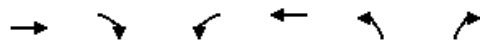


ANEXO 13

MEMÓRIA DE CÁLCULO DA SIMULAÇÃO DO CENÁRIO 02



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Volume (veh/h)	252	4	7	476	5	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	4	8	517	5	18
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			278		809	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			278		809	276
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	98
cM capacity (veh/h)			1284		348	763
Direction, Lane #						
	EB 1	WB 1	NB 1			
Volume Total	278	525	24			
Volume Left	0	8	5			
Volume Right	4	0	18			
cSH	1700	1284	600			
Volume to Capacity	0.16	0.01	0.04			
Queue Length 95th (m)	0.0	0.1	1.0			
Control Delay (s)	0.0	0.2	11.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	11.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			40.6%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection













Intersection Delay (sec/veh): 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	252	4	7	476	5	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0.0	0.0		0.0	0.0
Median Width	0.0			0.0	3.6	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	274	4	8	517	5	18
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	0	0	278	0	809	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	533	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1285	-	350	763
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	588	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1285	-	347	763
Mov Capacity-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0.1	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBT	EBR	WBL	WBT
Capacity (vph)	600				
HCM Control Delay (s)	11.2	-	-	7.818	-
HCM Lane VC Ratio	0.04	-	-	0.006	-
HCM Lane LOS	B	-	-	A	-
HCM 95th Percentile Queue (veh)	0.124	-	-	0.018	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Volume (vph)	43	2	22	7	0	2	24	268	10	15	337	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Capacity, veh/h	593	54	244	160	0	0	148	1233	45	114	1231	121
Arriving On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1190.9	28.5	609.3	0.0	0.0	0.0	256.5	2890.8	112.0	132.7	2981.6	301.9
Grp Volume(v), veh/h	72.8	0.0	0.0	9.8	0.0	0.0	165.6	0.0	162.6	218.6	0.0	201.0
Grp Sat Flow(s),veh/h/ln	1855.6	0.0	0.0	0.0	0.0	0.0	1628.9	0.0	1675.3	1779.7	0.0	1641.8
Q Serve(g_s), s	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	3.3
Cycle Q Clear(g_c), s	1.0	0.0	0.0	16.0	0.0	0.0	8.0	0.0	2.6	3.2	0.0	3.3
Proportion In Lane	0.642		0.328	0.778		0.222	0.157		0.067	0.075		0.184
Lane Grp Cap(c), veh/h	890.0	0.0	0.0	160.0	0.0	0.0	755.7	0.0	670.1	808.6	0.0	656.7
V/C Ratio(X)	0.082	0.000	0.000	0.061	0.000	0.000	0.219	0.000	0.243	0.270	0.000	0.306
Avail Cap(c_a), veh/h	890.0	0.0	0.0	160.0	0.0	0.0	755.7	0.0	670.1	808.6	0.0	656.7
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.000	0.000	0.000	1.000	0.000	0.000	1.000	0.000	1.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	7.5	0.0	0.0	15.2	0.0	0.0	7.9	0.0	8.0	8.2	0.0	8.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.9	0.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	7.7	0.0	0.0	15.9	0.0	0.0	8.6	0.0	8.8	9.0	0.0	9.4
Lane Group LOS	A			B			A		A	A		A
Approach Volume, veh/h		73			10			328			420	
Approach Delay, s/veh		7.7			15.9			8.7			9.2	
Approach LOS		A			B			A			A	
Timer												
Assigned Phase		4			8			2			6	
Phase Duration (G+Y+Rc), s		20.00			20.00			20.00			20.00	
Change Period (Y+Rc), s		4.00			4.00			4.00			4.00	
Max Green Setting (Gmax), s		16.00			16.00			16.00			16.00	
Max Q Clear Time (g_c+l1), s		3.04			18.00			9.98			5.35	
Green Extension Time (p_c)		0.60			0.00			4.28			7.04	
Intersection Summary												
HCM 2010 Control Delay				8.9								
HCM 2010 Level of Service				A								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↖	↗		↖	↗	
Volume (vph)	12	0	0	4	5	1	31	267	22	29	398	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	0	0	1863	1863	1863	1863	1863	1863	1863	1863	0
Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Capacity, veh/h	120	0	0	246	284	50	118	764	63	148	869	0
Arriving On Green	0.27	0.00	0.00	0.27	0.27	0.27	0.07	0.45	0.45	0.08	0.47	0.00
Sat Flow, veh/h	0.0	0.0	0.0	742.7	591.2	185.7	1774.0	1698.1	139.9	1774.0	1862.7	0.0
Grp Volume(v), veh/h	13.0	0.0	0.0	10.9	0.0	0.0	33.7	0.0	314.1	31.5	432.6	0.0
Grp Sat Flow(s),veh/h/ln	0.0	0.0	0.0	1856.8	0.0	0.0	1774.0	0.0	1838.1	1774.0	1862.7	0.0
Q Serve(g_s), s	15.7	0.0	0.0	0.0	0.0	0.0	1.1	0.0	6.8	1.0	9.7	0.0
Cycle Q Clear(g_c), s	16.0	0.0	0.0	0.3	0.0	0.0	1.1	0.0	6.8	1.0	9.7	0.0
Proportion In Lane	1.000		0.000	0.400		0.100	1.000		0.076	1.000		0.000
Lane Grp Cap(c), veh/h	120.0	0.0	0.0	579.1	0.0	0.0	118.3	0.0	827.1	147.8	869.3	0.0
V/C Ratio(X)	0.109	0.000	0.000	0.019	0.000	0.000	0.285	0.000	0.380	0.213	0.498	0.000
Avail Cap(c_a), veh/h	120.0	0.0	0.0	579.1	0.0	0.0	118.3	0.0	827.1	147.8	869.3	0.0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	0.000	1.000	0.000	0.000	1.000	0.000	1.000	1.000	1.000	0.000
Uniform Delay (d), s/veh	30.0	0.0	0.0	16.2	0.0	0.0	26.6	0.0	10.9	25.7	11.1	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.1	0.0	0.0	6.0	0.0	1.3	3.3	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	31.8	0.0	0.0	16.3	0.0	0.0	32.6	0.0	12.3	28.9	13.1	0.0
Lane Group LOS	C			B			C		B	C	B	
Approach Volume, veh/h		13			11			348			464	
Approach Delay, s/veh		31.8			16.3			14.2			14.2	
Approach LOS		C			B			B			B	
Timer												
Assigned Phase		4			8		5	2		1		6
Phase Duration (G+Y+Rc), s		20.00			20.00		8.00	31.00		9.00		32.00
Change Period (Y+Rc), s		4.00			4.00		4.00	4.00		4.00		4.00
Max Green Setting (Gmax), s		16.00			16.00		4.00	27.00		5.00		28.00
Max Q Clear Time (g_c+l1), s		18.00			2.26		3.08	8.80		2.99		11.68
Green Extension Time (p_c)		0.00			0.03		0.01	11.05		0.02		10.18
Intersection Summary												
HCM 2010 Control Delay				14.5								
HCM 2010 Level of Service				B								

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↖			↓
Volume (veh/h)	15	3	24	11	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	3	26	12	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43	32			38	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43	32			38	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	968	1042			1572	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	20	38	11			
Volume Left	16	0	0			
Volume Right	3	12	0			
cSH	979	1700	1572			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (m)	0.5	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

Intersection

Intersection Delay (sec/veh): 2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	15	3	24	11	0	10
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0.0	0.0		0.0	0.0	
Median Width	3.6		0.0			0.0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	16	3	26	12	0	11
Number of Lanes	1	0	1	0	0	1

Major/Minor

			Major 1		Major 2	
Conflicting Flow Rate - All	43	32	0	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	0	-
Pot Capacity-1 Maneuver	968	1042	-	-	0	-
Stage 1	991	-	-	-	0	-
Stage 2	1012	-	-	-	0	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	968	1042	-	-	-	-
Mov Capacity-2 Maneuver	968	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach


















	WB	NB	SB
HCM Control Delay (s)	8.7	0	0
HCM LOS	A	A	A

Lane

	NBT	NBR	WBLn1	SBT
Capacity (vph)			980	
HCM Control Delay (s)	-	-	8.7	-
HCM Lane VC Ratio	-	-	0.02	-
HCM Lane LOS	-	-	A	-
HCM 95th Percentile Queue (veh)	-	-	0.061	-

HCM Unsignalized Intersection Capacity Analysis
 400: Av. Meaípe/Rod. Paulo Borges & Av. Norte Sul

Hora pico: Manhã
 23/09/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	39	4	5	2	0	3	6	294	1	0	377	17	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	42	4	5	2	0	3	7	320	1	0	410	18	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type													
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	755	753	419	760	761	320	428			321			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	755	753	419	760	761	320	428			321			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	87	99	99	99	100	100	99			100			
cM capacity (veh/h)	322	337	634	315	333	721	1131			1239			
Direction, Lane #													
	EB 1	WB 1	NB 1	SB 1									
Volume Total	52	5	327	428									
Volume Left	42	2	7	0									
Volume Right	5	3	1	18									
cSH	341	476	1131	1700									
Volume to Capacity	0.15	0.01	0.01	0.25									
Queue Length 95th (m)	4.3	0.3	0.1	0.0									
Control Delay (s)	17.5	12.7	0.2	0.0									
Lane LOS	C	B	A										
Approach Delay (s)	17.5	12.7	0.2	0.0									
Approach LOS	C	B											
Intersection Summary													
Average Delay			1.3										
Intersection Capacity Utilization			32.5%	ICU Level of Service	A								
Analysis Period (min)			15										

Intersection

Intersection Delay (sec/veh): 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	39	4	5	2	0	3	6	294	1	0	377	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	42	4	5	2	0	3	7	320	1	0	410	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	755	754	419	759	763	321	428	0	0	321	0	0
Stage 1	419	419	-	335	335	-	-	-	-	-	-	-
Stage 2	336	335	-	424	428	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	325	338	634	323	334	720	1131	-	-	1239	-	-
Stage 1	612	590	-	679	643	-	-	-	-	-	-	-
Stage 2	678	643	-	608	585	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	322	335	634	315	331	720	1131	-	-	1239	-	-
Mov Capacity-2 Maneuver	322	335	-	315	331	-	-	-	-	-	-	-
Stage 1	607	590	-	674	638	-	-	-	-	-	-	-
Stage 2	670	638	-	598	585	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	17.5	12.7	0.2	0
HCM LOS	C	B	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				341	475			
HCM Control Delay (s)	8.201	0	-	17.5	12.7	0	-	-
HCM Lane VC Ratio	0.006	-	-	0.153	0.011	-	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th Percentile Queue (veh)	0.017	-	-	0.534	0.035	0	-	-

Intersection

Intersection Delay (sec/veh): 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	463	14	19	327	16	35
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0.0	0.0		0.0	0.0
Median Width	0.0			0.0	3.6	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	503	15	21	355	17	38
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	0	0	518	0	908	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	397	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1048	-	306	563
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	679	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1048	-	298	563
Mov Capacity-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0.5	14.4
HCM LOS	A	A	B

Lane	NBLn1	EBT	EBR	WBL	WBT
Capacity (vph)	440				
HCM Control Delay (s)	14.4	-	-	8.504	-
HCM Lane VC Ratio	0.126	-	-	0.02	-
HCM Lane LOS	B	-	-	A	-
HCM 95th Percentile Queue (veh)	0.429	-	-	0.06	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	61	4	29	15	0	36	39	440	14	21	268	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Capacity, veh/h	599	63	229	116	0	0	152	1236	38	131	1123	169
Arriving On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1204.6	39.6	572.7	0.0	0.0	0.0	258.6	2930.8	94.8	207.9	2579.3	423.1
Grp Volume(v), veh/h	102.2	0.0	0.0	55.4	0.0	0.0	266.5	0.0	269.3	184.9	0.0	174.8
Grp Sat Flow(s),veh/h/ln	1856.2	0.0	0.0	0.0	0.0	0.0	1625.9	0.0	1678.4	1684.3	0.0	1620.4
Q Serve(g_s), s	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	4.6	0.0	0.0	2.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	16.0	0.0	0.0	4.0	0.0	4.6	2.6	0.0	2.9
Proportion In Lane	0.649		0.309	0.294		0.706	0.159		0.056	0.123		0.261
Lane Grp Cap(c), veh/h	890.9	0.0	0.0	116.5	0.0	0.0	754.7	0.0	671.3	774.8	0.0	648.2
V/C Ratio(X)	0.115	0.000	0.000	0.476	0.000	0.000	0.353	0.000	0.401	0.239	0.000	0.270
Avail Cap(c_a), veh/h	890.9	0.0	0.0	116.5	0.0	0.0	754.7	0.0	671.3	774.8	0.0	648.2
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	0.000	1.000	0.000	0.000	1.000	0.000	1.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	7.6	0.0	0.0	15.9	0.0	0.0	8.4	0.0	8.6	8.0	0.0	8.1
Incr Delay (d2), s/veh	0.3	0.0	0.0	13.3	0.0	0.0	1.3	0.0	1.8	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	7.9	0.0	0.0	29.2	0.0	0.0	9.7	0.0	10.4	8.7	0.0	9.1
Lane Group LOS	A			C			A		B	A		A
Approach Volume, veh/h		102			55			536			360	
Approach Delay, s/veh		7.9			29.2			10.0			8.9	
Approach LOS		A			C			B			A	
Timer												
Assigned Phase		4			8			2			6	
Phase Duration (G+Y+Rc), s		20.00			20.00			20.00			20.00	
Change Period (Y+Rc), s		4.00			4.00			4.00			4.00	
Max Green Setting (Gmax), s		16.00			16.00			16.00			16.00	
Max Q Clear Time (g_c+l1), s		3.45			18.00			6.59			4.90	
Green Extension Time (p_c)		0.84			0.00			7.14			8.25	
Intersection Summary												
HCM 2010 Control Delay				10.4								
HCM 2010 Level of Service				B								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Volume (vph)	1	29	0	11	8	4	56	490	6	13	288	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	0	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Capacity, veh/h	65	489	0	209	141	55	118	826	10	148	859	9
Arriving On Green	0.27	0.27	0.00	0.27	0.27	0.27	0.07	0.45	0.45	0.08	0.47	0.47
Sat Flow, veh/h	61.6	1719.7	0.0	567.1	378.5	206.2	1774.0	1836.3	22.5	1774.0	1840.2	19.2
Grp Volume(v), veh/h	32.6	0.0	0.0	25.0	0.0	0.0	60.9	0.0	539.1	14.1	0.0	316.3
Grp Sat Flow(s),veh/h/ln	1846.7	0.0	0.0	1185.7	0.0	0.0	1774.0	0.0	1858.8	1774.0	0.0	1859.4
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	13.5	0.4	0.0	6.6
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.6	0.0	0.0	2.0	0.0	13.5	0.4	0.0	6.6
Proportion In Lane	0.033		0.000	0.478		0.174	1.000		0.012	1.000		0.010
Lane Grp Cap(c), veh/h	554.5	0.0	0.0	404.9	0.0	0.0	118.3	0.0	836.4	147.8	0.0	867.7
V/C Ratio(X)	0.059	0.000	0.000	0.062	0.000	0.000	0.515	0.000	0.645	0.096	0.000	0.365
Avail Cap(c_a), veh/h	554.5	0.0	0.0	404.9	0.0	0.0	118.3	0.0	836.4	147.8	0.0	867.7
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	0.000	1.000	0.000	0.000	1.000	0.000	1.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	16.4	0.0	0.0	16.4	0.0	0.0	27.1	0.0	12.8	25.4	0.0	10.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	15.1	0.0	3.8	1.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	16.6	0.0	0.0	16.7	0.0	0.0	42.2	0.0	16.6	26.7	0.0	11.5
Lane Group LOS	B			B			D		B	C		B
Approach Volume, veh/h		33			25			600			330	
Approach Delay, s/veh		16.6			16.7			19.2			12.1	
Approach LOS		B			B			B			B	
Timer												
Assigned Phase		4			8		5	2		1		6
Phase Duration (G+Y+Rc), s		20.00			20.00		8.00	31.00		9.00		32.00
Change Period (Y+Rc), s		4.00			4.00		4.00	4.00		4.00		4.00
Max Green Setting (Gmax), s		16.00			16.00		4.00	27.00		5.00		28.00
Max Q Clear Time (g_c+l1), s		2.78			2.62		3.99	15.48		2.44		8.56
Green Extension Time (p_c)		0.44			0.45		0.00	8.51		0.01		13.07
Intersection Summary												
HCM 2010 Control Delay				16.7								
HCM 2010 Level of Service				B								

Intersection

Intersection Delay (sec/veh): 3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	66	0	66	9	0	12
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0.0	0.0		0.0	0.0
Median Width	0.0			0.0	3.6	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	72	0	72	10	0	13
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	0	-	72	0	226	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	154	-
Follow-up Headway	-	0	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	1528	-	762	990
Stage 1	-	0	-	-	951	-
Stage 2	-	0	-	-	874	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1528	-	726	990
Mov Capacity-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	833	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	6.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBT	WBL	WBT
Capacity (vph)	990			
HCM Control Delay (s)	8.7	-	7.472	-
HCM Lane VC Ratio	0.013	-	0.047	-
HCM Lane LOS	A	-	A	-
HCM 95th Percentile Queue (veh)	0.04	-	0.148	-

Intersection

Intersection Delay (sec/veh): 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	32	1	10	4	0	1	9	530	2	0	310	21
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Median Width		0.0			0.0			0.0			0.0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	35	1	11	4	0	1	10	576	2	0	337	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2		Minor 1			Major 1			Major 2			
Conflicting Flow Rate - All	947	947	349	952	957	577	360	0	0	578	0	0
Stage 1	349	349	-	597	597	-	-	-	-	-	-	-
Stage 2	598	598	-	355	360	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	241	261	694	239	258	516	1199	-	-	996	-	-
Stage 1	667	634	-	490	491	-	-	-	-	-	-	-
Stage 2	489	491	-	662	626	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	238	258	694	232	255	516	1199	-	-	996	-	-
Mov Capacity-2 Maneuver	238	258	-	232	255	-	-	-	-	-	-	-
Stage 1	659	634	-	484	485	-	-	-	-	-	-	-
Stage 2	482	485	-	651	626	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	20.3	19.1	0.1	0
HCM LOS	C	C	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				282	261			
HCM Control Delay (s)	8.027	0	-	20.3	19.1	0	-	-
HCM Lane VC Ratio	0.008	-	-	0.166	0.021	-	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th Percentile Queue (veh)	0.025	-	-	0.584	0.064	0	-	-