DEPARTMENT OF PUBLIC WORKS

FLOOD CONTROL • LAND DEVELOPMENT & CONSTRUCTION • OPERATIONS
SOLID WASTE MANAGEMENT • SURVEYOR • TRANSPORTATION

COUNTY OF SAN BERNARDINO

825 East Third Street • San Bernardino, CA 92415-0835 • (909) 387-8104
Fax (909) 387-8130

GRANVILLE M. "BOW" BOWMAN, P.E., P.L.S.
Director of Public Works

RECEIVED
JUN 14 2011
SAN BERNARDINO ASSOCIATED GOVTS

June 13, 2011

San Bernardino Association of Governments
Attn: Steve Smith
1170 W. 3rd Street - 2nd Floor
San Bernardino, California 92410-1715

Dear Steve:

The San Bernardino County Public Works Department, as part of the monitoring program for the San Bernardino County Congestion Management Program (CMP), is submitting the annual Levels of Service report for the year 2011.

INTERSECION	PEAK HR.	LOS	V/C	DELAY (SEC)
Valley Blvd @ Alder Avenue	A.M.	B	.50	20
	P.M.	C	.65	28
Riverside Drive @ Reservoir Ave	A.M.	A	.30	10
	P.M.	B	.52	14

The intersections of Cedar Avenue at Bloomington, Cedar Avenue at San Bernardino Avenue and Cherry Avenue at Arrow Route are under construction. Therefore we request that the counts and the analysis runs be taken next year.

Attached please find copies of the ground counts and Webster analysis for the aforementioned intersections. If you have any questions, please call me at (909)387-8239.

Sincerely,

Ed Petre, P.E.
Traffic Division

Attachments

EP/sr

Cc: Reading File

GREGORY C. DEVEREAUX
Chief Executive Officer

Board of Supervisors
BRAD MITZELFELT ..... First District
JANICE RUTHERFORD ..... Second District
JOSIE GONZALES ..... Fifth District
NEIL DERRY ..... Third District
GARY C. OVITT ..... Fourth District

WEBSTER

WEbster Based Signal Timing Evaluation Routine

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

Existing Traffic with Existing Lane Geometrics

Riverside Dr at Reservoir **County of San Bernardino** **AM Peak Hour**

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

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

Input Values

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L	T	R	L	T	R	L	T	R	L	T	R
Movement 1: **10** secs	X											
Movement 2: **19** secs		X			X	X						
Movement 3: **10** secs										X		X
Movement 4: **0** secs												
Movement 5: **0** secs												
Movement 6: **0** secs												
# of Lanes (#, S, P)	1	2			2	1				1		1
Unadjusted Volume	136	255			308	137				111		60
Peak Hour Factor (PHF)	0.91	0.91			0.86	0.86				1.00		1.00
Min/Ped Time Override (sec)	10	16			19	19				10		28
Progression Adj. Factor (PAF)	1.00	1.00			1.00	1.00				1.00		1.00

Output

	***			***			***					
Peak Hour Volume (vph)	149	280			358	159				111		60
Saturation Flow (vph)	1700	3600			3600	1800				1700		1800
X or Volume/Capacity	0.43	0.18			0.23	0.20				0.32		0.16
Effective Green (sec)	8	17			17	17				8		8
Split Time (sec)	10	19			19	19				10		10
Min. Time or Ped. Time (sec)	10	16			19	19				10		28
Delay - 15 min pk (sec/veh)	17	7			7	7				16		14
Level of Service (LOS)	B	A			A	A				B		B
Average 'Q' (veh/ln)	1	1			1	1				1		1
Design 'Q'-ft/ln (1.5*Qavg)	40	40			40	40				40		40
Do Vehicles Clear?	YES	YES			YES	YES				YES		YES

Summary of Results

Whole Intersection	Critical Movements
Weighted Average Delay (seconds) = 10 Level of Service - LOS = A	Weighted Average Delay (seconds) = 12 Level of Service - LOS = B Capacity Utilization - ICU/TCU = 0.30

Required Cycle Length is 39 sec
Min./Ped. Times May Not Be Satisfied

WEBSTER

WEbster Based Signal Timing Evaluation Routine

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

Existing Traffic with Existing Lane Geometrics

Riverside Dr at Reservoir **County of San Bernardino** **PM Peak Hour**

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

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

Input Values

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	*L*	*T*	R	L	T	R	L	T	R	*L*	T	R
Movement 1: **10** secs	X											
Movement 2: **16** secs		X			X	X						
Movement 3: **16** secs										X		X
Movement 4: **0** secs												
Movement 5: **0** secs												
Movement 6: **0** secs												
# of Lanes (#, S, P)	1	2			2	1				1		1
Unadjusted Volume	124	548			249	118				349		84
Peak Hour Factor (PHF)	0.98	0.96			0.88	0.88				0.95		0.95
Min/Ped Time Override (sec)	10	16			19	19				10		28
Progression Adj. Factor (PAF)	1.00	1.00			1.00	1.00				1.00		1.00

Output

	***	***								***		
Peak Hour Volume (vph)	127	559			283	134				367		88
Saturation Flow (vph)	1700	3500			3600	1800				1700		1800
X or Volume/Capacity	0.39	0.47			0.24	0.22				0.65		0.15
Effective Green (sec)	8	14			14	14				14		14
Split Time (sec)	10	16			16	16				16		16
Min. Time or Ped. Time (sec)	10	16			19	19				10		28
Delay - 15 min pk (sec/veh)	16	12			11	11				18		10
Level of Service (LOS)	B	B			B	B				B		B
Average 'Q' (veh/ln)	1	2			1	1				3		1
Design 'Q'-ft/ln (1.5*Qavg)	40	60			40	40				100		40
Do Vehicles Clear?	YES	YES			YES	YES				YES		YES

Summary of Results

Whole Intersection	Critical Movements
Weighted Average Delay (seconds) = 14 Level of Service - LOS = B	Weighted Average Delay (seconds) = 15 Level of Service - LOS = B Capacity Utilization - ICU/TCU = 0.52

Required Cycle Length is 42 sec
Min./Ped. Times May Not Be Satisfied

AM

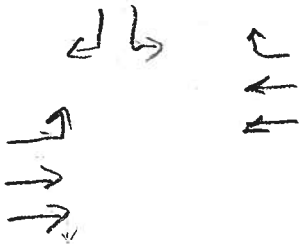
Riverside Dr at Reservoir

	EB			WB			NB			SB			Total
	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	
7:15	0	56	30	31	79	0	0	0	0	11	0	23	230
7:30	0	59	25	29	78	0	0	0	0	9	0	32	232
7:45	0	65	34	35	85	0	0	0	0	14	0	21	254
8:00	0	61	30	25	52	0	0	0	0	22	0	20	210
Veh	0	241	119	120	294	0	0	0	0	56	0	96	
Trucks		0.909091			0.8625			#DIV/0!			1.085714		
2 axle	0	9	5	1	5	0	0	0	0	0	0	0	
PCI	0	13.5	7.5	1.5	7.5	0	0	0	0	0	0	0	
3 axle	0	1	2	2	3	0	0	0	0	0	0	3	
PCI	0	2	4	4	6	0	0	0	0	0	0	6	
4+ axle	0	4	6	7	4	0	0	0	0	2	0	6	
PCI	0	12	18	21	12	0	0	0	0	6	0	18	
Total (PCI)	0	255	136	137	308	0	0	0	0	60	0	111	

PM

Riverside Dr at Reservoir

	EB			WB			NB			SB			Total
	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	
5:00	0	138	28	33	67	0	0	0	0	30	0	80	376
5:15	0	140	33	25	57	0	0	0	0	18	0	94	367
5:30	0	138	29	24	59	0	0	0	0	19	0	76	345
5:45	0	127	16	23	62	0	0	0	0	15	0	84	327
Veh	0	543	106	105	245	0	0	0	0	82	0	334	
Trucks		0.97741			0.875			#DIV/0!			0.945455		
2 axle	0	10	4	2	5	0	0	0	0	0	0	4	
PCI	0	15	6	3	7.5	0	0	0	0	0	0	6	
3 axle	0	0	2	0	1	0	0	0	0	0	0	3	
PCI	0	0	4	0	2	0	0	0	0	0	0	6	
4+ axle	0	0	7	6	0	0	0	0	0	1	0	5	
PCI	0	0	21	18	0	0	0	0	0	3	0	15	
Total (PCI)	0	548	124	118	249	0	0	0	0	84	0	349	



RIVERSIDE DR. @ RESERVOIR ST.
SAN BERNARDINO COUNTY

PUBLIC WORKS
TRAFFIC DIVISION

File Name : Riverside@Reservoir110524
Site Code : 00000000
Start Date : 05/24/2011
Page No : 1

Groups Printed- Unshifted

	Reservoir St. Northbound				Reservoir St. Southbound				Riverside Dr. Eastbound				Riverside Dr. Westbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	0	10	0	30	0	0	46	20	0	18	53	0	0	177
07:15 AM	0	0	0	0	11	0	23	0	0	56	30	0	31	79	0	0	230
07:30 AM	0	0	0	0	9	0	32	0	0	59	25	0	29	78	0	0	232
07:45 AM	0	0	0	0	14	0	21	0	0	65	34	0	35	85	0	0	254
Total	0	0	0	0	44	0	106	0	0	226	109	0	113	295	0	0	893
08:00 AM	0	0	0	0	22	0	20	0	0	61	30	0	25	52	0	0	210
08:15 AM	0	0	0	0	15	0	28	0	0	51	22	0	19	62	0	0	197
08:30 AM	0	0	0	0	13	0	30	0	0	47	17	0	32	61	0	0	200
08:45 AM	0	0	0	0	9	0	31	0	0	39	28	0	30	35	0	0	172
Total	0	0	0	0	59	0	109	0	0	198	97	0	106	210	0	0	779
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	13	0	42	0	0	105	21	0	32	73	0	0	286
04:15 PM	0	0	0	0	14	0	32	0	6	88	25	0	24	97	0	0	286
04:30 PM	0	0	0	0	23	0	70	0	0	103	20	0	14	62	0	0	292
04:45 PM	0	0	0	0	17	0	65	0	0	122	21	0	21	70	0	0	316
Total	0	0	0	0	67	0	209	0	6	418	87	0	91	302	0	0	1180

RIVERSIDE DR. @ RESERVOIR ST.
SAN BERNARDINO COUNTY
PUBLIC WORKS
TRAFFIC DIVISION

File Name : Riverside@Reservoir11052
Site Code : 00000000
Start Date : 05/24/2011
Page No : 2

Groups Printed- Unshifted

	Reservoir St. Northbound				Reservoir St. Southbound				Riverside Dr. Eastbound				Riverside Dr. Westbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
05:00 PM	0	0	0	0	30	0	80	0	0	138	28	0	33	67	0	0	376
05:15 PM	0	0	0	0	18	0	94	0	0	140	33	0	25	57	0	0	367
05:30 PM	0	0	0	0	19	0	76	0	0	138	29	0	24	59	0	0	345
05:45 PM	0	0	0	0	15	0	84	0	0	127	16	0	23	62	0	0	327
Total	0	0	0	0	82	0	334	0	0	543	106	0	105	245	0	0	1415
Grand Total	0	0	0	0	252	0	758	0	6	1385	399	0	415	1052	0	0	4267
Apprch %	0.0	0.0	0.0	0.0	25.0	0.0	75.0	0.0	0.3	77.4	22.3	0.0	28.3	71.7	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	5.9	0.0	17.8	0.0	0.1	32.5	9.4	0.0	9.7	24.7	0.0	0.0	

SAN BERNARDINO COUNTY

SAN BERNARDINO COUNTY
Department Of Public works
Traffic Division

COMMERCIAL TRUCK COUNT

LOCATION: Riverside Dr. @ Reservoir St.

COUNT BY: DAVID TRAN
DATE: 05/24/2011

TIME	TYPE	NB LT	NB THRU	NB RT	SB LT	SB THRU	SB RT	EB LT	EB THRU	EB RT	WB LT	WB THRU	WB RT	TOTAL
7:00	2-AXLE						1		2			1	1	5
	3-AXLE				1									1
	4-AXLE				3			1				1	1	6
	5-AXLE +													0
7:15	2-AXLE							3	4			3	1	11
	3-AXLE				1							1		2
	4-AXLE				1			1	1			1	2	6
	5-AXLE +													0
7:30	2-AXLE							1	3			1		5
	3-AXLE													0
	4-AXLE				2									2
	5-AXLE +				1			2	1				1	5
7:45	2-AXLE								1			1		2
	3-AXLE				1			1	1				2	5
	4-AXLE						1							1
	5-AXLE +						1		1			2	1	5
TOTAL		0	0	0	10	0	3	9	14	0	0	11	9	
8:00	2-AXLE							1	1					2
	3-AXLE				1			1				2		4
	4-AXLE				1			1					1	3
	5-AXLE +				1			2	1			1	2	7
8:15	2-AXLE													0
	3-AXLE								1			2	1	4
	4-AXLE				1									1
	5-AXLE +				1		1	1				2		5
8:30	2-AXLE				2				1			3		6
	3-AXLE													0
	4-AXLE													0
	5-AXLE +				1			1	1				3	6
8:45	2-AXLE								1			2		3
	3-AXLE				4		1	2						7
	4-AXLE													0
	5-AXLE +							1				3	3	7
TOTAL		0	0	0	12	0	2	10	6	0	0	15	10	

TIME	TYPE	NB LT	NB THRU	NB RT	SB LT	SB THRU	SB RT	EB LT	EB THRU	EB RT	WB LT	WB THRU	WB RT	TOTAL
16:00	2-AXLE				3		3	1	2			3	1	13
	3-AXLE				1									1
	4-AXLE							1	1					2
	5-AXLE +				3		1	1	3				3	11
16:15	2-AXLE				1			4	3			1		9
	3-AXLE				1			1					1	3
	4-AXLE				2									2
	5-AXLE +				2			1	2					5
16:30	2-AXLE				1		1		3					5
	3-AXLE													0
	4-AXLE													0
	5-AXLE +				3							2		5
16:45	2-AXLE				2		3		1					6
	3-AXLE							1	1			1		3
	4-AXLE													0
	5-AXLE +				2			3	1				2	8
TOTAL		0	0	0	21	0	8	13	17	0	0	7	7	

17:00	2-AXLE				1			1	3			3	1	9
	3-AXLE							1				1		2
	4-AXLE													0
	5-AXLE +				1			2					2	5
17:15	2-AXLE								4			2	1	7
	3-AXLE													0
	4-AXLE													0
	5-AXLE +				1			3						4
17:30	2-AXLE				3			2	1					6
	3-AXLE				2			1						3
	4-AXLE												1	1
	5-AXLE +				2		1	1					2	6
17:45	2-AXLE							1	2					3
	3-AXLE				1									1
	4-AXLE													0
	5-AXLE +				1			1					1	3
TOTAL		0	0	0	12	0	1	13	10	0	0	6	8	

WEBSTER

WEbster Based Signal Timing Evaluation Routine
For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing Traffic with Existing Lane Geometrics

Valley Blvd at Alder Ave **County of San Bernardino** **AM Peak Hour**

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

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

Input Values

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L	T	R	L	T	R	L	T	R	L	T	R
Movement 1: **12** secs	X			X								
Movement 2: **28** secs		X	X		X	X						
Movement 3: **31** secs							X	X	X	X	X	X
Movement 4: **0** secs												
Movement 5: **0** secs												
Movement 6: **0** secs												
# of Lanes (#, S, P)	1	2	1	1	2	1	S	1	1	S	1	1
Unadjusted Volume	156	328	11	21	737	94	21	10	10	157	12	269
Peak Hour Factor (PHF)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.97
Min/Ped Time Override (sec)	10	22	22	10	22	22	10	31	31	10	31	31
Progression Adj. Factor (PAF)	1.00	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00	-	1.00	1.00

Output

	***				***							***
Peak Hour Volume (vph)	156	328	11	22	776	99	21	10	10	162	12	277
Saturation Flow (vph)	1700	3600	1800	1700	3600	1800	Shrd	1200	1800	Shrd	1400	1800
X or Volume/Capacity	0.65	0.25	0.02	0.09	0.59	0.15	-	0.06	0.01	-	0.30	0.38
Effective Green (sec)	10	26	26	10	26	26	-	29	29	-	29	29
Split Time (sec)	12	28	28	12	28	28	-	31	31	-	31	31
Min. Time or Ped. Time (sec)	10	22	22	10	22	22	-	31	31	-	31	31
Delay - 15 min pk (sec/veh)	42	16	14	27	20	16	-	13	13	-	16	16
Level of Service (LOS)	D	B	B	C	C+	B	-	B	B	-	B	B
Average 'Q' (veh/ln)	3	2	1	1	5	1	-	1	1	-	2	3
Design 'Q'-ft/ln (1.5*Qavg)	100	60	40	40	160	40	-	40	40	-	60	100
Do Vehicles Clear?	YES	YES	YES	YES	YES	YES	-	YES	YES	-	YES	YES

Summary of Results

Whole Intersection	Critical Movements
Weighted Average Delay (seconds) = 20 Level of Service - LOS = B	Weighted Average Delay (seconds) = 23 Level of Service - LOS = C+ Capacity Utilization - ICU/TCU = 0.50

Required Cycle Length is 71 sec
Min./Ped. Times Satisfied

WEBSTER

WEbster Based Signal Timing Evaluation Routine

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

Existing Traffic with Existing Lane Geometrics

Valley Blvd at Alder Ave **County of San Bernardino** **PM Peak Hour**

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

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

Input Values

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L*	T*	R	L	T	R	L	T	R	L	T*	R
Movement 1: **23** secs	X			X								
Movement 2: **37** secs		X	X		X	X						
Movement 3: **31** secs							X	X	X	X	X	X
Movement 4: **0** secs												
Movement 5: **0** secs												
Movement 6: **0** secs												
# of Lanes (#, S, P)	1	2	1	1	2	1	S	1	1	S	1	1
Unadjusted Volume	275	908	35	10	389	130	29	25	10	155	19	96
Peak Hour Factor (PHF)	0.91	0.91	0.91	0.87	0.87	0.87	0.82	0.82	0.82	0.83	0.83	0.83
Min/Ped Time Override (sec)	10	22	22	10	22	22	10	31	31	10	31	31
Progression Adj. Factor (PAF)	1.00	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00	-	1.00	1.00

Output

	***	***									***	
Peak Hour Volume (vph)	302	996	38	11	447	149	35	30	12	187	23	116
Saturation Flow (vph)	1700	3600	1800	1700	3600	1800	Shrd	1450	1800	Shrd	1400	1800
X or Volume/Capacity	0.77	0.72	0.05	0.03	0.32	0.22	-	0.14	0.02	-	0.47	0.20
Effective Green (sec)	21	35	35	21	35	35	-	29	29	-	29	29
Split Time (sec)	23	37	37	23	37	37	-	31	31	-	31	31
Min. Time or Ped. Time (sec)	10	22	22	10	22	22	-	31	31	-	31	31
Delay - 15 min pk (sec/veh)	46	27	18	27	20	19	-	23	21	-	28	23
Level of Service (LOS)	D	C	B	C	C+	B	-	C+	C+	-	C	C+
Average 'Q' (veh/ln)	6	8	1	1	3	2	-	1	1	-	4	2
Design 'Q'-ft/ln (1.5*Qavg)	180	240	40	40	100	60	-	40	40	-	120	60
Do Vehicles Clear?	YES	YES	YES	YES	YES	YES	-	YES	YES	-	YES	YES

Summary of Results

Whole Intersection	Critical Movements
Weighted Average Delay (seconds) = 28 Level of Service - LOS = C	Weighted Average Delay (seconds) = 32 Level of Service - LOS = C- Capacity Utilization - ICU/TCU = 0.65

Required Cycle Length Is 91 sec
Min./Ped. Times Satisfied

AM

Valley at Alder

	EB			WB			NB			SB			Total
	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	
7:30	2	70	63	21	172	4	1	2	4	64	2	47	452
7:45	6	77	39	24	175	4	1	2	9	69	2	29	437
8:00	2	70	27	26	184	2	0	1	5	62	5	39	423
8:15	1	85	26	22	189	9	0	1	2	72	2	37	446
Veh	11	302	155	93	720	19	2	6	20	267	11	152	
Trucks		1.044643			0.945455			2.333333			0.968468		
2 axle	0	11	0	0	5	0	0	0	0	0	0	2	
PCI	0	16.5	0	0	7.5	0	0	0	0	0	0	3	
3 axle	0	6	1	1	2	0	0	0	1	0	1	0	
PCI	0	12	2	2	4	0	0	0	2	0	2	0	
4+ axle	0	7	0	0	6	1	0	2	0	1	0	2	
PCI	0	21	0	0	18	3	0	6	0	3	0	6	
Total (PCI)	11	328	156	94	737	21	2	10	21	269	12	157	

PM

Valley at Alder

	EB			WB			NB			SB			Total
	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	Rt	Th	Lt	
5:00	10	245	72	33	113	1	0	10	8	32	6	42	572
5:15	8	261	63	24	97	4	0	6	7	24	5	31	530
5:30	7	202	67	32	88	1	3	4	4	22	5	37	472
5:45	10	168	73	38	82	1	3	5	9	18	3	40	450
Veh	35	876	275	127	380	7	6	25	28	96	19	150	
Trucks		0.906728			0.87415			0.819444			0.828125		
2 axle	0	16	7	1	3	0	0	0	2	0	0	2	
PCI	0	24	10.5	1.5	4.5	0	0	0	3	0	0	3	
3 axle	0	6	1	0	3	0	0	0	0	0	0	0	
PCI	0	12	2	0	6	0	0	0	0	0	0	0	
4+ axle	0	8	1	1	2	1	0	0	0	0	0	2	
PCI	0	24	3	3	6	3	0	0	0	0	0	6	
Total (PCI)	35	906	282	130	389	9	6	25	29	96	19	155	

VALLEY BLVD. @ ALDER AVE.
SAN BERNARDINO COUNTY
PUBLIC WORKS
TRAFFIC DIVISION

File Name : Valley@Alder110525
Site Code : 00000000
Start Date : 05/25/2011
Page No : 1

Groups Printed- Unshifted

	ALDER AVE Northbound				ALDER AVE Southbound				VALLEY BLVD Eastbound				VALLEY BLVD Westbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	3	5	1	54	2	43	0	2	57	21	0	15	109	0	0	312
07:15 AM	0	2	3	0	70	3	33	0	4	82	28	0	20	130	3	0	378
07:30 AM	1	2	4	0	64	2	47	1	2	70	63	1	21	172	4	0	454
07:45 AM	1	2	9	0	69	2	29	1	6	77	39	2	24	175	4	0	440
Total	2	9	21	1	257	9	152	2	14	286	151	3	80	586	11	0	1584
08:00 AM	0	1	5	0	62	5	39	1	2	70	27	1	26	184	2	0	425
08:15 AM	0	1	2	3	72	2	37	3	1	85	26	1	22	189	9	4	457
08:30 AM	5	1	5	1	63	4	28	1	6	81	42	5	11	164	2	1	420
08:45 AM	2	2	5	2	69	9	35	0	5	107	36	5	22	157	8	1	465
Total	7	5	17	6	266	20	139	5	14	343	131	12	81	694	21	6	1767
	7	6	20		267	11	152		11	302	155		93	720	19		
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1.0				.97				1.0				.95			
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	4	6	9	0	26	0	39	0	11	224	50	1	26	74	3	0	473
04:15 PM	2	5	6	0	20	3	43	0	10	207	52	2	42	79	2	0	473
04:30 PM	3	2	7	2	30	5	38	2	5	210	62	0	46	88	2	0	502
04:45 PM	1	3	4	0	21	0	28	1	6	176	66	0	31	80	3	0	420
Total	10	16	26	2	97	8	148	3	32	817	230	3	145	321	10	0	1868

Department Of Public works
Traffic Division

COMMERCIAL TRUCK COUNT

LOCATION: ~~Riverside Dr. @ Reservoir St.~~ Valley @ Alder

COUNT BY: DAVID TRAN / JORGE VELA

DATE: 05/25/2011

TIME	TYPE	NB LT	NB THRU	NB RT	SB LT	SB THRU	SB RT	EB LT	EB THRU	EB RT	WB LT	WB THRU	WB RT	TOTAL
7:00	2-AXLE				1			1	3			1	1	7
	3-AXLE								1			2		3
	4-AXLE									1				1
	5-AXLE +											1		1
7:15	2-AXLE							1	5		1	2		9
	3-AXLE								1		1			2
	4-AXLE								1			1		2
	5-AXLE +													0
7:30	2-AXLE				2				5			2		9
	3-AXLE	1				1			2			1	1	6
	4-AXLE											1		1
	5-AXLE +				1				2			1		4
7:45	2-AXLE								3					3
	3-AXLE								1					1
	4-AXLE													0
	5-AXLE +								1			2		3
TOTAL		1	0	0	4	1	0	2	25	1	2	14	2	
8:00	2-AXLE													0
	3-AXLE								3			1		4
	4-AXLE		2						1					3
	5-AXLE +								1			1		2
8:15	2-AXLE						2		3			3		8
	3-AXLE							1						1
	4-AXLE													0
	5-AXLE +				1						1	1		3
8:30	2-AXLE						1	1						2
	3-AXLE		1					2						3
	4-AXLE							1						1
	5-AXLE +	1										1	1	3
8:45	2-AXLE				1				3					4
	3-AXLE											1		1
	4-AXLE									1				1
	5-AXLE +								2			1	1	4
TOTAL		1	3	0	2	0	3	5	13	1	1	9	2	

TIME	TYPE	NB LT	NB THRU	NB RT	SB LT	SB THRU	SB RT	EB LT	EB THRU	EB RT	WB LT	WB THRU	WB RT	TOTAL
16:00	2-AXLE							5	4			1		10
	3-AXLE								2			5		7
	4-AXLE								2			1		3
	5-AXLE +								5			1		6
16:15	2-AXLE		1		1			2	3	1	1			9
	3-AXLE	1												1
	4-AXLE													0
	5-AXLE +								5	2		1		8
16:30	2-AXLE								3			1	2	6
	3-AXLE						1					2		3
	4-AXLE											1		1
	5-AXLE +				1			1	2					4
16:45	2-AXLE							1	3			1		5
	3-AXLE							1						1
	4-AXLE	1												1
	5-AXLE +							2	4					6
TOTAL		2	1	0	2	0	1	12	33	3	1	14	2	
17:00	2-AXLE				1			2	5				1	9
	3-AXLE													0
	4-AXLE													0
	5-AXLE +							1	1			1		3
17:15	2-AXLE	1						2	7			3		13
	3-AXLE								3			3		6
	4-AXLE								2					2
	5-AXLE +								2		1			3
17:30	2-AXLE				1			2	2					5
	3-AXLE													0
	4-AXLE													0
	5-AXLE +				1				2			1	1	5
17:45	2-AXLE	1						1	2					4
	3-AXLE							1	3					4
	4-AXLE													0
	5-AXLE +				1				1					2
TOTAL		2	0	0	4	0	0	9	30	0	1	8	2	