Version 2.0.9

04-30-2010

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

Euclid Ave (SR-83)/Philadelphia St | **City of Ontario** | **AM Peak Hour**

Input

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L	T	R	L	*T*	R	*L*	T	R	L	*T*	R
Movement 1: 25 secs	X	X	X	X	X	X						
Movement 2: 10 secs							X			X		
Movement 3: 2 secs							X	X	X			
Movement 4: 23 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	1	1	S	1	2	1	1	3	S
Unadjusted Volume	29	97	19	54	120	18	40	156	33	14	183	51
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
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	-

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)	29	97	19	54	120	18	40	156	33	14	183	51
Saturation Flow (vph)	1300	3600	Shrd	1300	1800	Shrd	1700	3600	1800	1700	5400	Shrd
X or V/C	0.06	0.08	-	0.11	0.20	-	0.14	0.11	0.05	0.06	0.12	-
Effective green (sec)	23	23	-	23	23	-	10	23	23	8	21	-
Split Time (sec)	25	25	-	25	25	-	12	25	25	10	23	-
Min. Time or Ped. Time (sec)	10	20	-	10	20	-	10	20	20	10	20	-
Delay - 15 min pk (sec/veh)	12	12	-	12	13	-	22	12	12	23	13	-
Level of Service (LOS)	B	B	-	B	B	-	C+	B	B	C+	B	-
Average 'Q' (veh/ln)	1	1	-	1	1	-	1	1	1	1	1	-
Design 'Q'- ft/ln	40	40	-	40	40	-	40	40	40	40	40	-
Do Vehicles Clear?	YES	YES	-	YES	YES	-	YES	YES	YES	YES	YES	-

Summary

Whole Intersection

Weighted Avg Delay (sec) = 13
Level of Service - LOS = B

Critical Movements

Weighted Avg Delay (sec) = 14
Level of Service - LOS = B
Intersection Capacity Utilization - ICU = 0.16

Predetermined Cycle Length Is 60 sec

Min./Ped. Times Satisfied

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

Existing Traffic with Existing Lane Geometrics

Euclid Ave (SR-83)/Philadelphia St **City of Ontario** **PM Peak Hour**

Input

	Eastbound			Westbound			Northbound			Southbound		
Movement Times	L	T	R	*L*	T	R	*L*	T	R	L	*T*	R
Movement 1: 22 secs	X	X	X	X	X	X						
Movement 2: 11 secs							X			X		
Movement 3: 6 secs							X	X	X			
Movement 4: 21 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	1	1	S	1	2	1	1	3	S
Unadjusted Volume	181	339	127	217	330	82	324	925	259	139	909	153
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
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	-

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)	181	339	127	217	330	82	324	925	259	139	909	153
Saturation Flow (vph)	1000	3600	Shrd	900	1800	Shrd	1700	3600	1800	1700	5400	Shrd
X or V/C	0.54	0.39	-	0.72	0.69	-	0.76	0.62	0.35	0.55	0.62	-
Effective green (sec)	20	20	-	20	20	-	15	25	25	9	19	-
Split Time (sec)	22	22	-	22	22	-	17	27	27	11	21	-
Min. Time or Ped. Time (sec)	10	20	-	10	20	-	10	20	20	10	20	-
Delay - 15 min pk (sec/veh)	23	16	-	32	24	-	33	16	13	32	19	-
Level of Service (LOS)	C+	B	-	C-	C+	-	C-	B	B	C-	B	-
Average 'Q' (veh/ln)	2	3	-	3	5	-	4	4	3	2	4	-
Design 'Q'- ft/ln	60	100	-	100	160	-	120	120	100	60	120	-
Do Vehicles Clear?	YES	YES	-	YES	YES	-	YES	YES	YES	YES	YES	-

Summary

Whole Intersection

Weighted Avg Delay (sec) = 20
Level of Service - LOS = C+

Critical Movements

Weighted Avg Delay (sec) = 24
Level of Service - LOS = C+
Intersection Capacity Utilization - ICU = 0.70

Predetermined Cycle Length is 60 sec

Min./Ped. Times Satisfied