WEBSTER

WEbster Based Signal Timing Evaluation Routine

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

Existing Condition w/Existing Geometrics

Barstow and Mountain View | **Barstow** | **PM Peak Hour**

Input

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L	T	*R*	L	T	R	L	*T*	R	*L*	T	R
Movement 1: 20 secs	X	X	X	X	X	X						
Movement 2: 10 secs							X			X		
Movement 3: 3 secs							X	X	X			
Movement 4: 30 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	S	1	1	1	1	S	1	1	S	1	2	S
Unadjusted Volume	20	85	245	45	75	40	90	485	35	25	580	40
Peak Hour Factor (PHF)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)	Shrd					Shrd			Shrd			Shrd
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	-	1.00	1.00	1.00	1.00	-	1.00	1.00	-	1.00	1.00	-

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

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

Output

			***					***		***		
Pk. Hr. Vol. (vph)	20	85	245	45	75	40	90	485	35	25	580	40
Saturation Flow (vph)	Shrd	1300	1800	1000	1800	Shrd	1700	1800	Shrd	1700	3600	Shrd
X or V/C	-	0.28	0.48	0.16	0.22	-	0.30	0.59	-	0.12	0.39	-
Effective green (sec)	-	18	18	18	18	-	11	31	-	8	28	-
Split Time (sec)	-	20	20	20	20	-	13	33	-	10	30	-
Min. Time or Ped. Time (sec)	-	20	20	10	20	-	10	20	-	10	20	-
Delay - 15 min pk (sec/veh)	-	19	22	18	18	-	25	14	-	25	12	-
Level of Service (LOS)	-	B	C+	B	B	-	C	B	-	C	B	-
Average 'Q' (veh/ln)	-	1	3	1	1	-	1	5	-	1	3	-
Design 'Q'- ft/ln	-	40	100	40	40	-	40	160	-	40	100	-
Do Vehicles Clear?	-	YES	YES	YES	YES	-	YES	YES	-	YES	YES	-

Summary

Whole Intersection

Weighted Avg Delay (sec) = 16
Level of Service - LOS = B

Critical Movements

Weighted Avg Delay (sec) = 17
Level of Service - LOS = B
Intersection Capacity Utilization - ICU = 0.49

Required Cycle Length is 63 sec

Min./Ped. Times Satisfied

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: BARSTOW
EAST-WEST STREET: MOUNTAIN VIEW
JURISDICTION: BARSTOW

DATE: 06-05-08

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 538

Rt	Thru	Lt		
19	490	29	Total	
5	123	11	1st	383
9	143	6	2nd	485
1	115	5	3rd	354
4	109	7	4th	275

Autos

36 568 24
16 40
84 72
244 44
88 484 32

Trucks

12
12

EAST LEG TOTAL: 146

	1st	2nd	3rd	4th	Total
Rt	5	10	8	7	30
Thru	17	18	15	6	56
Lt	17	11	20	12	60

	Total	1st	2nd	3rd	4th
Lt	7	2	4	0	1
Thru	64	22	21	10	11
Rt	167	38	61	46	22

WEST LEG TOTAL: 238

Total
40 580 25
20 40
85 75
245 45
90 485 35

	Lt	Thru	Rt
1st	21	114	8
2nd	22	122	8
3rd	19	106	9
4th	6	84	6
Total	68	426	31

SOUTH LEG

TOTAL: 525

PEAK HOUR FACTORS

NORTH LEG = 0.85
SOUTH LEG = 0.86
EAST LEG = 0.85
WEST LEG = 0.69

ALL LEGS = 0.83

HOUR TOTAL: 1,447

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : BARSTOW BARSTOW

EAST-WEST STREET : MOUNTAIN VIEW 06-05-08

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
						NORTH LEG						
3	75	9	0	0	0	0	1	0	0	0	0	88
4	56	10	0	0	0	0	0	0	0	0	0	70
5	123	11	0	0	0	0	0	0	0	0	0	139
9	142	6	0	0	0	0	0	0	0	1	0	158
1	115	5	0	0	0	0	0	0	0	0	0	121
4	108	7	0	0	0	0	0	0	0	1	0	120
5	108	5	0	1	0	0	1	0	0	0	0	120
5	97	5	0	0	0	0	0	0	0	0	0	107
36	824	58	0	1	0	0	2	0	0	2	0	923
						SOUTH LEG						
3	69	11	0	0	0	0	0	0	0	0	0	83
1	75	10	0	0	0	0	0	0	0	0	0	86
8	114	21	0	0	0	0	0	0	0	0	0	143
8	121	22	0	0	0	0	0	0	0	1	0	152
9	105	19	0	0	0	0	0	0	0	1	0	134
6	83	6	0	0	0	0	1	0	0	0	0	96
9	84	23	0	0	0	0	0	0	0	0	0	116
11	96	14	0	0	0	0	0	0	0	0	0	121
55	747	126	0	0	0	0	1	0	0	2	0	931
						EAST LEG						
9	19	7	0	0	0	0	0	0	0	0	0	35
15	16	8	0	0	0	0	0	0	0	0	0	39
5	17	17	0	0	0	0	0	0	0	0	0	39
10	18	11	0	0	0	0	0	0	0	0	0	39
8	15	20	0	0	0	0	0	0	0	0	0	43
7	6	12	0	0	0	0	0	0	0	0	0	25
5	6	13	0	0	0	0	0	0	0	0	0	24
4	15	13	0	0	0	0	0	0	0	0	0	32
63	112	101	0	0	0	0	0	0	0	0	0	276
						WEST LEG						
29	18	3	0	0	0	0	0	0	0	0	0	50
33	17	2	0	0	0	0	0	0	0	0	0	52
38	22	2	0	0	0	0	0	0	0	0	0	62
61	21	4	0	0	0	0	0	0	0	0	0	86
46	10	0	0	0	0	0	0	0	0	0	0	56
22	11	1	0	0	0	0	0	0	0	0	0	34
26	14	6	0	0	0	0	0	0	0	0	0	46
24	10	6	0	0	0	0	0	0	0	0	0	40
279	123	24	0	0	0	0	0	0	0	0	0	426

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: BARSTOW

EAST-WEST STREET: MOUNTAIN VIEW

TIME: 04:00PM-05:00PM DATE: 06-05-08

NORTH LEG

Rt	Thru	Lt	
21	398	36	Total
3	76	9	1st
4	56	10	2nd
5	123	11	3rd
9	143	6	4th

	1st	2nd	3rd	4th	Total
Rt	9	15	5	10	39
Thru	19	16	17	18	70
Lt	7	8	17	11	43

Total	1st	2nd	3rd	4th	
11	3	2	2	4	Lt
78	18	17	22	21	Thru
161	29	33	38	61	Rt

	Lt	Thru	Rt
1st	11	69	3
2nd	10	75	1
3rd	21	114	8
4th	22	122	8
Total	64	380	20

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: BARSTOW

EAST-WEST STREET: MOUNTAIN VIEW

TIME: 05:00PM-06:00PM DATE: 06-05-08

NORTH LEG

Rt	Thru	Lt	
15	431	22	Total
1	115	5	1st
4	109	7	2nd
5	110	5	3rd
5	97	5	4th

	1st	2nd	3rd	4th	Total
Rt	8	7	5	4	24
Thru	15	6	6	15	42
Lt	20	12	13	13	58

Total	1st	2nd	3rd	4th	
13		1	6	6	Lt
45	10	11	14	10	Thru
118	46	22	26	24	Rt

	Lt	Thru	Rt
1st	19	106	9
2nd	6	84	6
3rd	23	84	9
4th	14	96	11
Total	62	370	35

Prepared by NEWPORT TRAFFIC STUDIES