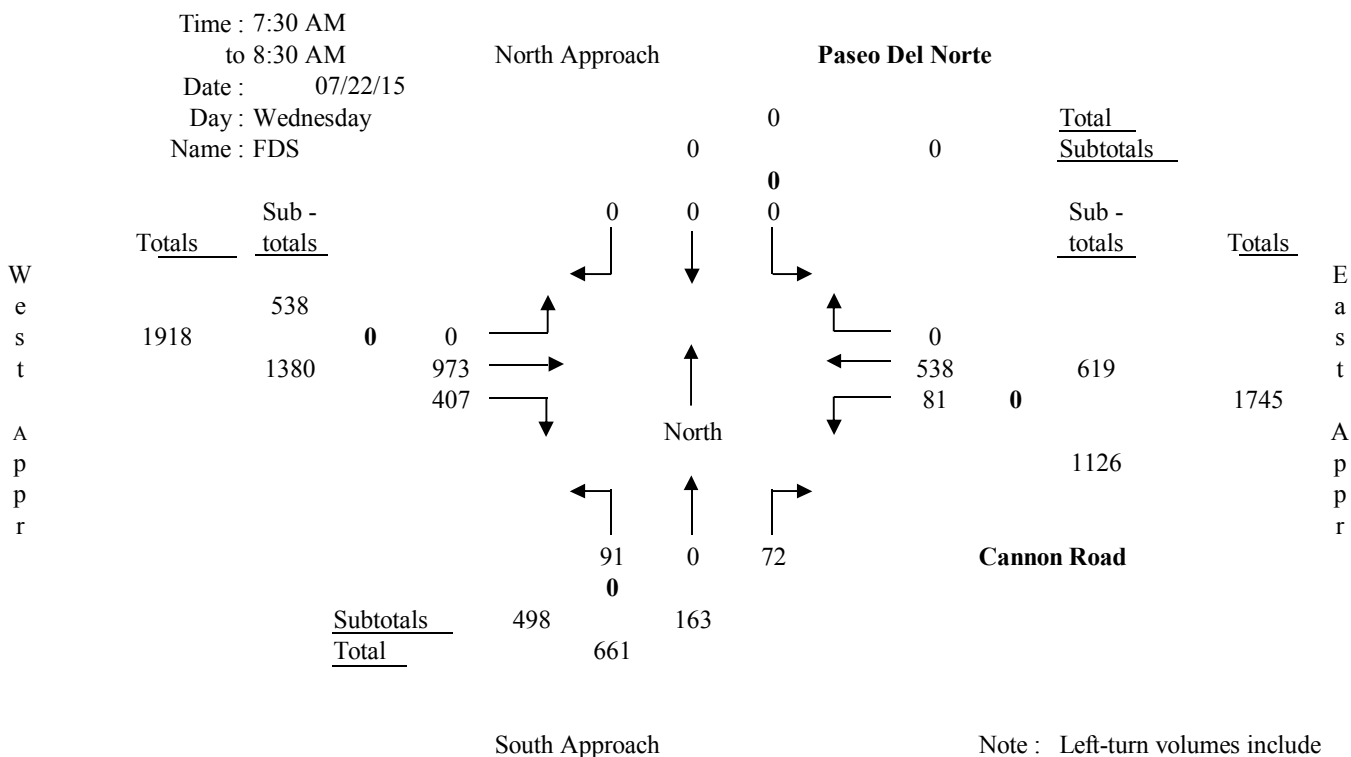
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside (left)	1	1					1			1		
		2	1					1	1			1	
		3		1								1	
		4										1	
		5											
		6											
	Outside Free-flow	7											
Lane Settings		2	0	1	0	0	0	0	2	0	1	3	0
Capacity		3600	0	1800	0	0	0	0	4000	0	1800	6000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		91	0	72	0	0	0	0	973	407	81	538	0
Adjusted Hourly Volume		91	0	0	0	0	0	0	1380	0	81	538	0
Utilization Factor		0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.05	0.09	0.00
Critical Factors		0.03			0.00			0.00			0.05		

ICU Ratio = 0.53 LOS = A

Turning Movements at Intersection of :

Cannon Road and Paseo Del Norte



Cannon Road at Paseo Del Norte

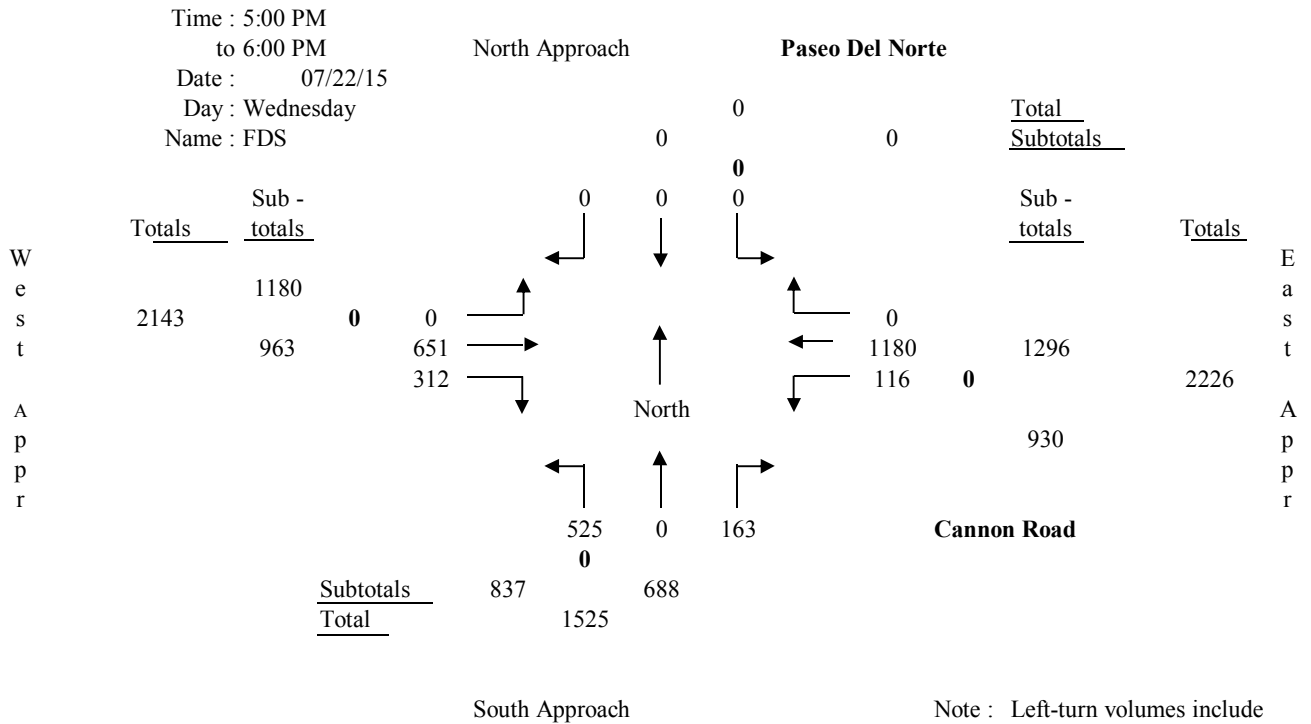
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 5:00 PM to 6:00 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1	1						1		1		
		2	1						1	1		1	
		3		1								1	
		4										1	
		5											
		6											
	Outside Free-flow	7											
Lane Settings		2	0	1	0	0	0	0	2	0	1	3	0
Capacity		3600	0	1800	0	0	0	0	4000	0	1800	6000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		525	0	163	0	0	0	0	651	312	116	1180	0
Adjusted Hourly Volume		525	0	47	0	0	0	0	963	0	116	1180	0
Utilization Factor		0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.24	0.00	0.06	0.20	0.00
Critical Factors		0.15			0.00		0.00		0.24		0.06		

ICU Ratio = 0.55 LOS = A

Turning Movements at Intersection of:

Cannon Road and Paseo Del Norte





N-S STREET: Paseo Del Norte

DATE: 07/22/2015

LOCATION: Carlsbad

E-W STREET: Cannon Rd.

DAY: WEDNESDAY

PROJECT# 15-1194-038

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	0	1	0	0	0	0	2	0	1	3	0	
6:30 AM	5	0	1	0	0	0	0	114	32	12	104	0	268
6:45 AM	5	0	5	0	0	0	0	136	68	19	146	0	379
7:00 AM	14	0	5	0	0	0	0	142	71	20	116	0	368
7:15 AM	27	0	6	0	0	0	0	152	78	19	134	0	416
7:30 AM	13	0	19	0	0	0	0	209	114	25	156	0	536
7:45 AM	19	0	11	0	0	0	0	315	114	24	140	0	623
8:00 AM	23	0	21	0	0	0	0	256	101	19	127	0	547
8:15 AM	36	0	21	0	0	0	0	193	78	13	115	0	456
8:30 AM	32	0	19	0	0	0	0	228	74	18	130	0	501
8:45 AM	37	0	20	0	0	0	0	249	96	21	149	0	572
9:00 AM	43	0	30	0	0	0	0	277	65	18	106	0	539
9:15 AM	52	0	35	0	0	0	0	243	58	17	130	0	535
Volumes	306	0	193	0	0	0	0	2514	949	225	1553	0	5740
Approach %	61.32	0.00	38.68	#DIV/0!	#DIV/0!	#DIV/0!	0.00	72.60	27.40	12.65	87.35	0.00	
App/Depart	499	/	0	0	/	1174	3463	/	2707	1778	/	1859	
Peak Volumes	91	0	72	0	0	0	0	973	407	81	538	0	2162
Approach %	55.83	0.00	44.17	#DIV/0!	#DIV/0!	#DIV/0!	0.00	70.51	29.49	13.09	86.91	0.00	
Pk Hr FACTOR:	0.71			0.00			0.80			0.85			0.8676
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	112	0	39	0	0	0	0	162	77	22	226	0	638
3:45 PM	126	0	47	0	0	0	0	154	90	25	224	0	666
4:00 PM	93	0	38	0	0	0	0	142	71	23	206	0	573
4:15 PM	120	0	56	0	0	0	0	135	63	18	212	0	604
4:30 PM	128	0	53	0	0	0	0	144	85	16	278	0	704
4:45 PM	90	0	39	0	0	0	0	160	73	20	241	0	623
5:00 PM	164	0	50	0	0	0	0	152	69	29	287	0	751
5:15 PM	133	0	29	0	0	0	0	167	63	29	346	0	767
5:30 PM	114	0	41	0	0	0	0	169	84	27	321	0	756
5:45 PM	114	0	43	0	0	0	0	163	96	31	226	0	673
6:00 PM	126	0	31	0	0	0	0	145	52	16	228	0	598
6:15 PM	95	0	19	0	0	0	0	129	66	21	175	0	505
Volumes	1415	0	485	0	0	0	0	1822	889	277	2970	0	7858
Approach %	74.47	0.00	25.53	#DIV/0!	#DIV/0!	#DIV/0!	0.00	67.21	32.79	8.53	91.47	0.00	
App/Depart	1900	/	0	0	/	1166	2711	/	2307	3247	/	4385	
Peak Volumes	525	0	163	0	0	0	0	651	312	116	1180	0	2947
Approach %	76.31	0.00	23.69	#DIV/0!	#DIV/0!	#DIV/0!	0.00	67.60	32.40	8.95	91.05	0.00	
Pk Hr FACTOR:	0.80			0.00			0.93			0.86			0.9606
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 39

Intersection Location: Cannon Road & Faraday Avenue

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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

Cannon Road at Faraday Avenue

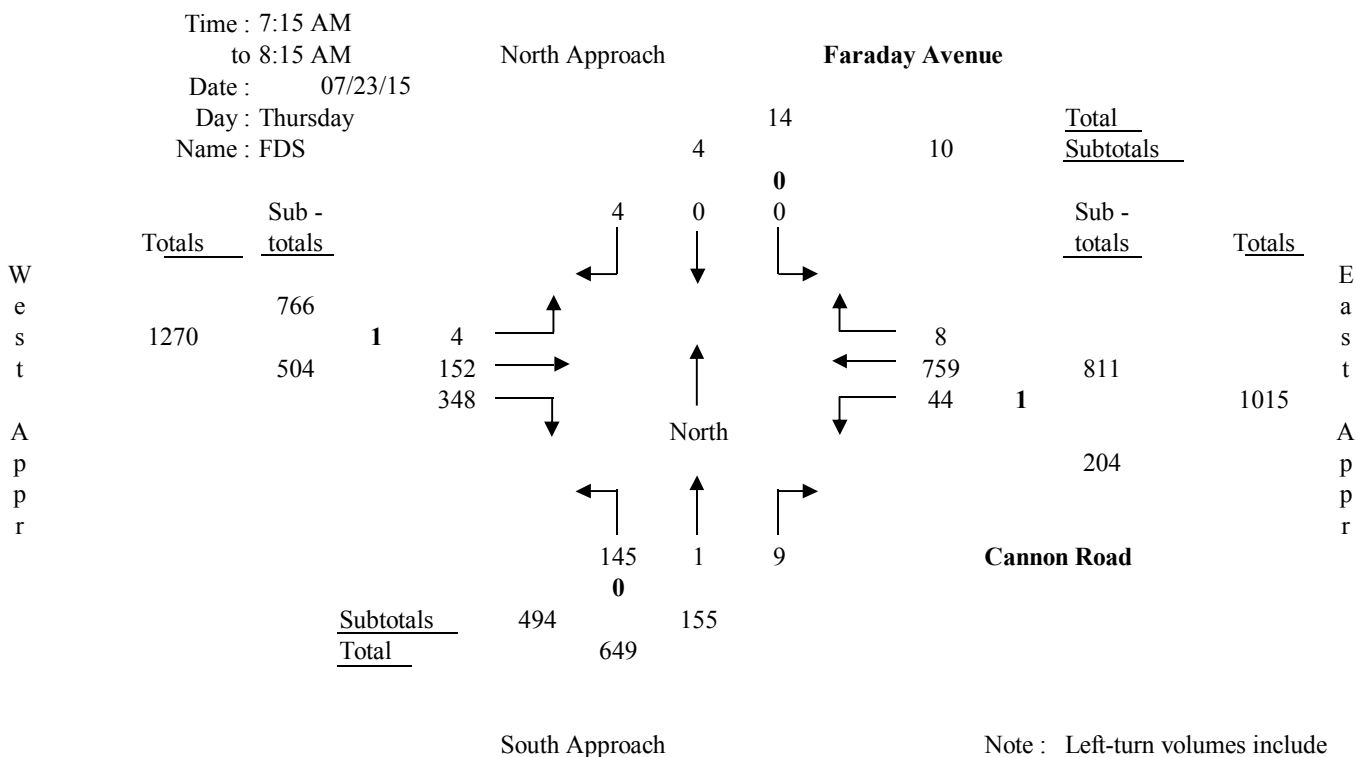
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)				North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15 AM to 8:15 AM														
Lane Config - urations	Inside (left)	1	1	1	1	1	1	1	1			1		
		2								1			1	1
		3									1			
		4												
		5												
		6												
	Outside Free-flow	7												
Lane Settings		1	0	0		0	0	1	1	1	1	1	1	0
Capacity		1800	0	0		0	0	1800	1800	2000	1800	1800	2000	0
Are the North/South phases split (Y/N)?					Y									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		145	1	9		0	0	4	4	152	348	44	759	8
Adjusted Hourly Volume		155	0	0		0	0	4	4	152	348	44	767	0
Utilization Factor		0.09	0.00	0.00		0.00	0.00	0.00	0.00	0.08	0.19	0.02	0.38	0.00
Critical Factors		0.09												
		0.09												

ICU Ratio = 0.57 LOS = A

Turning Movements at Intersection of:

Cannon Road and Faraday Avenue



Note : Left-turn volumes include U-turns. U-turns in bold.

Note: The lane configurations shown reflect temporary construction conditions.

Cannon Road at Faraday Avenue

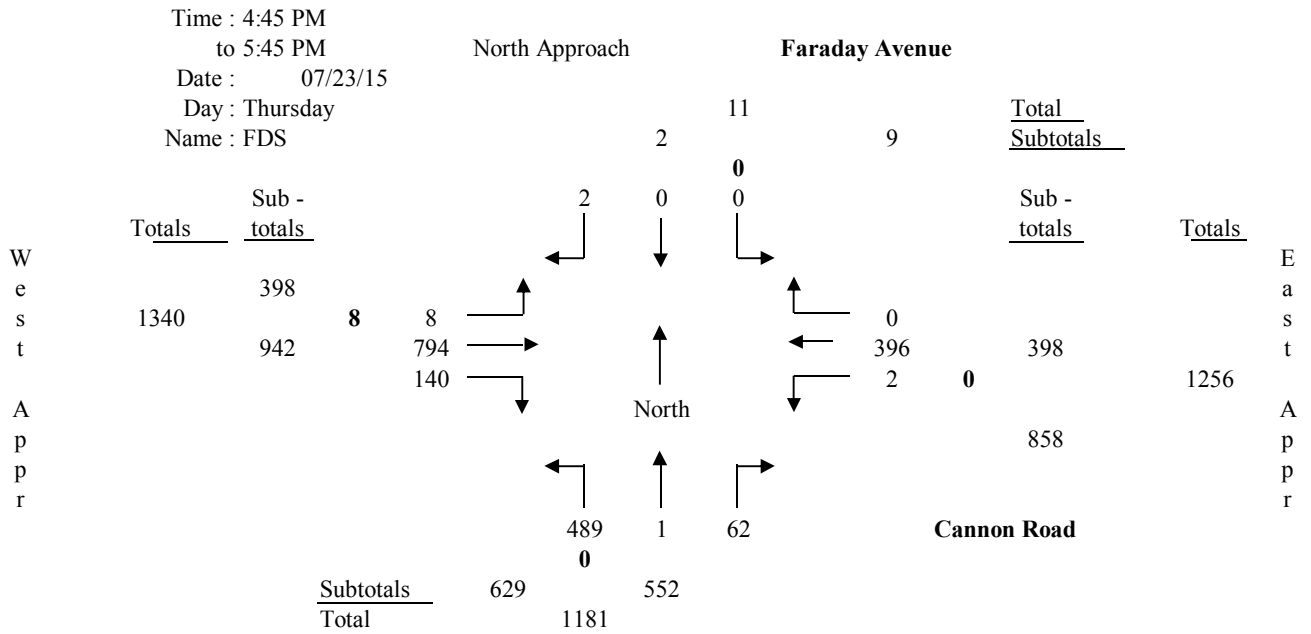
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)				North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM	to													
5:45 PM														
Lane Configurations	Inside (left)	1	1	1	1	1	1	1	1			1		
		2								1			1	1
		3									1			
		4												
		5												
		6												
	Outside Free-flow	7												
Lane Settings		1	0	0	0	0	1	1	1	1	1	1	0	
Capacity		1800	0	0	0	0	1800	1800	2000	1800	1800	2000	0	
Are the North/South phases split (Y/N)?					Y									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		489	1	62	0	0	2	8	794	140	2	396	0	
Adjusted Hourly Volume		552	0	0	0	0	2	8	794	140	2	396	0	
Utilization Factor		0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.08	0.00	0.20	0.00	
Critical Factors		0.31			0.00			0.40		0.00				

ICU Ratio = 0.81 LOS = D

Turning Movements at Intersection of:

Cannon Road and Faraday Avenue



Note : Left-turn volumes include U-turns. U-turns in bold.

Note: The lane configurations shown reflect temporary construction conditions.

N-S STREET: Faraday Ave.

DATE: 07/23/2015

LOCATION: Carlsbad

E-W STREET: Cannon Rd.

DAY: THURSDAY

PROJECT# 15-1194-039

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.33	0.33	0.33	0	1	0	1	2	1	1	2	0	
6:30 AM	19	2	1	0	0	1	0	28	58	2	125	1	237
6:45 AM	20	0	2	0	0	0	1	24	65	5	155	0	272
7:00 AM	24	0	3	1	0	0	0	26	60	5	214	1	334
7:15 AM	41	0	3	0	0	2	1	33	76	8	166	2	332
7:30 AM	42	1	2	0	0	0	0	30	85	11	163	1	335
7:45 AM	29	0	1	0	0	1	1	35	101	10	208	3	389
8:00 AM	33	0	3	0	0	1	2	54	86	15	222	2	418
8:15 AM	30	0	2	0	0	0	4	41	85	6	125	5	298
8:30 AM	32	0	1	0	0	1	4	56	87	13	133	2	329
8:45 AM	28	0	4	0	0	1	8	66	108	7	106	1	329
9:00 AM	24	0	2	0	1	0	2	58	101	7	87	4	286
9:15 AM	21	0	5	0	1	0	5	54	89	3	111	2	291
Volumes	343	3	29	1	2	7	28	505	1001	92	1815	24	3850
Approach %	91.47	0.80	7.73	10.00	20.00	70.00	1.83	32.92	65.25	4.76	93.99	1.24	
App/Depart	375	/	55	10	/	1095	1534	/	535	1931	/	2165	
Peak Volumes	145	1	9	0	0	4	4	152	348	44	759	8	1474
Approach %	93.55	0.65	5.81	0.00	0.00	100.00	0.79	30.16	69.05	5.43	93.59	0.99	
Pk Hr FACTOR:	0.86			0.50			0.89			0.85			0.8816
AM Pk Hr at:	715												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	73	0	3	4	0	3	1	177	31	3	88	1	384
3:45 PM	64	1	3	1	2	1	1	155	34	3	92	0	357
4:00 PM	79	0	8	1	1	3	2	180	30	4	76	1	385
4:15 PM	83	0	7	1	0	0	1	147	43	3	86	0	371
4:30 PM	95	1	6	1	0	0	0	176	41	0	78	0	398
4:45 PM	96	0	12	0	0	0	3	185	34	0	115	0	445
5:00 PM	137	1	23	0	0	0	2	206	38	0	82	0	489
5:15 PM	152	0	18	0	0	0	1	217	28	1	106	0	523
5:30 PM	104	0	9	0	0	2	2	186	40	1	93	0	437
5:45 PM	90	0	8	0	0	0	0	200	31	1	73	0	403
6:00 PM	70	0	2	2	0	2	0	176	45	3	76	0	376
6:15 PM	62	1	3	0	0	0	1	153	27	0	71	0	318
Volumes	1105	4	102	10	3	11	14	2158	422	19	1036	2	4886
Approach %	91.25	0.33	8.42	41.67	12.50	45.83	0.54	83.19	16.27	1.80	98.01	0.19	
App/Depart	1211	/	20	24	/	444	2594	/	2270	1057	/	2152	
Peak Volumes	489	1	62	0	0	2	8	794	140	2	396	0	1894
Approach %	88.59	0.18	11.23	0.00	0.00	100.00	0.85	84.29	14.86	0.50	99.50	0.00	
Pk Hr FACTOR:	0.81			0.25			0.96			0.87			0.9054
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 40

Intersection Location: College Boulevard &
Carlsbad Village Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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Michael Baker

I N T E R N A T I O N A L

College Boulevard at Carlsbad Village Drive

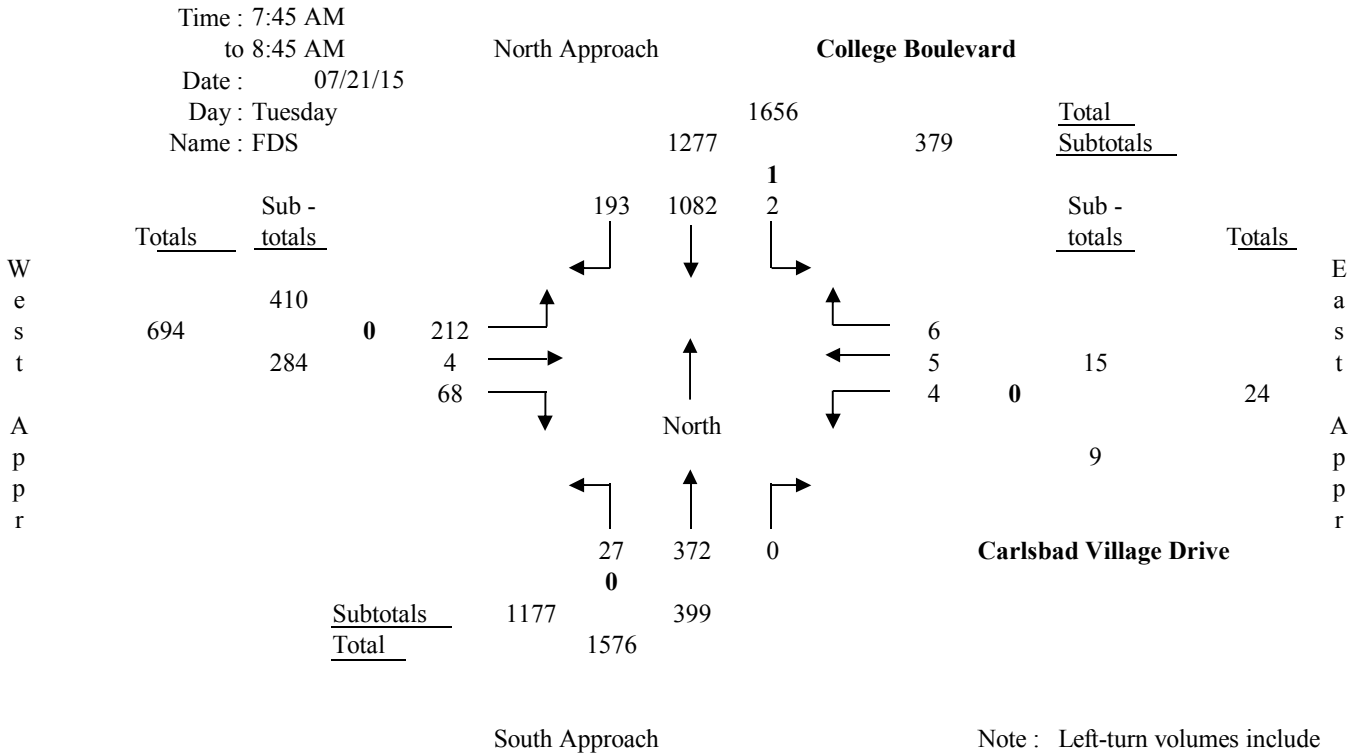
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :	South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
	7:45 AM to 8:45 AM	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	1	1			1			1			1		
Inside (left)	2		1			1		1	1			1	1
	3		1	1						1			
	4												
	5												
	6												
Outside Free-flow	7												
Lane Settings	1	2	0	1	2	0	2	0	1	1	0	1	
Capacity	1800	4000	0	1800	4000	0	3600	0	1800	1800	0	1800	
Are the North/South phases split (Y/N)?			N										
Are the East/West phases split (Y/N)?			Y										
Efficiency Lost Factor	0.10												
Hourly Volume	27	372	0	2	1082	193	212	4	68	4	5	6	
Adjusted Hourly Volume	27	372	0	2	1275	0	216	0	41	4	0	11	
Utilization Factor	0.02	0.09	0.00	0.00	0.32	0.00	0.06	0.00	0.02	0.00	0.00	0.01	
Critical Factors	0.02				0.32		0.06					0.01	

ICU Ratio = 0.51 LOS = A

Turning Movements at Intersection of :

College Boulevard and Carlsbad Village Drive



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.

College Boulevard at Carlsbad Village Drive

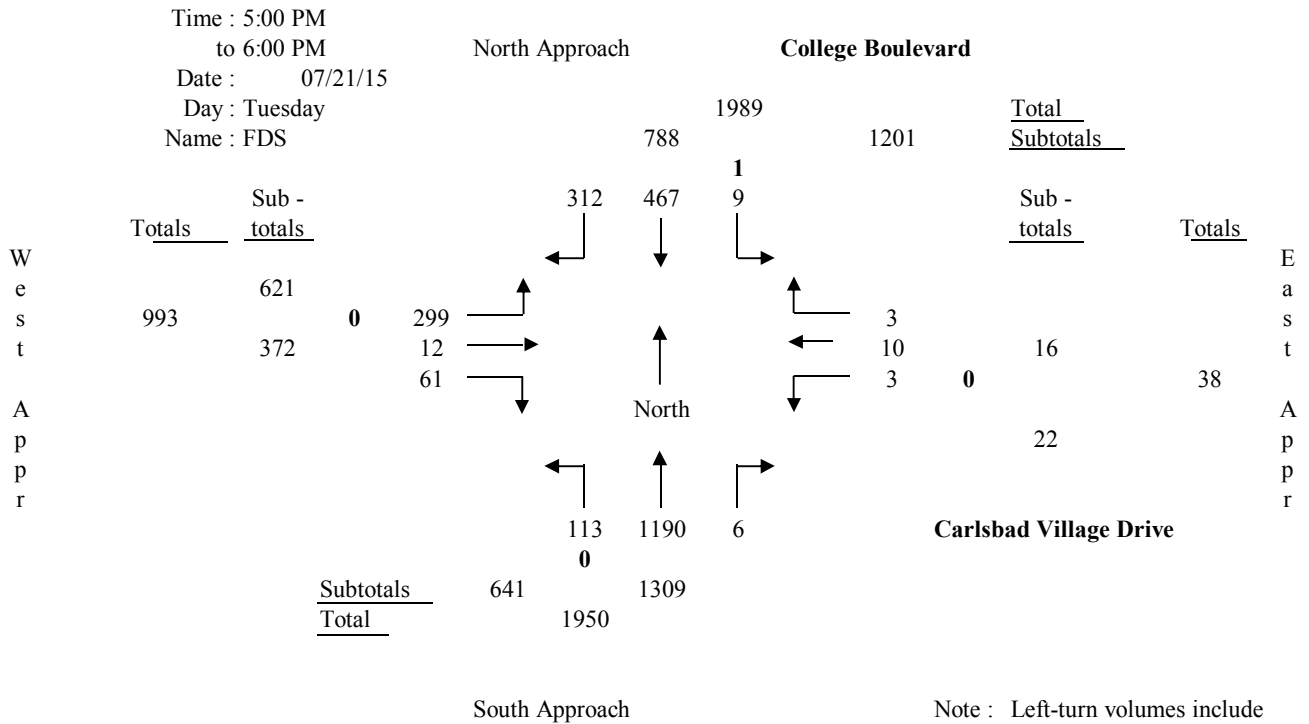
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 5:00 PM to 6:00 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2		1		1		1	1			1	1
		3		1	1					1			
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	2	0	1	2	0	2	0	1	1	1	0
Capacity		1800	4000	0	1800	4000	0	3600	0	1800	1800	2000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					Y								
Efficiency Lost Factor		0.10											
Hourly Volume		113	1190	6	9	467	312	299	12	61	3	10	3
Adjusted Hourly Volume		113	1196	0	9	779	0	311	0	0	3	13	0
Utilization Factor		0.06	0.30	0.00	0.01	0.19	0.00	0.09	0.00	0.00	0.00	0.01	0.00
Critical Factors			0.30		0.01			0.09				0.01	

ICU Ratio = 0.51 LOS = A

Turning Movements at Intersection of:

College Boulevard and Carlsbad Village Drive



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: College Blvd.

DATE: 07/21/2015

LOCATION: Carlsbad

E-W STREET: Carlsbad Village Dr.

DAY: TUESDAY

PROJECT# 15-1194-040

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	1.5	0.5	1	1	1	0	
6:30 AM	6	42	0	0	238	11	41	1	9	0	1	1	350
6:45 AM	7	40	1	2	355	33	30	0	13	1	2	1	485
7:00 AM	9	66	0	1	266	28	34	2	14	2	0	3	425
7:15 AM	6	71	1	0	326	26	35	0	12	0	2	3	482
7:30 AM	5	56	0	0	301	21	36	1	19	1	1	1	442
7:45 AM	4	86	0	0	276	43	54	0	16	2	1	1	483
8:00 AM	8	85	0	0	292	56	50	1	21	1	0	1	515
8:15 AM	8	97	0	0	257	42	48	3	16	0	1	1	473
8:30 AM	7	104	0	2	257	52	60	0	15	1	3	3	504
8:45 AM	7	75	0	0	165	49	32	0	13	0	3	1	345
9:00 AM	11	80	0	0	177	35	67	0	14	2	0	4	390
9:15 AM	15	86	0	2	169	47	50	1	12	1	4	2	389
Volumes	93	888	2	7	3079	443	537	9	174	11	18	22	5283
Approach %	9.46	90.34	0.20	0.20	87.25	12.55	74.58	1.25	24.17	21.57	35.29	43.14	
App/Depart	983	/	1447	3529	/	3264	720	/	18	51	/	554	
Peak Volumes	27	372	0	2	1082	193	212	4	68	4	5	6	1975
Approach %	6.77	93.23	0.00	0.16	84.73	15.11	74.65	1.41	23.94	26.67	33.33	40.00	
Pk Hr FACTOR:	0.90			0.92			0.95			0.54			0.9587
AM Pk Hr at:	745												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	12	213	0	1	145	72	55	1	6	0	1	2	508
3:45 PM	11	233	0	2	124	76	62	0	8	0	1	2	519
4:00 PM	13	257	1	3	120	77	57	1	15	0	2	1	547
4:15 PM	26	301	0	2	130	91	55	1	4	0	2	3	615
4:30 PM	13	293	1	4	129	95	67	0	9	1	3	1	616
4:45 PM	16	300	1	3	129	83	61	5	9	0	0	1	608
5:00 PM	21	280	0	0	112	81	83	3	14	1	2	2	599
5:15 PM	27	332	0	2	123	77	67	1	12	0	3	0	644
5:30 PM	33	286	3	4	127	81	73	4	18	1	0	1	631
5:45 PM	32	292	3	3	105	73	76	4	17	1	5	0	611
6:00 PM	17	238	0	1	99	63	74	5	7	0	1	1	506
6:15 PM	10	213	2	2	94	67	44	1	5	0	0	0	438
Volumes	231	3238	11	27	1437	936	774	26	124	4	20	14	6842
Approach %	6.64	93.05	0.32	1.13	59.88	39.00	83.77	2.81	13.42	10.53	52.63	36.84	
App/Depart	3480	/	4026	2400	/	1565	924	/	64	38	/	1187	
Peak Volumes	113	1190	6	9	467	312	299	12	61	3	10	3	2485
Approach %	8.63	90.91	0.46	1.14	59.26	39.59	80.38	3.23	16.40	18.75	62.50	18.75	
Pk Hr FACTOR:	0.91			0.93			0.93			0.67			0.9647
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 41

Intersection Location: College Boulevard &
Faraday Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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Michael Baker

I N T E R N A T I O N A L

College Boulevard at Faraday Avenue

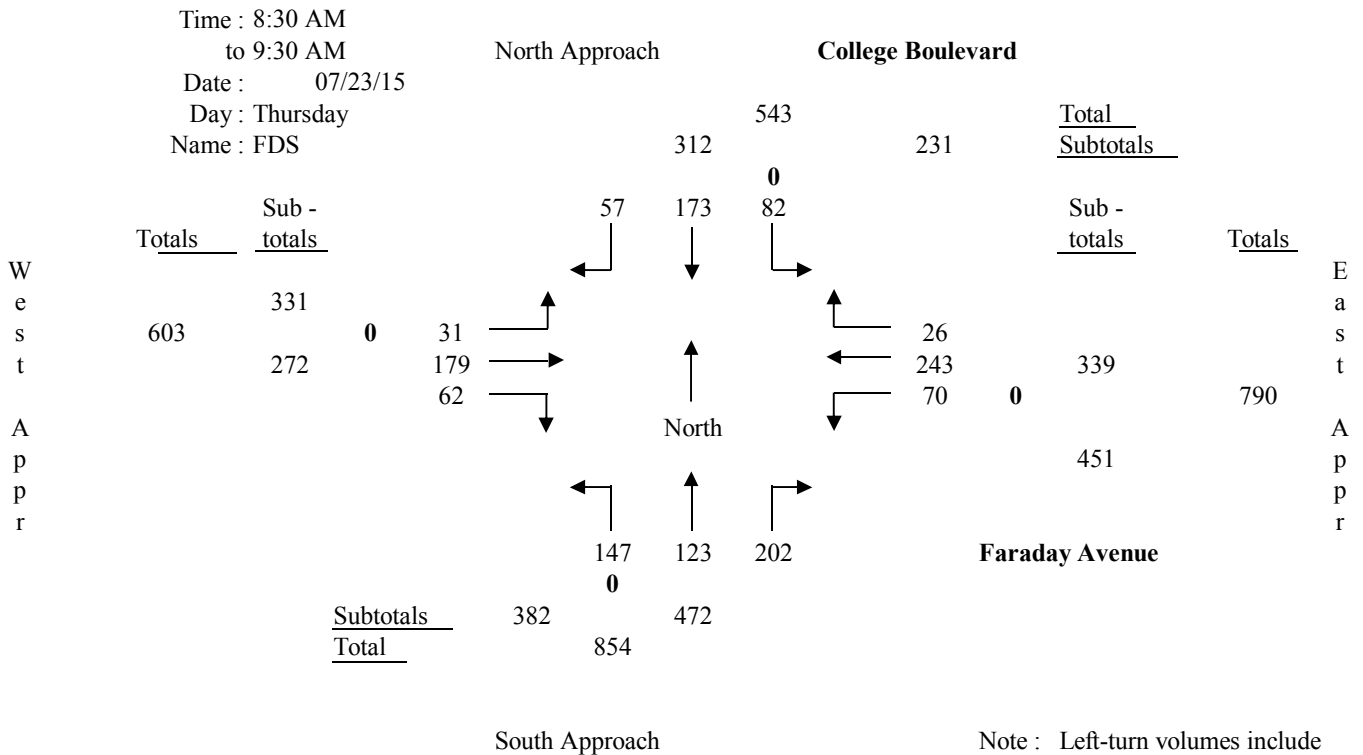
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 8:30 AM to 9:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1		1			1			1		
	(left)	2	1		1				1			1	
		3		1		1			1	1		1	1
		4		1	1	1							
		5											
		6											
	Outside Free-flow	7											
Lane Settings		2	1	1	2	2	0	1	2	0	1	2	0
Capacity		3600	2000	1800	3600	4000	0	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		147	123	202	82	173	57	31	179	62	70	243	26
Adjusted Hourly Volume		147	325	202	82	230	0	31	179	62	70	269	0
Utilization Factor		0.04	0.16	0.11	0.02	0.06	0.00	0.02	0.04	0.00	0.04	0.07	0.00
Critical Factors		0.16			0.02			0.02			0.07		

ICU Ratio = 0.37 LOS = A

Turning Movements at Intersection of :

College Boulevard and Faraday Avenue



Note: The lane configurations shown reflect temporary construction conditions.

College Boulevard at Faraday Avenue

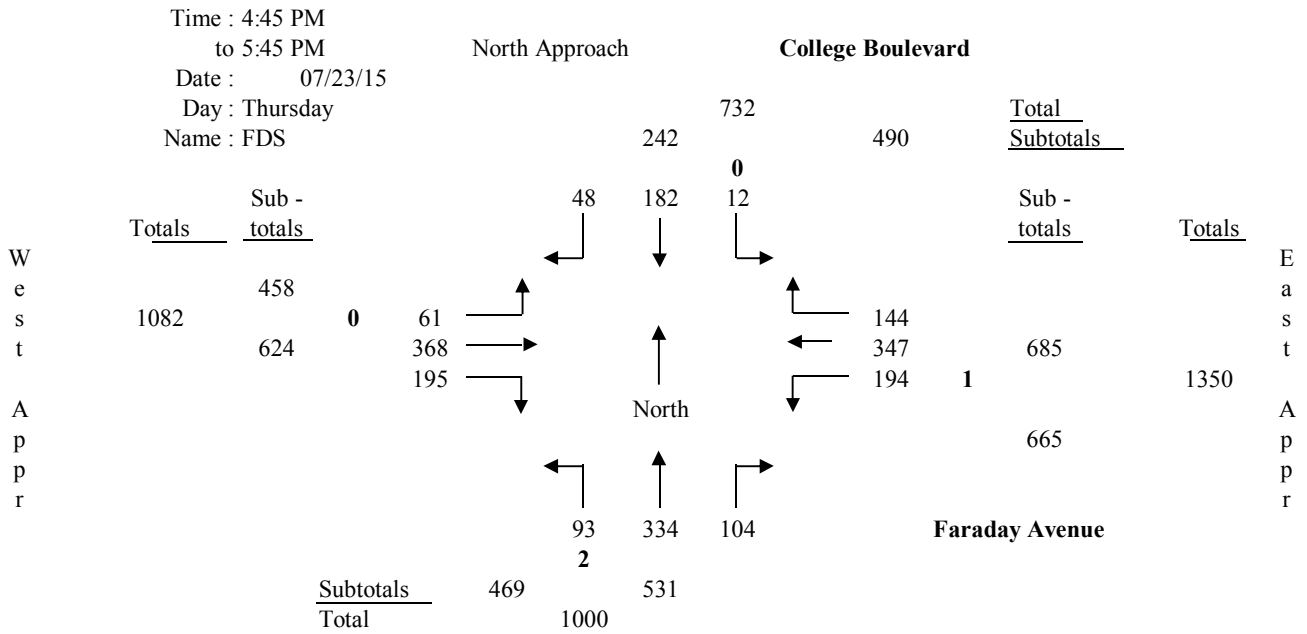
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM	to												
5:45 PM													
Lane Configurations	Inside	1	1		1			1			1		
	(left)	2	1		1				1			1	
		3		1			1		1	1		1	1
		4		1	1								
		5											
		6											
	Outside Free-flow	7											
Lane Settings		2	2	0	2	2	0	1	2	0	1	2	0
Capacity		3600	4000	0	3600	4000	0	1800	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		93	334	104	12	182	48	61	368	195	194	347	144
Adjusted Hourly Volume		93	438	0	12	230	0	61	368	195	194	491	0
Utilization Factor		0.03	0.11	0.00	0.00	0.06	0.00	0.03	0.09	0.00	0.11	0.12	0.00
Critical Factors			0.11		0.00				0.09		0.11		

ICU Ratio = 0.41 LOS = A

Turning Movements at Intersection of:

College Boulevard and Faraday Avenue



Note : Left-turn volumes include U-turns. U-turns in bold.

Note: The lane configurations shown reflect temporary construction conditions.

N-S STREET: College Blvd.

DATE: 07/23/2015

LOCATION: Carlsbad

E-W STREET: Faraday Ave.

DAY: THURSDAY

PROJECT# 15-1194-041

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	0	2	2	0	1	2	0	1	2	0	
6:30 AM	18	15	11	25	34	12	4	24	6	23	49	6	227
6:45 AM	38	20	24	63	61	16	1	41	13	21	53	15	366
7:00 AM	10	9	14	12	18	18	6	32	6	12	38	3	178
7:15 AM	30	15	26	33	85	43	6	37	45	18	69	6	413
7:30 AM	27	26	16	23	67	20	7	40	16	25	51	8	326
7:45 AM	13	19	19	29	46	25	9	47	15	15	36	4	277
8:00 AM	48	43	36	38	53	18	3	41	13	13	44	9	359
8:15 AM	29	20	24	37	41	13	3	40	8	15	43	5	278
8:30 AM	19	22	41	16	33	9	9	38	19	9	35	7	257
8:45 AM	39	34	43	22	62	23	8	48	10	15	71	6	381
9:00 AM	57	34	70	25	45	11	10	46	16	19	82	7	422
9:15 AM	32	33	48	19	33	14	4	47	17	27	55	6	335
Volumes	360	290	372	342	578	222	70	481	184	212	626	82	3819
Approach %	35.23	28.38	36.40	29.95	50.61	19.44	9.52	65.44	25.03	23.04	68.04	8.91	
App/Depart	1022	/	442	1142	/	974	735	/	1195	920	/	1208	
Peak Volumes	147	123	202	82	173	57	31	179	62	70	243	26	1395
Approach %	31.14	26.06	42.80	26.28	55.45	18.27	11.40	65.81	22.79	20.65	71.68	7.67	
Pk Hr FACTOR:	0.73			0.73			0.94			0.78			0.8264
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	19	65	20	5	46	7	10	51	31	36	56	32	378
3:45 PM	19	67	15	5	42	9	14	60	26	48	59	26	390
4:00 PM	23	95	20	2	41	8	24	43	39	38	60	39	432
4:15 PM	27	70	22	6	43	7	14	78	25	38	63	25	418
4:30 PM	20	68	37	3	25	12	10	65	43	51	69	32	435
4:45 PM	18	87	19	4	45	17	11	65	31	31	70	30	428
5:00 PM	30	108	26	2	43	15	25	113	73	61	117	55	668
5:15 PM	27	68	34	4	52	8	12	97	60	56	88	31	537
5:30 PM	18	71	25	2	42	8	13	93	31	46	72	28	449
5:45 PM	13	50	14	0	28	5	16	63	38	38	36	19	320
6:00 PM	19	54	12	2	41	5	9	49	38	33	44	10	316
6:15 PM	11	41	6	2	22	6	5	24	19	33	19	10	198
Volumes	244	844	250	37	470	107	163	801	454	509	753	337	4969
Approach %	18.24	63.08	18.68	6.03	76.55	17.43	11.50	56.49	32.02	31.83	47.09	21.08	
App/Depart	1338	/	1344	614	/	1433	1418	/	1088	1599	/	1104	
Peak Volumes	93	334	104	12	182	48	61	368	195	194	347	144	2082
Approach %	17.51	62.90	19.59	4.96	75.21	19.83	9.78	58.97	31.25	28.32	50.66	21.02	
Pk Hr FACTOR:	0.81			0.92			0.74			0.73			0.7792
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 42

Intersection Location: I-5 Southbound Ramps &
Carlsbad Village Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

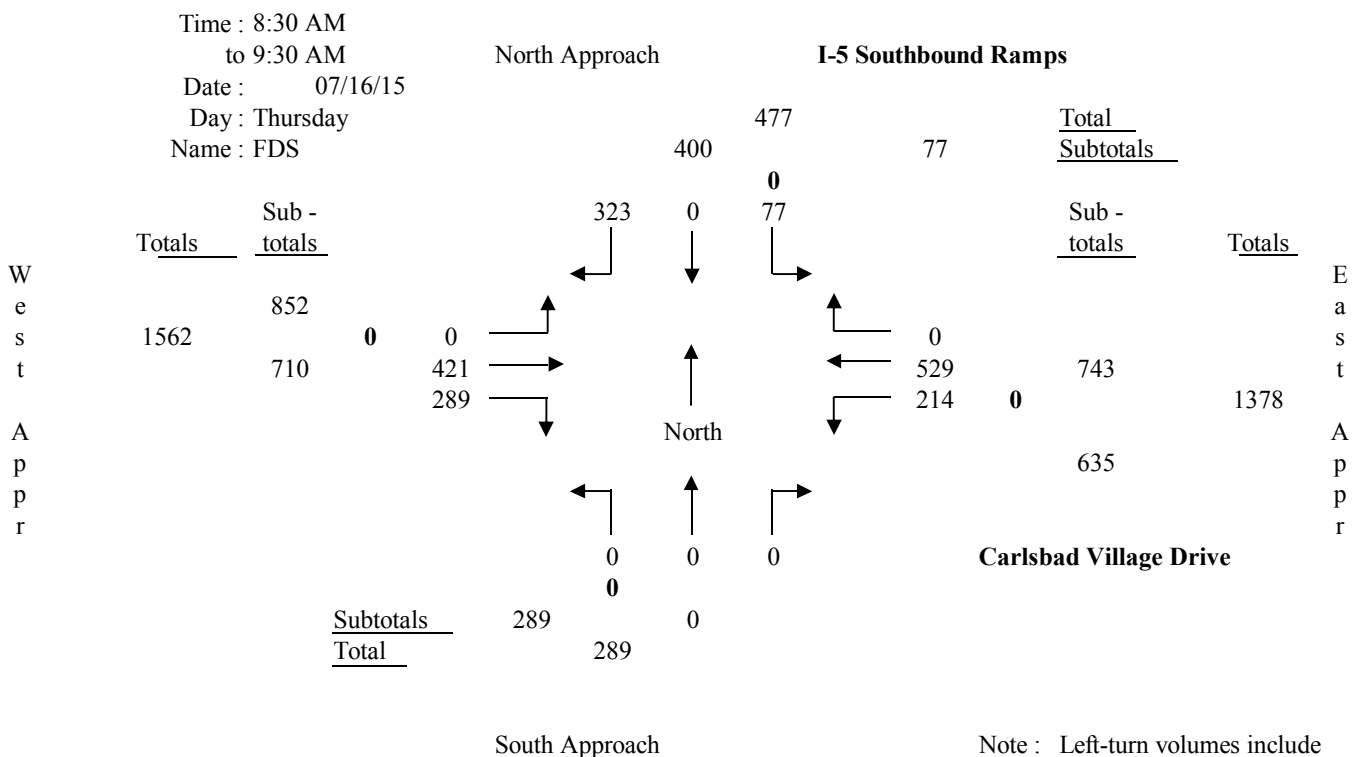
I-5 Southbound Ramps at Carlsbad Village Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :			South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
8:30 AM to														
9:30 AM			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane	Inside	1				1	1	1		1		1		
Config -	(left)	2						1		1	1		1	
urations		3											1	
		4												
		5												
		6												
	Outside	7												
	Free-flow													
Lane Settings			0	0	0	0	0	2	0	2	0	1	2	0
Capacity			0	0	0	0	0	3600	0	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?												N		
Are the East/West phases split (Y/N)?												N		
Efficiency Lost Factor			0.10											
Hourly Volume			0	0	0	77	0	323	0	421	289	214	529	0
Adjusted Hourly Volume			0	0	0	0	0	400	0	710	0	214	529	0
Utilization Factor			0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.18	0.00	0.12	0.13	0.00
Critical Factors			0.00			0.11			0.18			0.12		

ICU Ratio = 0.51 LOS = A

Turning Movements at Intersection of: **I-5 Southbound Ramps and Carlsbad Village Drive**



I-5 Southbound Ramps at Carlsbad Village Drive

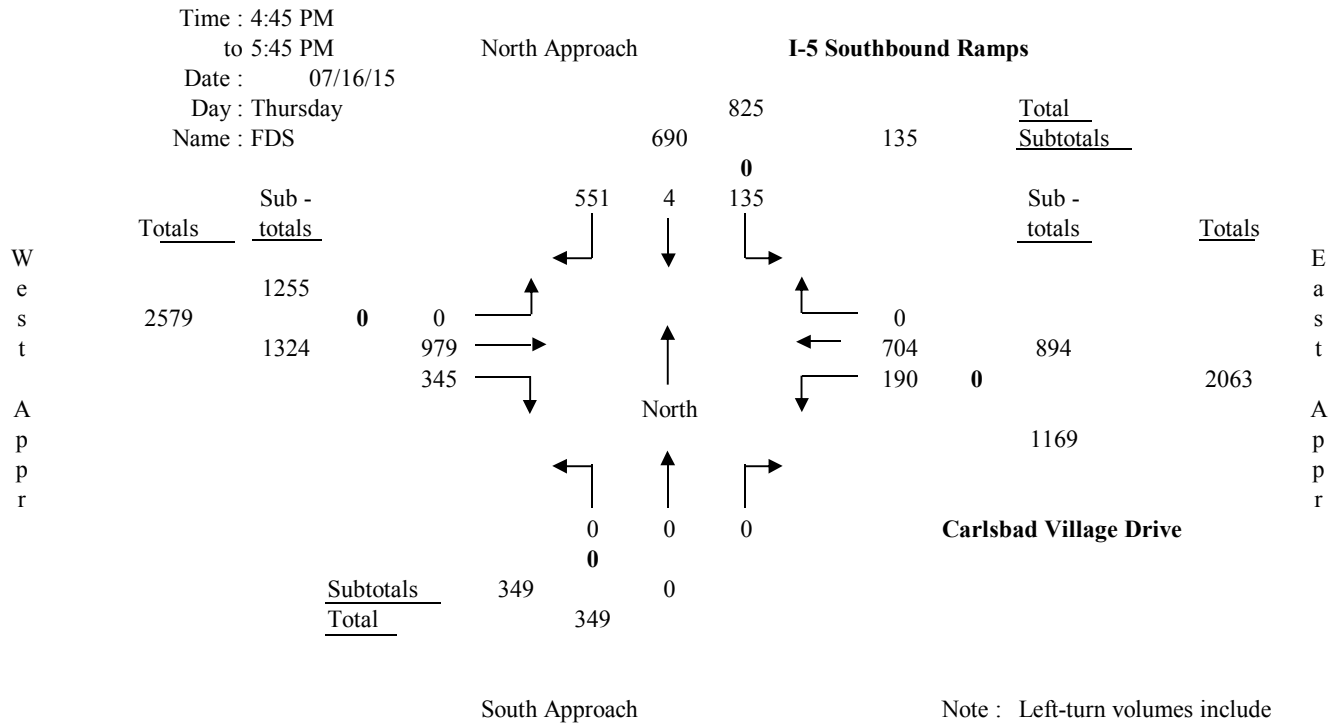
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM	to												
5:45 PM													
Lane Config - urations	Inside	1			1	1	1			1			1
	(left)	2					1		1	1			1
		3											1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	0	0	0	0	2	0	2	0	1	2	0
Capacity		0	0	0	0	0	3600	0	4000	0	1800	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		0	0	0	135	4	551	0	979	345	190	704	0
Adjusted Hourly Volume		0	0	0	0	0	690	0	1324	0	190	704	0
Utilization Factor		0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.33	0.00	0.11	0.18	0.00
Critical Factors		0.00						0.19			0.33		

ICU Ratio = 0.73 LOS = C

Turning Movements at Intersection of :

I-5 Southbound Ramps and Carlsbad Village Drive



N-S STREET: I-5 SB Ramps

DATE: 07/16/2015

LOCATION: Carlsbad

E-W STREET: Carlsbad Village Dr.
CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-042

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0.33	0.33	1.33	0	2	0	1	2	0	
6:30 AM	0	0	0	4	0	30	0	43	58	41	67	0	243
6:45 AM	0	0	0	2	0	42	0	45	50	43	85	0	267
7:00 AM	0	0	0	8	0	57	0	50	75	66	50	0	306
7:15 AM	0	0	0	11	0	58	0	87	54	50	76	0	336
7:30 AM	0	0	0	10	0	65	0	85	58	54	94	0	366
7:45 AM	0	0	0	14	0	60	0	89	65	41	139	0	408
8:00 AM	0	0	0	19	0	75	0	103	60	45	141	0	443
8:15 AM	0	0	0	13	0	87	0	111	69	50	133	0	463
8:30 AM	0	0	0	22	0	80	0	104	60	59	128	0	453
8:45 AM	0	0	0	20	0	88	0	108	66	60	122	0	464
9:00 AM	0	0	0	21	0	69	0	106	76	54	143	0	469
9:15 AM	0	0	0	14	0	86	0	103	87	41	136	0	467
Volumes	0	0	0	158	0	797	0	1034	778	604	1314	0	4685
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	16.54	0.00	83.46	0.00	57.06	42.94	31.49	68.51	0.00	
App/Depart	0	/	0	955	/	1382	1812	/	1192	1918	/	2111	
Peak Volumes	0	0	0	77	0	323	0	421	289	214	529	0	1853
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	19.25	0.00	80.75	0.00	59.30	40.70	28.80	71.20	0.00	
Pk Hr FACTOR:	0.00			0.93			0.93			0.94			0.9877
AM Pk Hr at:	830												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	0	0	0	43	1	130	0	187	109	54	141	0	665
3:45 PM	0	0	0	39	1	122	0	214	96	30	169	0	671
4:00 PM	0	0	0	33	0	104	0	199	99	33	188	0	656
4:15 PM	0	0	0	30	0	108	0	185	90	29	196	0	638
4:30 PM	0	0	0	32	2	103	0	214	87	42	204	0	684
4:45 PM	0	0	0	28	1	128	0	244	75	41	199	0	716
5:00 PM	0	0	0	24	0	141	0	258	80	54	166	0	723
5:15 PM	0	0	0	41	1	143	0	236	103	50	187	0	761
5:30 PM	0	0	0	42	2	139	0	241	87	45	152	0	708
5:45 PM	0	0	0	29	1	120	0	202	74	41	166	0	633
6:00 PM	0	0	0	33	0	104	0	222	77	24	187	0	647
6:15 PM	0	0	0	30	1	79	0	143	70	28	163	0	514
Volumes	0	0	0	404	10	1421	0	2545	1047	471	2118	0	8016
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	22.02	0.54	77.44	0.00	70.85	29.15	18.19	81.81	0.00	
App/Depart	0	/	0	1835	/	1528	3592	/	2949	2589	/	3539	
Peak Volumes	0	0	0	135	4	551	0	979	345	190	704	0	2908
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	19.57	0.58	79.86	0.00	73.94	26.06	21.25	78.75	0.00	
Pk Hr FACTOR:	0.00			0.93			0.98			0.93			0.9553
PM Pk Hr at:	445												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 43

Intersection Location: I-5 Northbound Ramps &
Carlsbad Village Drive

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
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	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

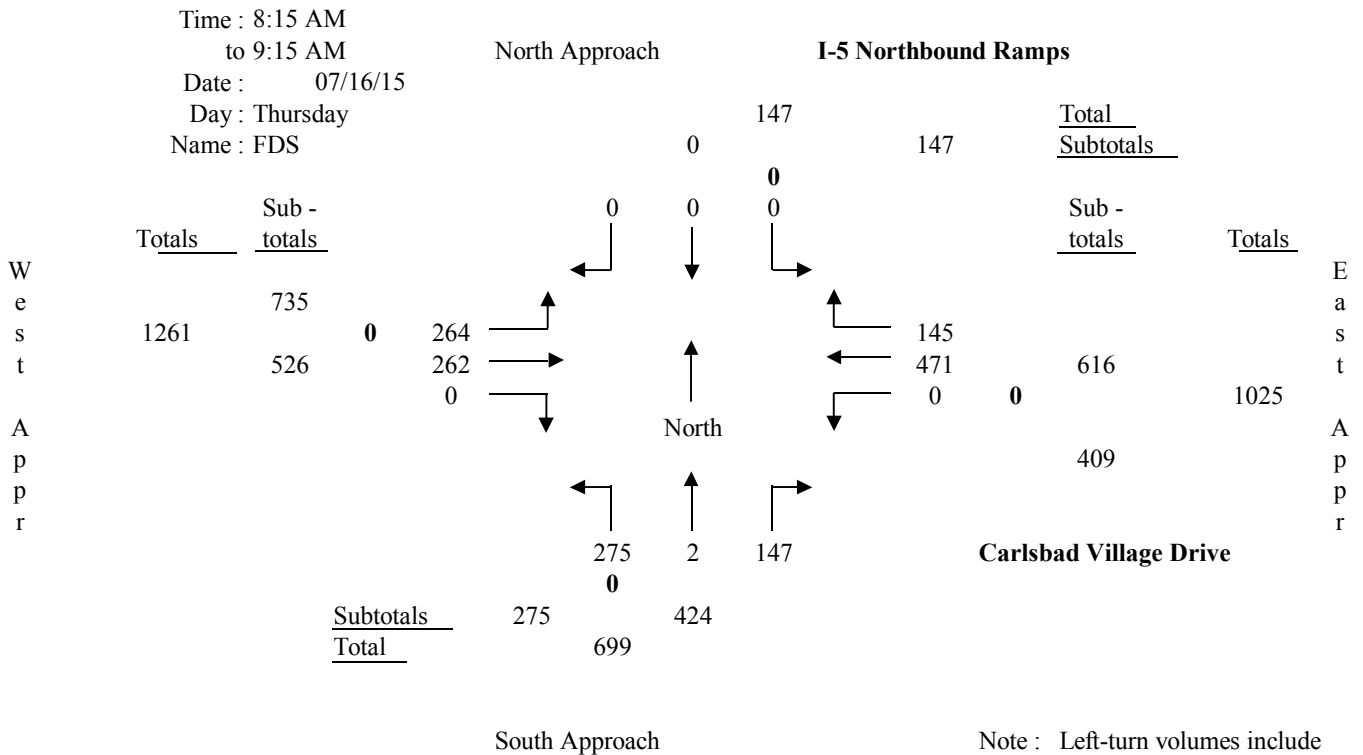
I-5 Northbound Ramps at Carlsbad Village Drive

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15 AM	to												
9:15 AM													
Lane Configurations	Inside	1	1	1				1				1	
	(left)	2							1			1	1
		3								1			
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	1	0	0	0	1	2	0	0	2	0
Capacity		1800	0	1800	0	0	0	1800	4000	0	0	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		275	2	147	0	0	0	264	262	0	0	471	145
Adjusted Hourly Volume		277	0	147	0	0	0	264	262	0	0	616	0
Utilization Factor		0.15	0.00	0.08	0.00	0.00	0.00	0.15	0.07	0.00	0.00	0.15	0.00
Critical Factors		0.15				0.00	0.00	0.15				0.15	

ICU Ratio = 0.55 LOS = A

Turning Movements at Intersection of : I-5 Northbound Ramps and Carlsbad Village Drive



Note : Left-turn volumes include U-turns. U-turns in bold.

I-5 Northbound Ramps at Carlsbad Village Drive

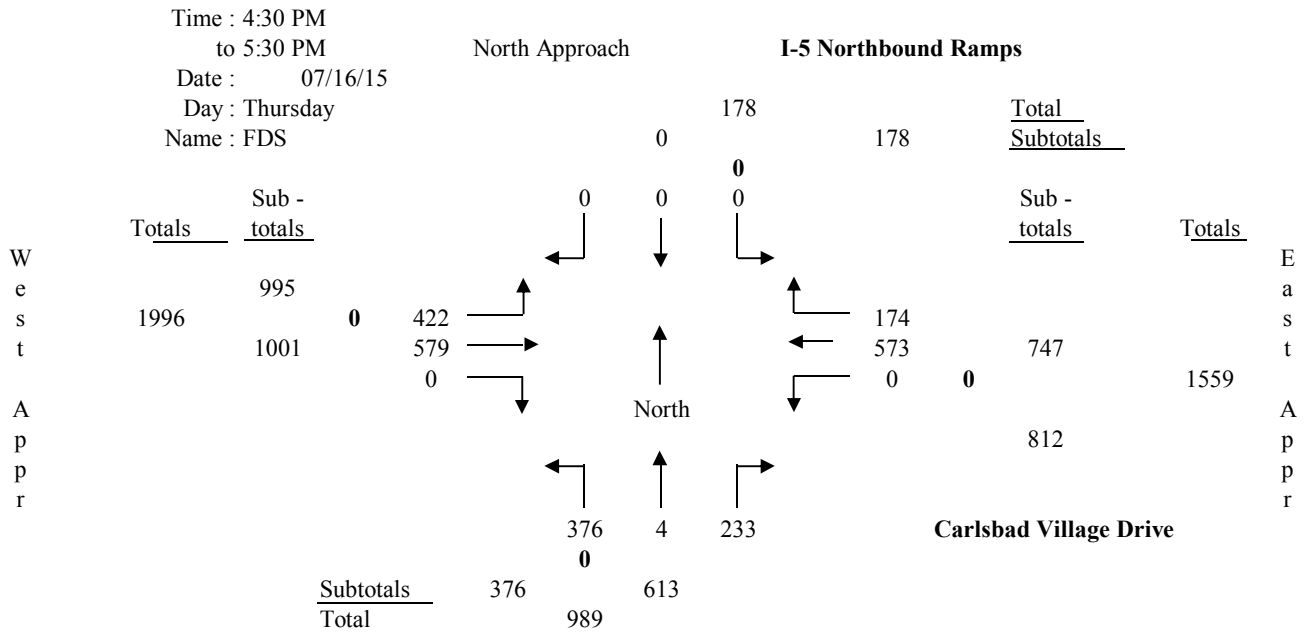
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 4:30 PM to 5:30 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config-urations	Inside (left)	1	1	1				1				1	
		2							1			1	1
		3							1				
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	1	0	0	0	1	2	0	0	2	0
Capacity		1800	0	1800	0	0	0	1800	4000	0	0	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		376	4	233	0	0	0	422	579	0	0	573	174
Adjusted Hourly Volume		380	0	233	0	0	0	422	579	0	0	747	0
Utilization Factor		0.21	0.00	0.13	0.00	0.00	0.00	0.23	0.14	0.00	0.00	0.19	0.00
Critical Factors		0.21				0.00	0.00	0.23				0.19	

ICU Ratio = 0.73 LOS = C

Turning Movements at Intersection of:

I-5 Northbound Ramps and Carlsbad Village Drive



South Approach

Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: I-5 NB Ramps

DATE: 07/16/2015

LOCATION: Carlsbad

E-W STREET: Carlsbad Village Dr.
CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-043

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	1	0	0	0	1	2	0	0	2	0	
6:30 AM	28	0	22	0	0	0	29	28	0	0	82	28	217
6:45 AM	24	0	20	0	0	0	41	24	0	0	103	22	234
7:00 AM	29	0	25	0	0	0	54	29	0	0	85	26	248
7:15 AM	41	0	24	0	0	0	65	40	0	0	87	30	287
7:30 AM	45	0	41	0	0	0	60	46	0	0	104	32	328
7:45 AM	50	0	42	0	0	0	66	60	0	0	131	25	374
8:00 AM	58	0	29	0	0	0	59	65	0	0	133	24	368
8:15 AM	54	0	33	0	0	0	75	58	0	0	128	41	389
8:30 AM	74	1	30	0	0	0	60	57	0	0	104	42	368
8:45 AM	77	0	41	0	0	0	66	77	0	0	111	29	401
9:00 AM	70	1	43	0	0	0	63	70	0	0	128	33	408
9:15 AM	63	1	22	0	0	0	43	54	0	0	122	21	326
Volumes	613	3	372	0	0	0	681	608	0	0	1318	353	3948
Approach %	62.04	0.30	37.65	#DIV/0!	#DIV/0!	#DIV/0!	52.83	47.17	0.00	0.00	78.87	21.13	
App/Depart	988	/	1037	0	/	0	1289	/	980	1671	/	1931	
Peak Volumes	275	2	147	0	0	0	264	262	0	0	471	145	1566
Approach %	64.86	0.47	34.67	#DIV/0!	#DIV/0!	#DIV/0!	50.19	49.81	0.00	0.00	76.46	23.54	
Pk Hr FACTOR:	0.90			0.00			0.92			0.91			0.9596
AM Pk Hr at:	815												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	76	1	41	0	0	0	85	143	0	0	120	28	494
3:45 PM	80	1	43	0	0	0	104	139	0	0	122	29	518
4:00 PM	87	0	60	0	0	0	122	133	0	0	128	33	563
4:15 PM	85	0	65	0	0	0	131	141	0	0	141	30	593
4:30 PM	103	2	54	0	0	0	112	128	0	0	147	41	587
4:45 PM	85	1	75	0	0	0	103	122	0	0	154	42	582
5:00 PM	89	0	50	0	0	0	111	163	0	0	133	50	596
5:15 PM	99	1	54	0	0	0	96	166	0	0	139	41	596
5:30 PM	60	0	41	0	0	0	74	154	0	0	143	42	514
5:45 PM	65	0	42	0	0	0	85	147	0	0	141	52	532
6:00 PM	87	0	29	0	0	0	101	141	0	0	130	28	516
6:15 PM	74	1	30	0	0	0	111	128	0	0	123	24	491
Volumes	990	7	584	0	0	0	1235	1705	0	0	1621	440	6582
Approach %	62.62	0.44	36.94	#DIV/0!	#DIV/0!	#DIV/0!	42.01	57.99	0.00	0.00	78.65	21.35	
App/Depart	1581	/	1682	0	/	0	2940	/	2289	2061	/	2611	
Peak Volumes	376	4	233	0	0	0	422	579	0	0	573	174	2361
Approach %	61.34	0.65	38.01	#DIV/0!	#DIV/0!	#DIV/0!	42.16	57.84	0.00	0.00	76.71	23.29	
Pk Hr FACTOR:	0.95			0.00			0.91			0.95			0.9904
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 44

Intersection Location: I-5 Southbound Ramps &
Tamarack Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

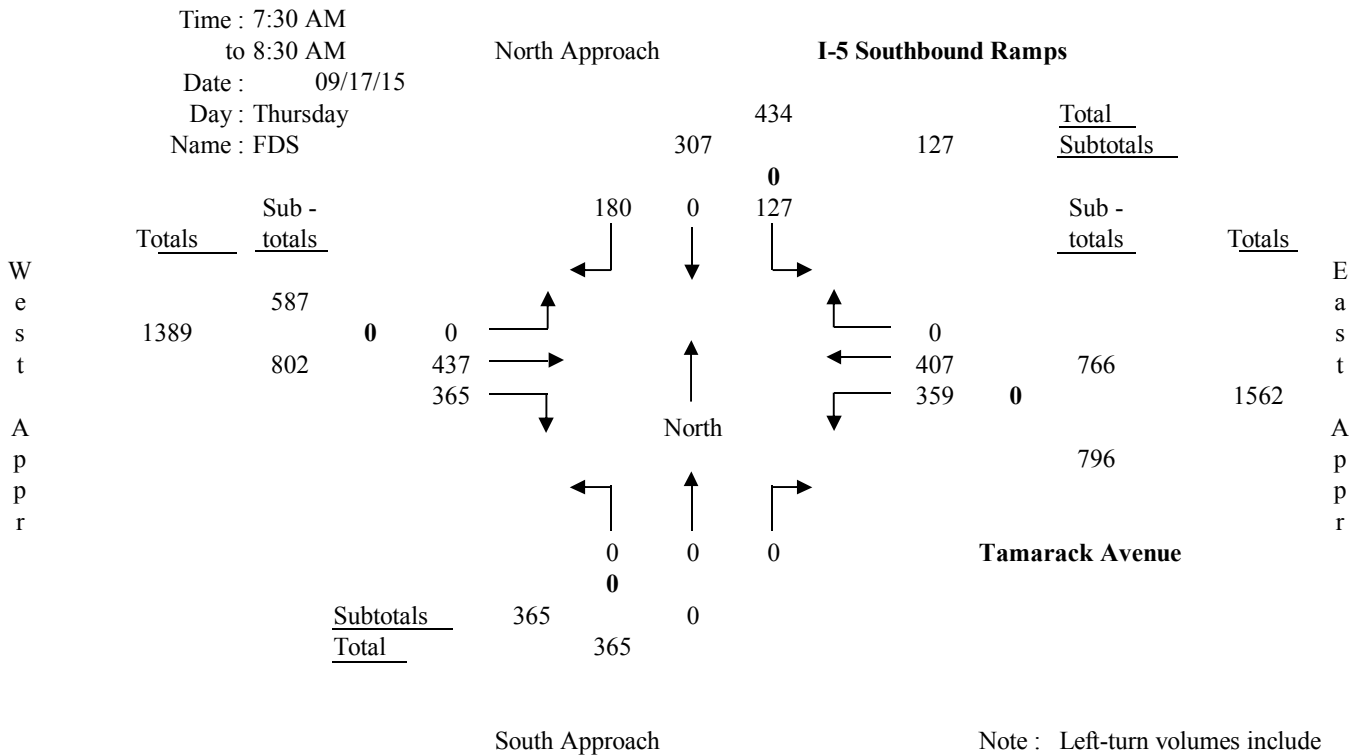
I-5 Southbound Ramps at Tamarack Avenue

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30 AM	to												
8:30 AM													
Lane Configurations	Inside (left)	1			1	1			1		1		
		2					1		1			1	
		3								1			1
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	0	0	1	0	1	0	2	1	1	2	0
Capacity		0	0	0	1800	0	1800	0	4000	1800	1800	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		0	0	0	127	0	180	0	437	365	359	407	0
Adjusted Hourly Volume		0	0	0	127	0	180	0	437	365	359	407	0
Utilization Factor		0.00	0.00	0.00	0.07	0.00	0.10	0.00	0.11	0.20	0.20	0.10	0.00
Critical Factors		0.00						0.10			0.20		

ICU Ratio = 0.60 LOS = A

Turning Movements at Intersection of : **I-5 Southbound Ramps and Tamarack Avenue**



Note : Left-turn volumes include U-turns. U-turns in bold.

I-5 Southbound Ramps at Tamarack Avenue

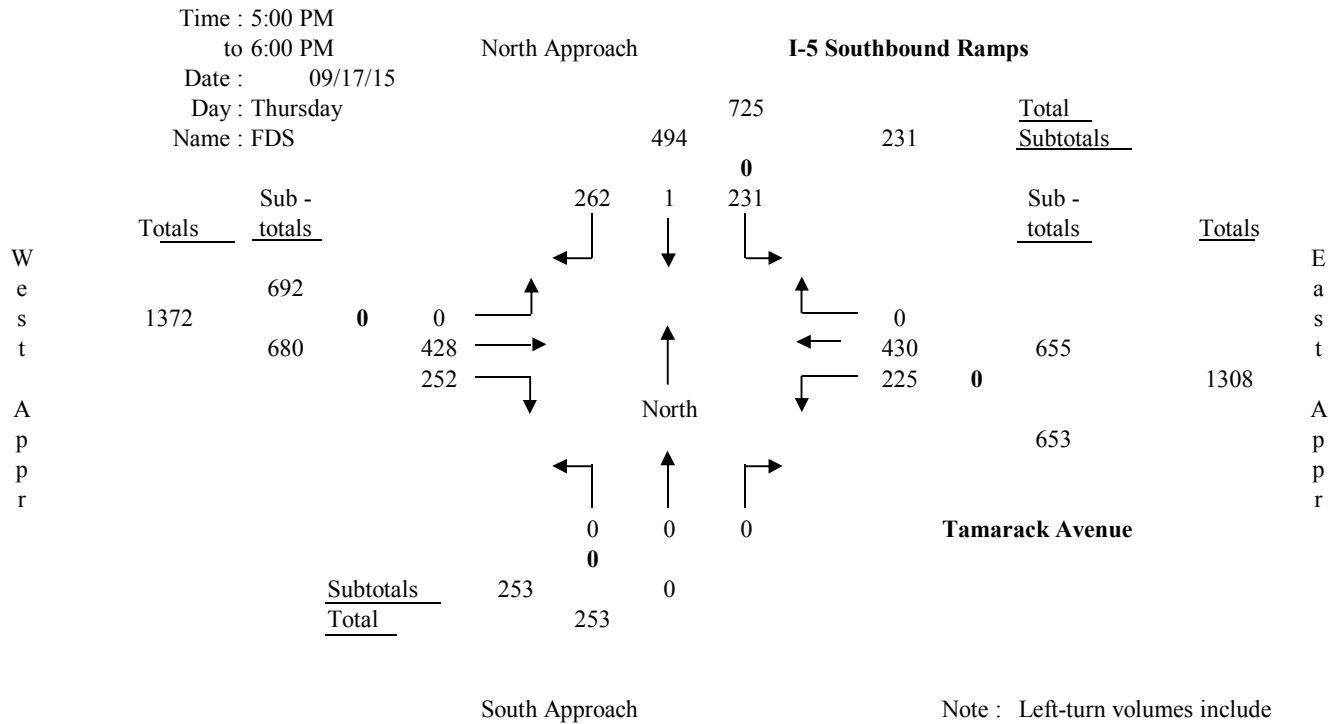
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5:00 PM	to													
6:00 PM														
Lane Configurations	Inside	1			1	1			1			1		
	(left)	2					1		1				1	
		3									1			
		4												
		5												
		6												
	Outside Free-flow	7												
Lane Settings		0	0	0	1	0	1	0	2	1	1	2	0	
Capacity		0	0	0	1800	0	1800	0	4000	1800	1800	4000	0	
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor		0.10												
Hourly Volume		0	0	0	231	1	262	0	428	252	225	430	0	
Adjusted Hourly Volume		0	0	0	232	0	262	0	428	252	225	430	0	
Utilization Factor		0.00	0.00	0.00	0.13	0.00	0.15	0.00	0.11	0.14	0.13	0.11	0.00	
Critical Factors		0.00									0.14	0.13		

ICU Ratio = 0.52 LOS = A

Turning Movements at Intersection of :

I-5 Southbound Ramps and Tamarack Avenue





N-S STREET: I-5 SB Ramps

DATE: 09/17/2015

LOCATION: Carlsbad

E-W STREET: Tamarack Ave.
CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-044

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0.5	0.5	1	0	2	1	1	2	0	
6:30 AM	0	0	0	14	0	36	0	62	101	88	33	0	334
6:45 AM	0	0	0	9	0	35	0	74	87	72	40	0	317
7:00 AM	0	0	0	22	0	30	0	86	82	104	43	0	367
7:15 AM	0	0	0	21	0	39	0	69	82	109	88	0	408
7:30 AM	0	0	0	37	0	38	0	130	105	110	94	0	514
7:45 AM	0	0	0	32	0	51	0	106	82	102	129	0	502
8:00 AM	0	0	0	28	0	44	0	98	105	69	97	0	441
8:15 AM	0	0	0	30	0	47	0	103	73	78	87	0	418
8:30 AM	0	0	0	23	0	29	0	61	70	72	78	0	333
8:45 AM	0	0	0	17	1	33	0	68	73	67	67	0	326
9:00 AM	0	0	0	28	1	42	0	69	68	58	56	0	322
9:15 AM	0	0	0	30	0	21	0	79	67	70	57	0	324
Volumes	0	0	0	291	2	445	0	1005	995	999	869	0	4606
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	39.43	0.27	60.30	0.00	50.25	49.75	53.48	46.52	0.00	
App/Depart	0	/	0	738	/	1996	2000	/	1296	1868	/	1314	
Peak Volumes	0	0	0	127	0	180	0	437	365	359	407	0	1875
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	41.37	0.00	58.63	0.00	54.49	45.51	46.87	53.13	0.00	
Pk Hr FACTOR:	0.00			0.92			0.85			0.83			0.912
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	0	0	0	33	2	57	0	94	54	89	74	0	403
3:45 PM	0	0	0	42	0	54	0	91	39	58	90	0	374
4:00 PM	0	0	0	41	1	48	0	83	77	65	97	0	412
4:15 PM	0	0	0	52	0	51	0	97	60	58	98	0	416
4:30 PM	0	0	0	39	0	50	0	134	53	57	100	0	433
4:45 PM	0	0	0	44	0	64	0	111	53	71	97	0	440
5:00 PM	0	0	0	64	0	71	0	111	72	66	125	0	509
5:15 PM	0	0	0	54	0	55	0	108	55	63	103	0	438
5:30 PM	0	0	0	57	1	65	0	110	57	40	105	0	435
5:45 PM	0	0	0	56	0	71	0	99	68	56	97	0	447
6:00 PM	0	0	0	51	0	57	0	97	56	61	108	0	430
6:15 PM	0	0	0	46	0	49	0	84	58	59	87	0	383
Volumes	0	0	0	579	4	692	0	1219	702	743	1181	0	5120
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	45.41	0.31	54.27	0.00	63.46	36.54	38.62	61.38	0.00	
App/Depart	0	/	0	1275	/	1449	1921	/	1798	1924	/	1873	
Peak Volumes	0	0	0	231	1	262	0	428	252	225	430	0	1829
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	46.76	0.20	53.04	0.00	62.94	37.06	34.35	65.65	0.00	
Pk Hr FACTOR:	0.00			0.91			0.93			0.86			0.8983
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 45

Intersection Location: I-5 Northbound Ramps &
Tamarack Avenue

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

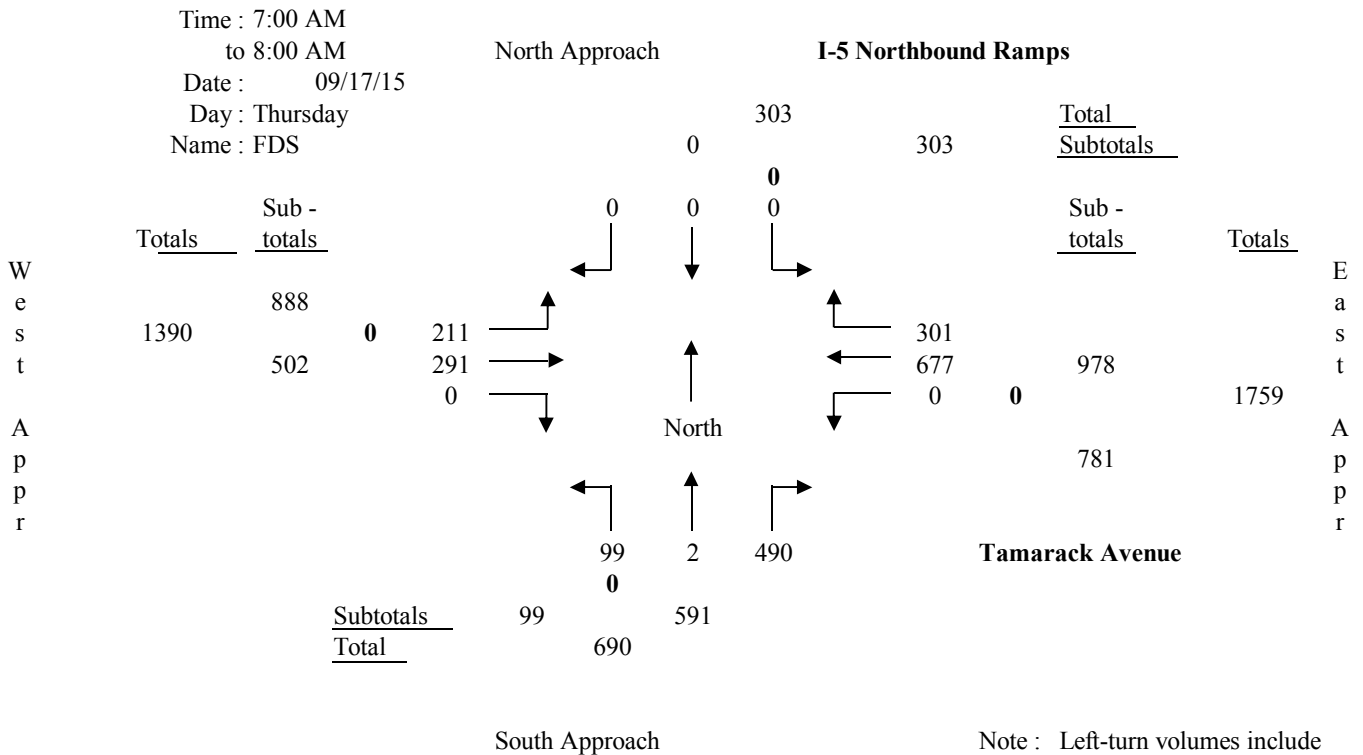
I-5 Northbound Ramps at Tamarack Avenue

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:00 AM to 8:00 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1	1				1				1	
	(left)	2							1			1	1
		3								1			
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	1	0	0	0	1	2	0	0	2	0
Capacity		1800	0	1800	0	0	0	1800	4000	0	0	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		99	2	490	0	0	0	211	291	0	0	677	301
Adjusted Hourly Volume		101	0	490	0	0	0	211	291	0	0	978	0
Utilization Factor		0.06	0.00	0.27	0.00	0.00	0.00	0.12	0.07	0.00	0.00	0.24	0.00
Critical Factors				0.27	0.00			0.12				0.24	

ICU Ratio = 0.73 LOS = C

Turning Movements at Intersection of : **I-5 Northbound Ramps and Tamarack Avenue**



I-5 Northbound Ramps at Tamarack Avenue

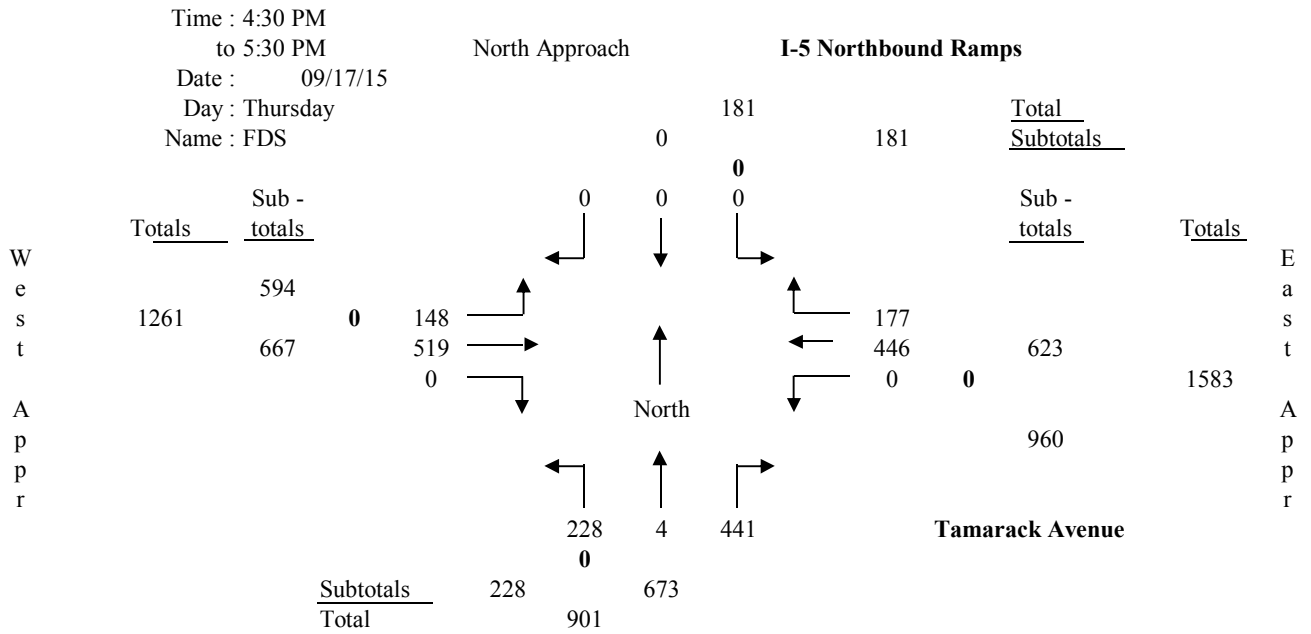
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM	to												
5:30 PM													
Lane Config - urations	Inside	1	1	1				1				1	
	(left)	2							1			1	1
		3								1			
		4											
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	1	0	0	0	1	2	0	0	2	0
Capacity		1800	0	1800	0	0	0	1800	4000	0	0	4000	0
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		228	4	441	0	0	0	148	519	0	0	446	177
Adjusted Hourly Volume		232	0	441	0	0	0	148	519	0	0	623	0
Utilization Factor		0.13	0.00	0.25	0.00	0.00	0.00	0.08	0.13	0.00	0.00	0.16	0.00
Critical Factors				0.25	0.00			0.08				0.16	

ICU Ratio = 0.59 LOS = A

Turning Movements at Intersection of:

I-5 Northbound Ramps and Tamarack Avenue





N-S STREET: I-5 NB Ramps

DATE: 09/17/2015

LOCATION: Carlsbad

E-W STREET: Tamarack Ave.
CONTROL: Signal

DAY: THURSDAY

PROJECT# 15-1194-045

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	1	0	0	0	1	2	0	0	2	0	
6:30 AM	11	0	35	0	0	0	35	39	0	0	107	49	276
6:45 AM	16	0	64	0	0	0	53	33	0	0	95	63	324
7:00 AM	18	2	160	0	0	0	49	58	0	0	130	46	463
7:15 AM	18	0	127	0	0	0	33	59	0	0	178	68	483
7:30 AM	26	0	121	0	0	0	59	105	0	0	176	88	575
7:45 AM	37	0	82	0	0	0	70	69	0	0	193	99	550
8:00 AM	29	0	56	0	0	0	50	75	0	0	136	59	405
8:15 AM	33	0	99	0	0	0	59	73	0	0	133	48	445
8:30 AM	22	1	47	0	0	0	47	39	0	0	125	47	328
8:45 AM	19	4	48	0	0	0	50	36	0	0	117	49	323
9:00 AM	31	0	60	0	0	0	22	76	0	0	84	35	308
9:15 AM	25	1	44	0	0	0	34	75	0	0	103	40	322
Volumes	285	8	943	0	0	0	561	737	0	0	1577	691	4802
Approach %	23.06	0.65	76.29	#DIV/0!	#DIV/0!	#DIV/0!	43.22	56.78	0.00	0.00	69.53	30.47	
App/Depart	1236	/	1260	0	/	0	1298	/	1680	2268	/	1862	
Peak Volumes	99	2	490	0	0	0	211	291	0	0	677	301	2071
Approach %	16.75	0.34	82.91	#DIV/0!	#DIV/0!	#DIV/0!	42.03	57.97	0.00	0.00	69.22	30.78	
Pk Hr FACTOR:	0.82			0.00			0.77			0.84			0.9004
AM Pk Hr at:	700												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	56	1	102	0	0	0	40	86	0	0	105	45	435
3:45 PM	55	0	96	0	0	0	44	87	0	0	92	38	412
4:00 PM	62	0	86	0	0	0	39	86	0	0	103	47	423
4:15 PM	45	1	103	0	0	0	39	109	0	0	109	37	443
4:30 PM	62	0	101	0	0	0	37	137	0	0	96	50	483
4:45 PM	51	1	109	0	0	0	32	124	0	0	115	45	477
5:00 PM	59	1	128	0	0	0	47	129	0	0	130	46	540
5:15 PM	56	2	103	0	0	0	32	129	0	0	105	36	463
5:30 PM	51	0	113	0	0	0	20	145	0	0	93	42	464
5:45 PM	47	0	144	0	0	0	42	112	0	0	105	43	493
6:00 PM	54	0	132	0	0	0	29	117	0	0	114	39	485
6:15 PM	52	0	142	0	0	0	31	98	0	0	93	27	443
Volumes	650	6	1359	0	0	0	432	1359	0	0	1260	495	5561
Approach %	32.26	0.30	67.44	#DIV/0!	#DIV/0!	#DIV/0!	24.12	75.88	0.00	0.00	71.79	28.21	
App/Depart	2015	/	933	0	/	0	1791	/	2718	1755	/	1910	
Peak Volumes	228	4	441	0	0	0	148	519	0	0	446	177	1963
Approach %	33.88	0.59	65.53	#DIV/0!	#DIV/0!	#DIV/0!	22.19	77.81	0.00	0.00	71.59	28.41	
Pk Hr FACTOR:	0.89			0.00			0.95			0.88			0.9088
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 46

Intersection Location: I-5 Southbound Ramps &
Cannon Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

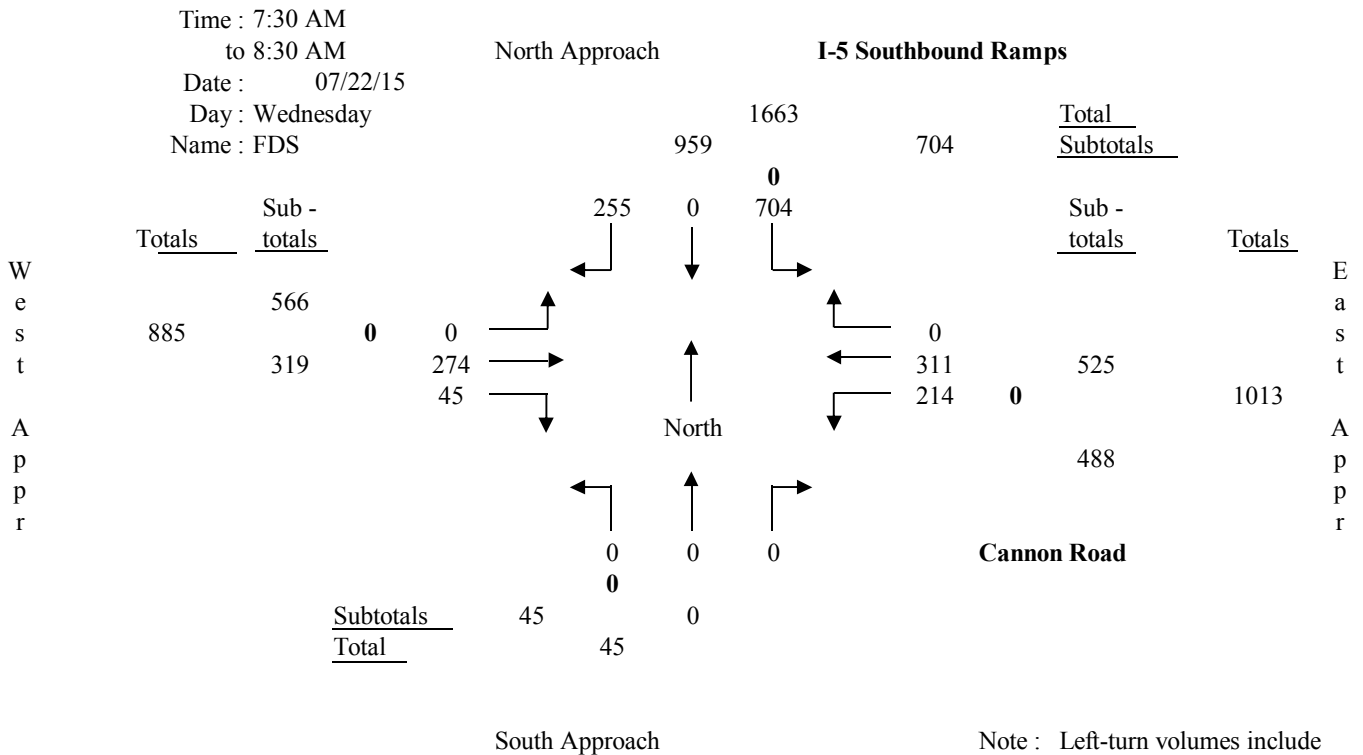
I-5 Southbound Ramps at Cannon Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :			South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
7:30 AM to 8:30 AM			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1				1				1		1		
		2				1	1			1		1		
		3						1			1		1	
		4											1	
		5											1	
		6												
	Outside Free-flow	7												
Lane Settings			0	0	0	2	0	1	0	2	1	2	2	0
Capacity			0	0	0	3600	0	1800	0	4000	1800	3600	4000	0
Are the North/South phases split (Y/N)?					N									
Are the East/West phases split (Y/N)?					N									
Efficiency Lost Factor			0.10											
Hourly Volume			0	0	0	704	0	255	0	274	45	214	311	0
Adjusted Hourly Volume			0	0	0	704	0	255	0	274	45	214	311	0
Utilization Factor			0.00	0.00	0.00	0.20	0.00	0.14	0.00	0.07	0.03	0.06	0.08	0.00
Critical Factors				0.00	0.00	0.20				0.07		0.06		

ICU Ratio = 0.43 LOS = A

Turning Movements at Intersection of : I-5 Southbound Ramps and Cannon Road



I-5 Southbound Ramps at Cannon Road

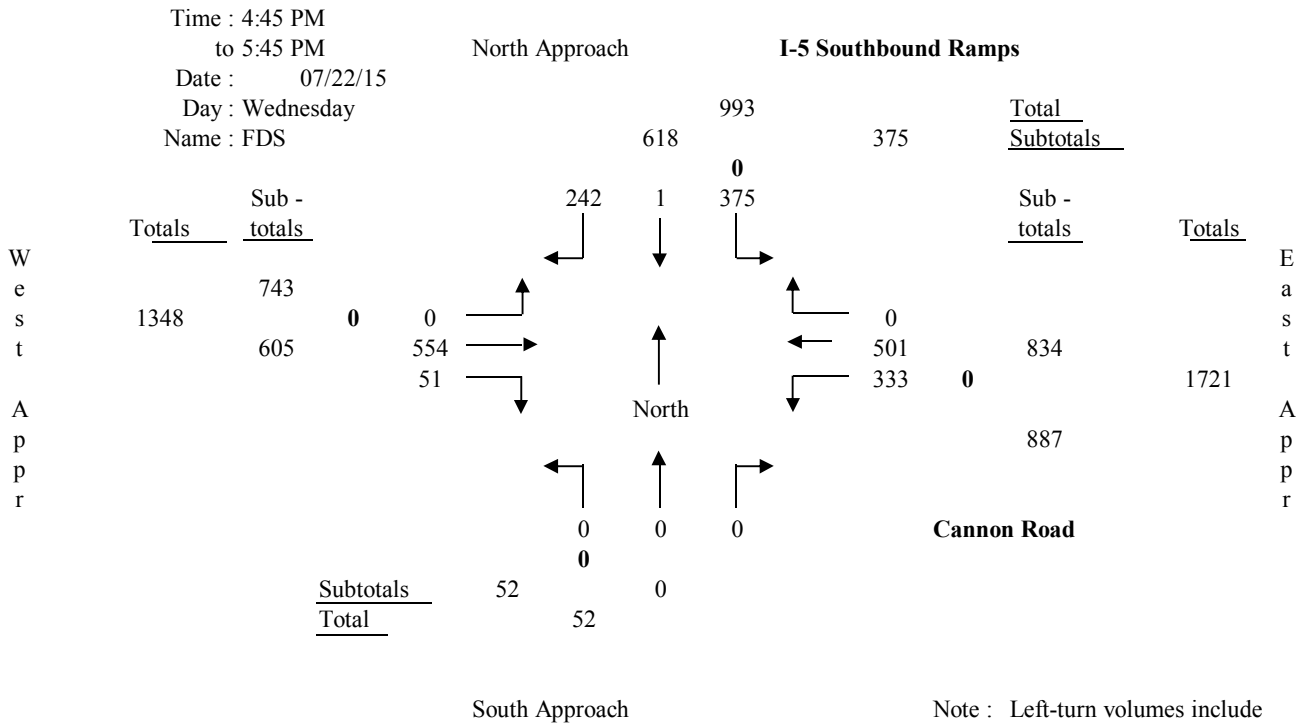
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:45 PM	to												
5:45 PM													
Lane Configurations	Inside	1			1				1			1	
	(left)	2			1	1			1		1		
		3					1			1		1	
		4										1	
		5											
		6											
	Outside Free-flow	7											
Lane Settings		0	0	0	2	0	1	0	2	1	2	2	0
Capacity		0	0	0	3600	0	1800	0	4000	1800	3600	4000	0
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		0	0	0	375	1	242	0	554	51	333	501	0
Adjusted Hourly Volume		0	0	0	375	0	243	0	554	51	333	501	0
Utilization Factor		0.00	0.00	0.00	0.10	0.00	0.14	0.00	0.14	0.03	0.09	0.13	0.00
Critical Factors		0.00					0.14		0.14		0.09		

ICU Ratio = 0.47 LOS = A

Turning Movements at Intersection of:

I-5 Southbound Ramps and Cannon Road





N-S STREET: I-5 Southbound Ramps

DATE: 07/22/2015

LOCATION: Carlsbad

E-W STREET: Cannon Rd.

DAY: WEDNESDAY

PROJECT# 15-1194-046

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	1.5	0.5	1	0	2	0	1	2	0	
6:30 AM	0	0	0	90	3	30	0	42	4	39	82	0	290
6:45 AM	0	0	0	88	1	31	0	82	12	59	105	0	378
7:00 AM	0	0	0	138	0	39	0	76	9	54	76	0	392
7:15 AM	0	0	0	95	0	35	0	59	5	32	89	0	315
7:30 AM	0	0	0	261	0	78	0	76	5	49	99	0	568
7:45 AM	0	0	0	157	0	73	0	103	16	60	76	0	485
8:00 AM	0	0	0	134	0	48	0	54	9	54	76	0	375
8:15 AM	0	0	0	152	0	56	0	41	15	51	60	0	375
8:30 AM	0	0	0	180	0	46	0	42	13	47	73	0	401
8:45 AM	0	0	0	171	1	36	0	28	20	50	65	0	371
9:00 AM	0	0	0	191	2	33	0	41	13	65	43	0	388
9:15 AM	0	0	0	191	0	45	0	43	13	71	50	0	413
Volumes	0	0	0	1848	7	550	0	687	134	631	894	0	4751
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	76.84	0.29	22.87	0.00	83.68	16.32	41.38	58.62	0.00	
App/Depart	0	/	0	2405	/	772	821	/	2535	1525	/	1444	
Peak Volumes	0	0	0	704	0	255	0	274	45	214	311	0	1803
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	73.41	0.00	26.59	0.00	85.89	14.11	40.76	59.24	0.00	
Pk Hr FACTOR:	0.00			0.71			0.67			0.89			0.7936
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	0	0	0	78	0	32	0	131	10	80	103	0	434
3:45 PM	0	0	0	63	0	39	0	138	10	49	143	0	442
4:00 PM	0	0	0	91	1	76	0	124	12	77	125	0	506
4:15 PM	0	0	0	108	1	54	0	106	23	67	105	0	464
4:30 PM	0	0	0	89	0	48	0	141	14	76	111	0	479
4:45 PM	0	0	0	118	0	56	0	122	18	72	114	0	500
5:00 PM	0	0	0	100	0	52	0	131	12	75	106	0	476
5:15 PM	0	0	0	81	1	71	0	158	9	95	139	0	554
5:30 PM	0	0	0	76	0	63	0	143	12	91	142	0	527
5:45 PM	0	0	0	56	1	25	0	178	9	45	131	0	445
6:00 PM	0	0	0	72	0	19	0	129	15	88	109	0	432
6:15 PM	0	0	0	85	0	33	0	107	13	72	99	0	409
Volumes	0	0	0	1017	4	568	0	1608	157	887	1427	0	5668
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	64.00	0.25	35.75	0.00	91.10	8.90	38.33	61.67	0.00	
App/Depart	0	/	0	1589	/	1048	1765	/	2625	2314	/	1995	
Peak Volumes	0	0	0	375	1	242	0	554	51	333	501	0	2057
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	60.68	0.16	39.16	0.00	91.57	8.43	39.93	60.07	0.00	
Pk Hr FACTOR:	0.00			0.89			0.91			0.89			0.9282
PM Pk Hr at:	445												

CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 47

Intersection Location: I-5 Northbound Ramps &
Cannon Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

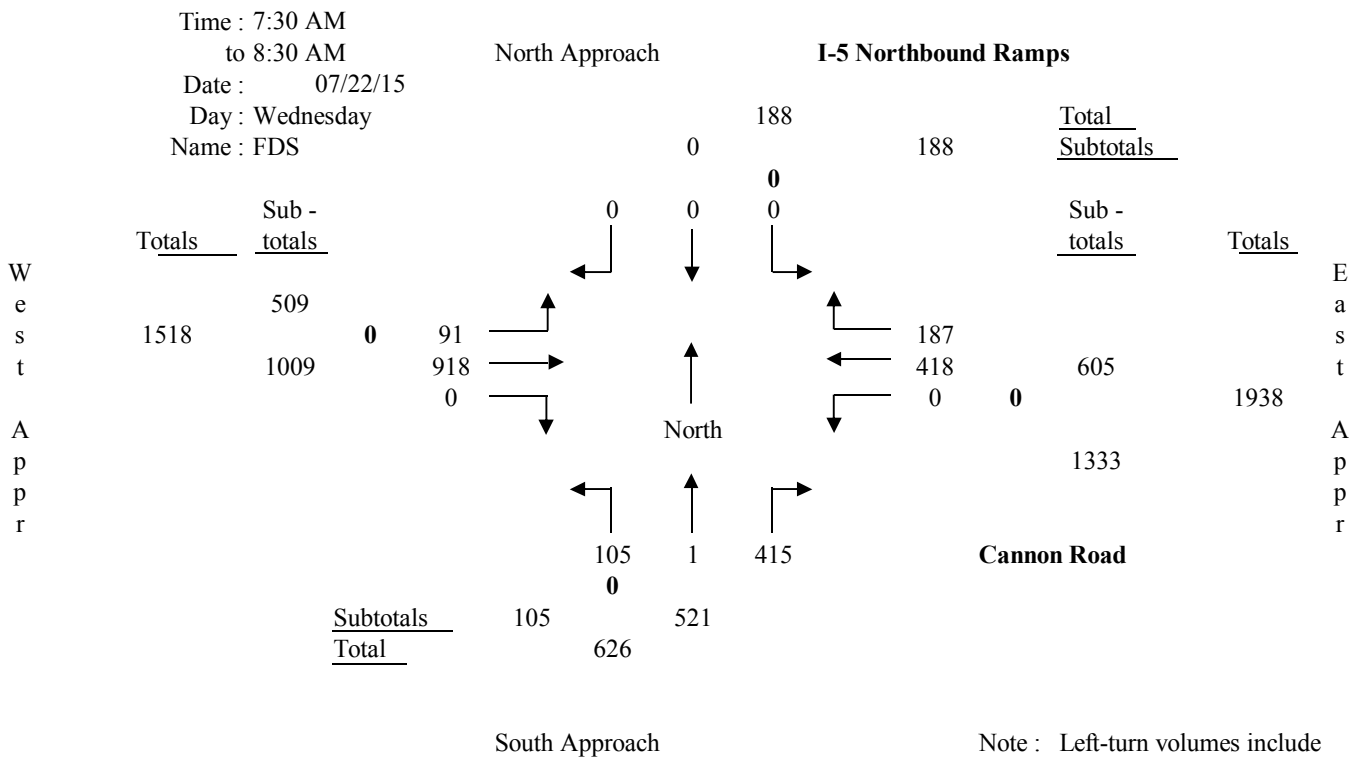
I-5 Northbound Ramps at Cannon Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30 AM to 8:30 AM													
Lane Config - urations	Inside	1	1	1				1				1	
	(left)	2						1				1	1
		3								1			1
		4								1			
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	2	0	0	0	2	2	0	0	2	1
Capacity		1800	0	3600	0	0	0	3600	4000	0	0	4000	1800
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		105	1	415	0	0	0	91	918	0	0	418	187
Adjusted Hourly Volume		106	0	415	0	0	0	91	918	0	0	418	187
Utilization Factor		0.06	0.00	0.12	0.00	0.00	0.00	0.03	0.23	0.00	0.00	0.10	0.10
Critical Factors		0.12			0.00						0.23		

ICU Ratio = 0.45 LOS = A

Turning Movements at Intersection of : **I-5 Northbound Ramps and Cannon Road**



I-5 Northbound Ramps at Cannon Road

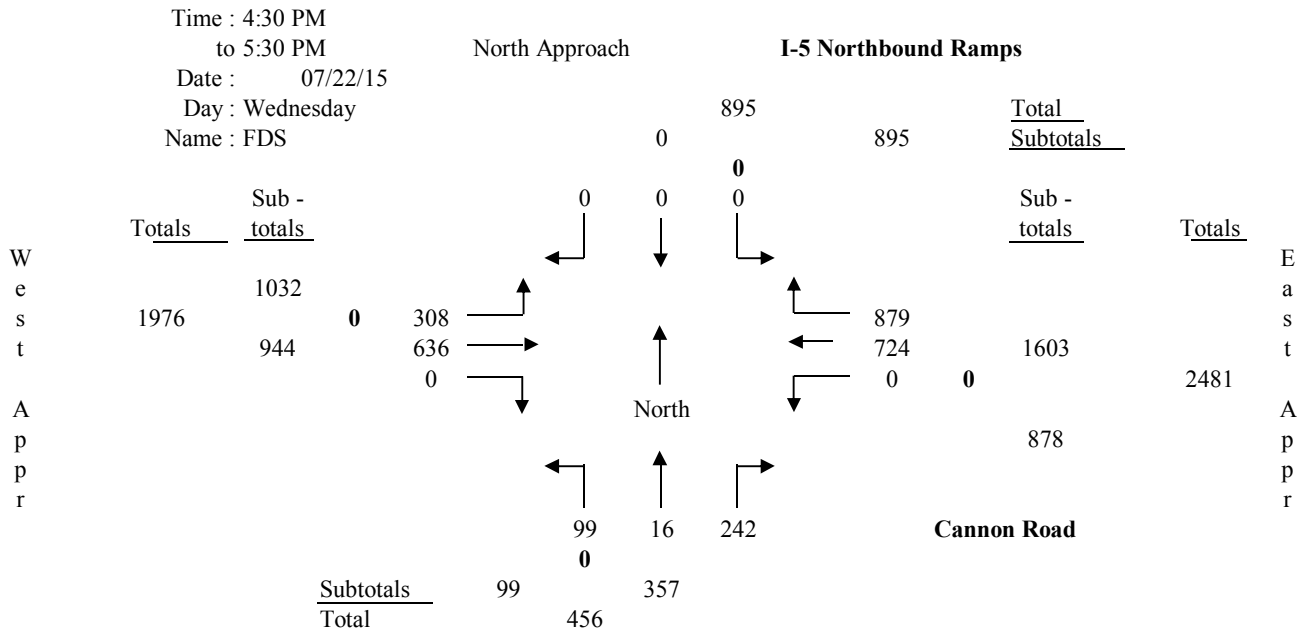
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30 PM to 5:30 PM													
Lane Configurations	Inside (left)	1	1	1				1				1	
		2						1				1	1
		3								1			1
		4								1			
		5											
		6											
	Outside Free-flow	7											
Lane Settings		1	0	2	0	0	0	2	2	0	0	1	2
Capacity		1800	0	3600	0	0	0	3600	4000	0	0	2000	3600
Are the North/South phases split (Y/N)?					N								
Are the East/West phases split (Y/N)?					N								
Efficiency Lost Factor		0.10											
Hourly Volume		99	16	242	0	0	0	308	636	0	0	724	879
Adjusted Hourly Volume		115	0	242	0	0	0	308	636	0	0	534	1069
Utilization Factor		0.06	0.00	0.07	0.00	0.00	0.00	0.09	0.16	0.00	0.00	0.27	0.30
Critical Factors		0.07			0.00			0.09					

ICU Ratio = 0.56 LOS = A

Turning Movements at Intersection of :

I-5 Northbound Ramps and Cannon Road



Note : Left-turn volumes include U-turns. U-turns in bold.



N-S STREET: I-5 Northbound Ramps

DATE: 07/22/2015

LOCATION: Carlsbad

E-W STREET: Cannon Rd.
CONTROL: Signal

DAY: WEDNESDAY

PROJECT# 15-1194-047

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	2	0	0	0	2	2	0	0	1.5	1.5	
6:30 AM	23	1	49	0	0	0	7	129	0	0	102	13	324
6:45 AM	31	0	59	0	0	0	15	160	0	0	136	23	424
7:00 AM	19	0	53	0	0	0	17	149	0	0	112	24	374
7:15 AM	14	0	75	0	0	0	19	179	0	0	115	42	444
7:30 AM	19	0	89	0	0	0	23	223	0	0	125	35	514
7:45 AM	28	1	121	0	0	0	28	312	0	0	108	44	642
8:00 AM	37	0	110	0	0	0	22	196	0	0	95	53	513
8:15 AM	21	0	95	0	0	0	18	187	0	0	90	55	466
8:30 AM	18	1	99	0	0	0	28	168	0	0	100	69	483
8:45 AM	20	0	114	0	0	0	19	228	0	0	96	70	547
9:00 AM	24	0	94	0	0	0	32	215	0	0	84	67	516
9:15 AM	20	0	103	0	0	0	30	195	0	0	103	70	521
Volumes	274	3	1061	0	0	0	258	2341	0	0	1266	565	5768
Approach %	20.48	0.22	79.30	#DIV/0!	#DIV/0!	#DIV/0!	9.93	90.07	0.00	0.00	69.14	30.86	
App/Depart	1338	/	826	0	/	0	2599	/	3402	1831	/	1540	
Peak Volumes	105	1	415	0	0	0	91	918	0	0	418	187	2135
Approach %	20.15	0.19	79.65	#DIV/0!	#DIV/0!	#DIV/0!	9.02	90.98	0.00	0.00	69.09	30.91	
Pk Hr FACTOR:	0.87			0.00			0.74			0.95			0.8314
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	25	0	76	0	0	0	79	180	0	0	166	182	708
3:45 PM	38	3	56	0	0	0	41	150	0	0	174	178	640
4:00 PM	20	3	60	0	0	0	59	146	0	0	154	185	627
4:15 PM	32	1	51	0	0	0	51	143	0	0	146	170	594
4:30 PM	23	3	71	0	0	0	77	163	0	0	172	220	729
4:45 PM	28	3	73	0	0	0	73	158	0	0	161	205	701
5:00 PM	21	4	47	0	0	0	83	148	0	0	162	222	687
5:15 PM	27	6	51	0	0	0	75	167	0	0	229	232	787
5:30 PM	24	5	60	0	0	0	51	173	0	0	199	215	727
5:45 PM	28	5	69	0	0	0	60	177	0	0	158	162	659
6:00 PM	29	4	65	0	0	0	53	138	0	0	165	198	652
6:15 PM	22	2	72	0	0	0	48	143	0	0	144	132	563
Volumes	317	39	751	0	0	0	750	1886	0	0	2030	2301	8074
Approach %	28.64	3.52	67.84	#DIV/0!	#DIV/0!	#DIV/0!	28.45	71.55	0.00	0.00	46.87	53.13	
App/Depart	1107	/	3090	0	/	0	2636	/	2637	4331	/	2347	
Peak Volumes	99	16	242	0	0	0	308	636	0	0	724	879	2904
Approach %	27.73	4.48	67.79	#DIV/0!	#DIV/0!	#DIV/0!	32.63	67.37	0.00	0.00	45.17	54.83	
Pk Hr FACTOR:	0.86			0.00			0.98			0.87			0.9225
PM Pk Hr at:	430												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 48

Intersection Location: I-5 Southbound Ramps &
Palomar Airport Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

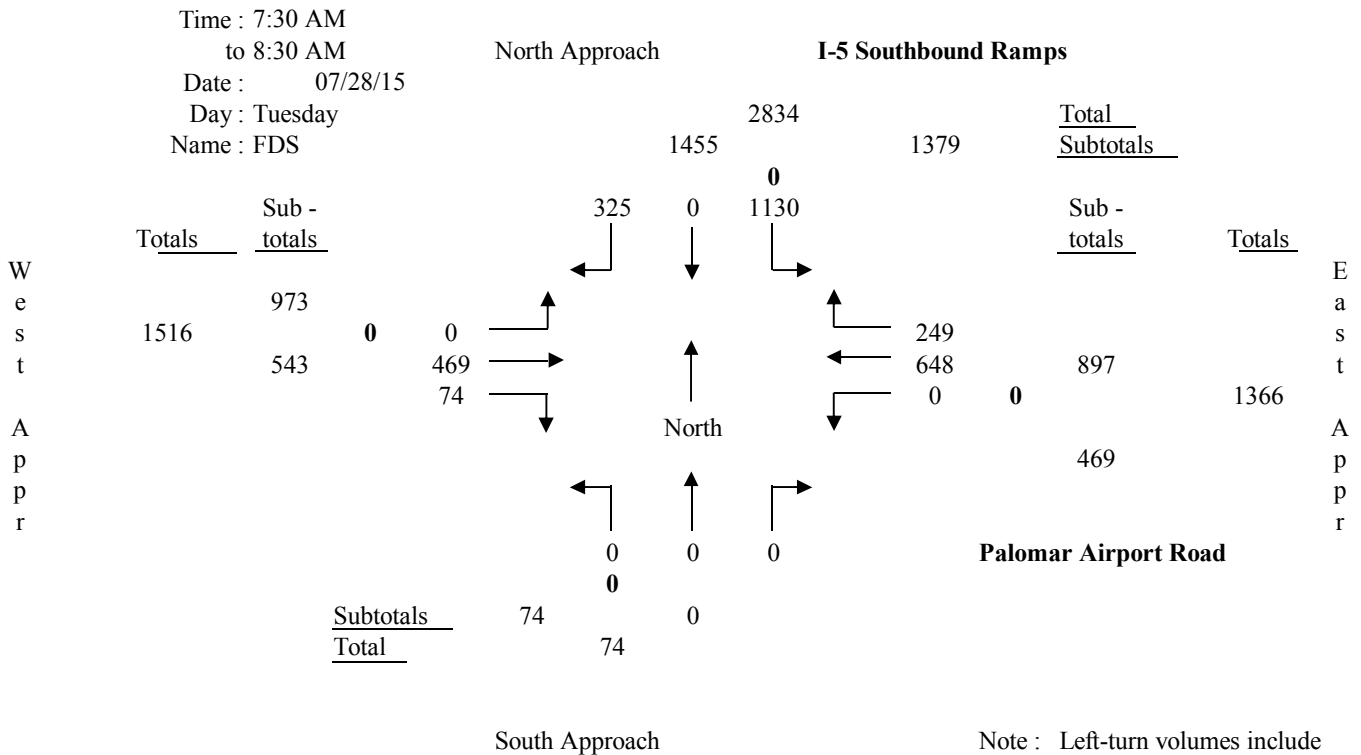
I-5 Southbound Ramps at Palomar Airport Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :			South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
7:30 AM to 8:30 AM			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside (left)	1				1			1			1		
		2				1			1			1		
		3						1	1	1				
		4												
		5												
		6												
	Outside Free-flow	7												1
Lane Settings			0	0	0	2	0	1	0	3	0	0	2	1
Capacity			0	0	0	3600	0	1800	0	6000	0	0	4000	1800
Are the North/South phases split (Y/N)?						N								
Are the East/West phases split (Y/N)?						N								
Efficiency Lost Factor			0.10											
Hourly Volume			0	0	0	1130	0	325	0	469	74	0	648	249
Adjusted Hourly Volume			0	0	0	1130	0	325	0	543	0	0	648	0
Utilization Factor			0.00	0.00	0.00	0.31	0.00	0.18	0.00	0.09	0.00	0.00	0.16	0.00
Critical Factors				0.00	0.00	0.31			0.00				0.16	

ICU Ratio = 0.57 LOS = A

Turning Movements at Intersection of : I-5 Southbound Ramps and Palomar Airport Road



I-5 Southbound Ramps at Palomar Airport Road

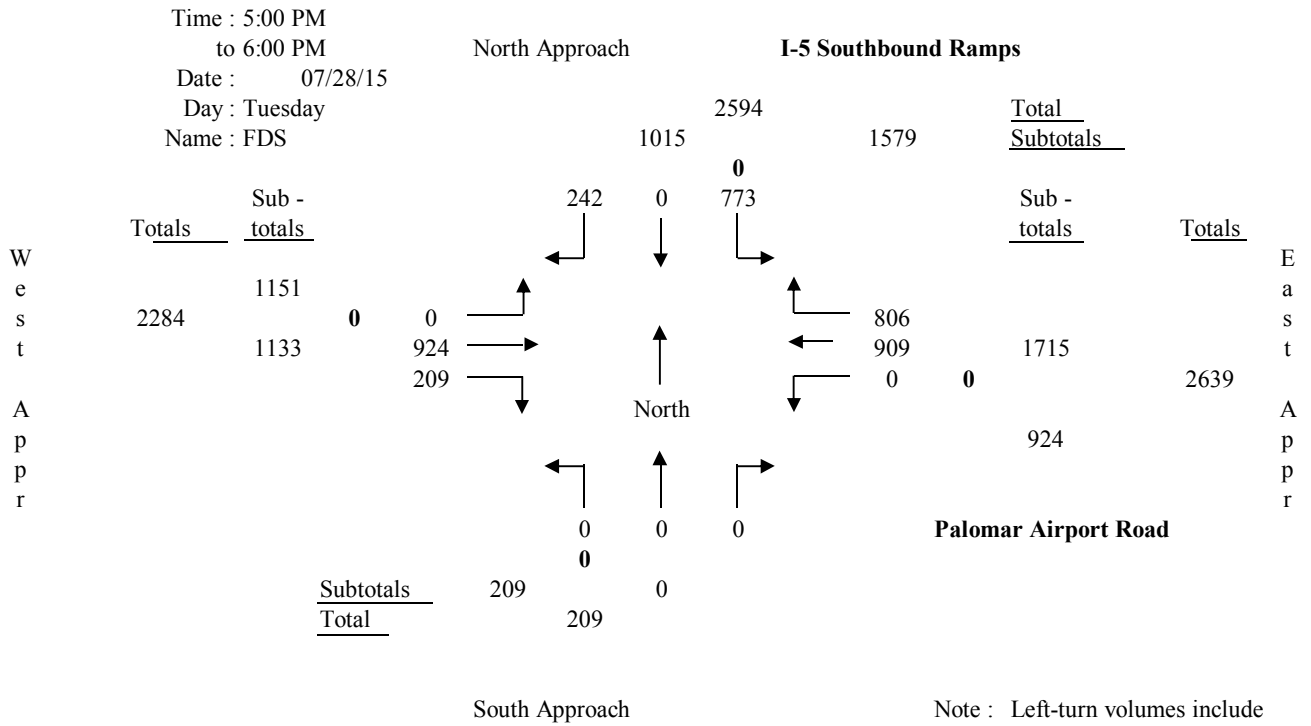
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period :	South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
5:00 PM to 6:00 PM	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	1			1				1			1	
Inside (left)	2			1				1			1	
3						1		1	1			
4												
5												
6												
Outside Free-flow	7											1
Lane Settings	0	0	0	2	0	1	0	3	0	0	2	1
Capacity	0	0	0	3600	0	1800	0	6000	0	0	4000	1800
Are the North/South phases split (Y/N)?												
Are the East/West phases split (Y/N)?												
Efficiency Lost Factor	0.10											
Hourly Volume	0	0	0	773	0	242	0	924	209	0	909	806
Adjusted Hourly Volume	0	0	0	773	0	242	0	1133	0	0	909	0
Utilization Factor	0.00	0.00	0.00	0.21	0.00	0.13	0.00	0.19	0.00	0.00	0.23	0.00
Critical Factors		0.00	0.00	0.21			0.00				0.23	

ICU Ratio = 0.54 LOS = A

Turning Movements at Intersection of :

I-5 Southbound Ramps and Palomar Airport Road



N-S STREET: I-5 SB Ramps

DATE: 07/28/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.

DAY: TUESDAY

PROJECT# 15-1194-048

CONTROL: Signal

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	2	0	1	0	3	1	0	2	1	
6:30 AM	0	0	0	135	0	66	0	65	18	0	110	78	472
6:45 AM	0	0	0	154	0	85	0	79	12	0	110	67	507
7:00 AM	0	0	0	152	0	59	0	84	28	0	87	91	501
7:15 AM	0	0	0	170	0	110	0	113	13	0	146	43	595
7:30 AM	0	0	0	235	0	100	0	108	23	0	159	54	679
7:45 AM	0	0	0	338	0	103	0	133	12	0	173	52	811
8:00 AM	0	0	0	273	0	57	0	108	20	0	168	56	682
8:15 AM	0	0	0	284	0	65	0	120	19	0	148	87	723
8:30 AM	0	0	0	226	0	59	0	114	22	0	129	57	607
8:45 AM	0	0	0	227	0	60	0	148	18	0	146	60	659
9:00 AM	0	0	0	196	0	74	0	134	32	0	146	99	681
9:15 AM	0	0	0	179	0	44	0	119	33	0	115	78	568
Volumes	0	0	0	2569	0	882	0	1325	250	0	1637	822	7485
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	74.44	0.00	25.56	0.00	84.13	15.87	0.00	66.57	33.43	
App/Depart	0	/	822	3451	/	250	1575	/	3894	2459	/	2519	
Peak Volumes	0	0	0	1130	0	325	0	469	74	0	648	249	2895
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	77.66	0.00	22.34	0.00	86.37	13.63	0.00	72.24	27.76	
Pk Hr FACTOR:	0.00			0.82			0.94			0.95			0.8924
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	0	0	0	206	0	66	0	183	40	0	151	247	893
3:45 PM	0	0	0	146	0	59	0	192	51	0	173	243	864
4:00 PM	0	0	0	164	0	45	0	187	54	0	180	249	879
4:15 PM	0	0	0	155	0	41	0	172	38	0	137	244	787
4:30 PM	0	0	0	140	0	44	0	193	49	0	149	207	782
4:45 PM	0	0	0	166	0	67	0	191	41	0	231	212	908
5:00 PM	0	0	0	215	0	60	0	264	64	0	216	146	965
5:15 PM	0	0	0	205	0	86	0	224	46	0	253	224	1038
5:30 PM	0	0	0	158	0	45	0	207	65	0	236	198	909
5:45 PM	0	0	0	195	0	51	0	229	34	0	204	238	951
6:00 PM	0	0	0	163	0	54	0	194	55	0	141	206	813
6:15 PM	0	0	0	149	0	42	0	185	33	0	160	237	806
Volumes	0	0	0	2062	0	660	0	2421	570	0	2231	2651	10595
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	75.75	0.00	24.25	0.00	80.94	19.06	0.00	45.70	54.30	
App/Depart	0	/	2651	2722	/	570	2991	/	4483	4882	/	2891	
Peak Volumes	0	0	0	773	0	242	0	924	209	0	909	806	3863
Approach %	#DIV/0!	#DIV/0!	#DIV/0!	76.16	0.00	23.84	0.00	81.55	18.45	0.00	53.00	47.00	
Pk Hr FACTOR:	0.00			0.87			0.86			0.90			0.9304
PM Pk Hr at:	500												



CITY OF CARLSBAD TRAFFIC MONITORING PROGRAM SUMMER 2015

INTERSECTION ANALYSIS SUMMARY

Intersection Number: 49

Intersection Location: I-5 Northbound Ramps &
Palomar Airport Road

Contents:	A.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 1
	P.M. Peak Hour ICU Analysis and Turn Movement Diagram	Page 2
	A.M./P.M. Peak Period Intersection Turning Movement Count Data	Page 3

Michael Baker

I N T E R N A T I O N A L

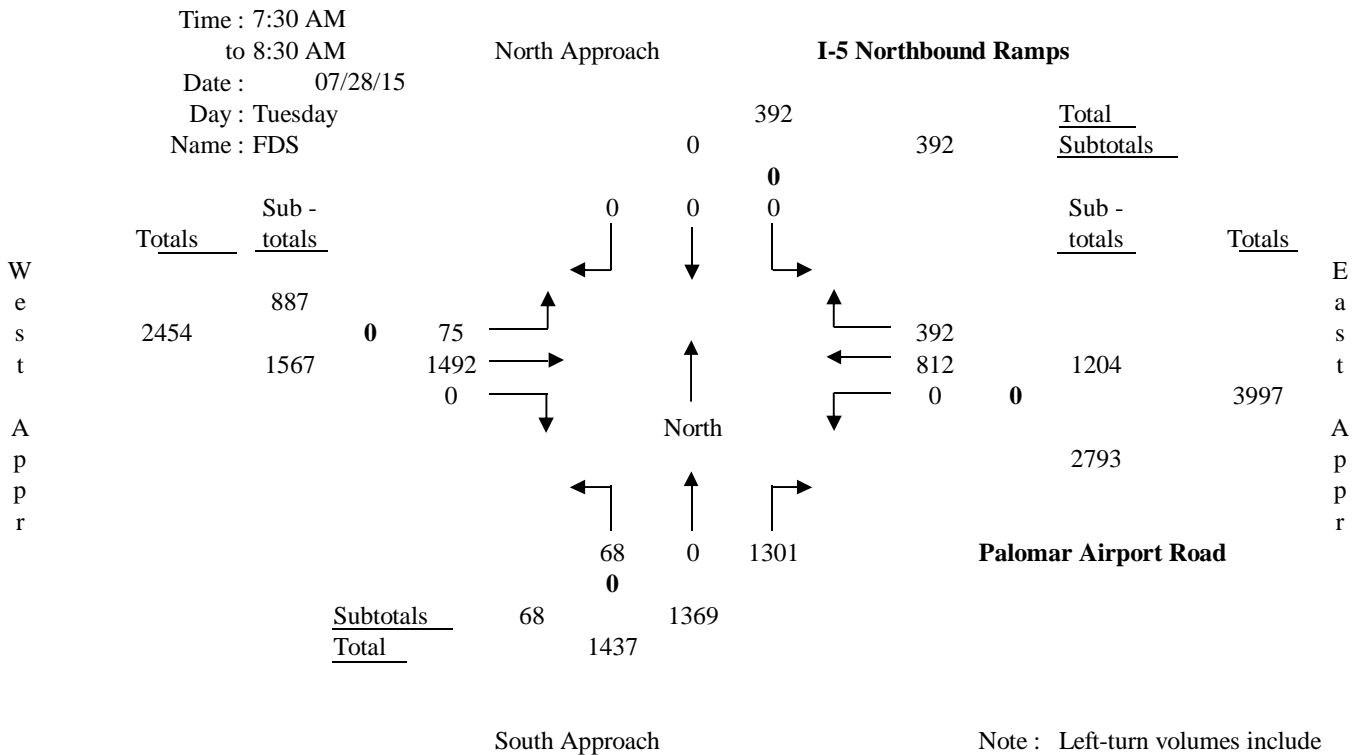
I-5 Northbound Ramps at Palomar Airport Road

Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 7:30 AM to 8:30 AM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Config - urations	Inside	1	1	1				1				1	
	(left)	2							1			1	
		3							1			1	
		4							1				1
		5											1
		6											1
	Outside Free-flow	7											
Lane Settings		1	0	2	0	0	0	1	3	0	0	3	2
Capacity		1800	0	3600	0	0	0	1800	6000	0	0	6000	3600
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		68	0	1301	0	0	0	75	1492	0	0	812	392
Adjusted Hourly Volume		68	0	1301	0	0	0	75	1492	0	0	812	392
Utilization Factor		0.04	0.00	0.36	0.00	0.00	0.00	0.04	0.25	0.00	0.00	0.14	0.11
Critical Factors				0.36	0.00				0.25		0.00		

ICU Ratio = 0.71 LOS = C

Turning Movements at Intersection of : I-5 Northbound Ramps and Palomar Airport Road



Note : Left-turn volumes include U-turns. U-turns in bold.

I-5 Northbound Ramps at Palomar Airport Road

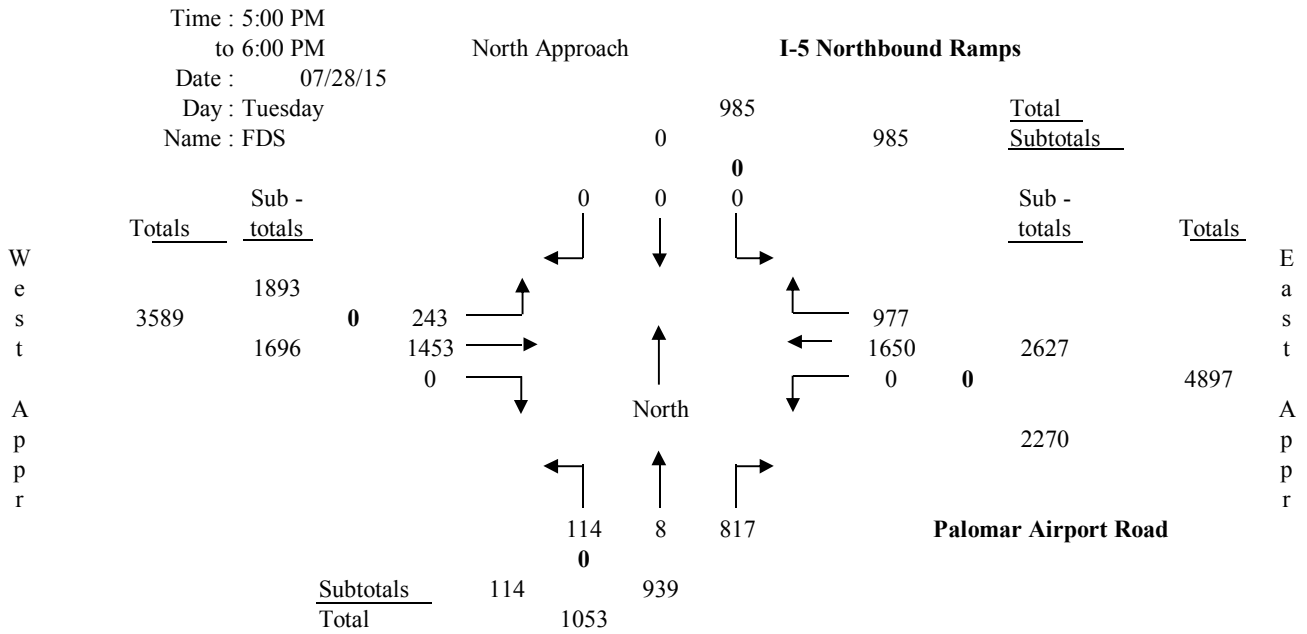
Lane Configuration for Intersection Capacity Utilization

Pk. Hr. Time Period : 5:00 PM to 6:00 PM		South Appr (NB)			North Appr (SB)			West Appr (EB)			East Appr (WB)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configurations	Inside	1	1	1				1				1	
	(left)	2							1			1	
		3							1			1	
		4							1				1
		5											1
		6											
	Outside Free-flow	7											
Lane Settings		1	0	2	0	0	0	1	3	0	0	3	2
Capacity		1800	0	3600	0	0	0	1800	6000	0	0	6000	3600
Are the North/South phases split (Y/N)?				N									
Are the East/West phases split (Y/N)?				N									
Efficiency Lost Factor		0.10											
Hourly Volume		114	8	817	0	0	0	243	1453	0	0	1650	977
Adjusted Hourly Volume		122	0	817	0	0	0	243	1453	0	0	1650	977
Utilization Factor		0.07	0.00	0.23	0.00	0.00	0.00	0.14	0.24	0.00	0.00	0.28	0.27
Critical Factors				0.23	0.00			0.14				0.28	

ICU Ratio = 0.75 LOS = C

Turning Movements at Intersection of:

I-5 Northbound Ramps and Palomar Airport Road



Note : Left-turn volumes include U-turns. U-turns in bold.

N-S STREET: I-5 NB Ramps

DATE: 07/28/2015

LOCATION: Carlsbad

E-W STREET: Palomar Airport Rd.
CONTROL: Signal

DAY: TUESDAY

PROJECT# 15-1194-049

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	2	0	0	0	1	3	0	0	3	2	
6:30 AM	22	0	212	0	0	0	11	178	0	0	169	85	677
6:45 AM	10	2	250	0	0	0	19	204	0	0	166	48	699
7:00 AM	14	1	208	0	0	0	17	209	0	0	165	94	708
7:15 AM	8	1	261	0	0	0	24	258	0	0	181	89	822
7:30 AM	3	0	378	0	0	0	20	333	0	0	200	102	1036
7:45 AM	9	0	327	0	0	0	19	436	0	0	209	120	1120
8:00 AM	17	0	264	0	0	0	18	354	0	0	214	73	940
8:15 AM	39	0	332	0	0	0	18	369	0	0	189	97	1044
8:30 AM	19	0	399	0	0	0	26	300	0	0	166	109	1019
8:45 AM	46	0	290	0	0	0	24	349	0	0	163	113	985
9:00 AM	23	0	366	0	0	0	21	298	0	0	224	102	1034
9:15 AM	24	0	274	0	0	0	29	259	0	0	158	80	824
Volumes	234	4	3561	0	0	0	246	3547	0	0	2204	1112	10908
Approach %	6.16	0.11	93.74	#DIV/0!	#DIV/0!	#DIV/0!	6.49	93.51	0.00	0.00	66.47	33.53	
App/Depart	3799	/	1362	0	/	0	3793	/	7108	3316	/	2438	
Peak Volumes	68	0	1301	0	0	0	75	1492	0	0	812	392	4140
Approach %	4.97	0.00	95.03	#DIV/0!	#DIV/0!	#DIV/0!	4.79	95.21	0.00	0.00	67.44	32.56	
Pk Hr FACTOR:	0.90			0.00			0.86			0.91			0.9241
AM Pk Hr at:	730												
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
3:30 PM	20	0	203	0	0	0	43	336	0	0	369	187	1158
3:45 PM	16	0	166	0	0	0	35	298	0	0	377	237	1129
4:00 PM	24	0	120	0	0	0	32	309	0	0	399	234	1118
4:15 PM	38	0	211	0	0	0	54	259	0	0	328	202	1092
4:30 PM	19	0	167	0	0	0	30	314	0	0	336	230	1096
4:45 PM	17	0	142	0	0	0	38	309	0	0	422	208	1136
5:00 PM	57	0	254	0	0	0	86	383	0	0	398	281	1459
5:15 PM	20	0	201	0	0	0	56	374	0	0	433	261	1345
5:30 PM	22	0	191	0	0	0	41	355	0	0	402	266	1277
5:45 PM	15	8	171	0	0	0	60	341	0	0	417	169	1181
6:00 PM	22	1	193	0	0	0	45	325	0	0	319	194	1099
6:15 PM	17	0	138	0	0	0	30	289	0	0	389	112	975
Volumes	287	9	2157	0	0	0	550	3892	0	0	4589	2581	14065
Approach %	11.70	0.37	87.93	#DIV/0!	#DIV/0!	#DIV/0!	12.38	87.62	0.00	0.00	64.00	36.00	
App/Depart	2453	/	3140	0	/	0	4442	/	6049	7170	/	4876	
Peak Volumes	114	8	817	0	0	0	243	1453	0	0	1650	977	5262
Approach %	12.14	0.85	87.01	#DIV/0!	#DIV/0!	#DIV/0!	14.33	85.67	0.00	0.00	62.81	37.19	
Pk Hr FACTOR:	0.75			0.00			0.90			0.95			0.9016
PM Pk Hr at:	500												