

# HCM 7th Signalized Intersection Summary

## 4: Cedar Creek Road/Cedar Creek Road & NC 96 Bypass

06/16/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	148	231	435	670	257
Future Volume (veh/h)	112	148	231	435	670	257
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	164	257	483	744	286
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	272	242	336	1359	892	756
Arrive On Green	0.15	0.15	0.19	0.73	0.48	0.48
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	124	164	257	483	744	286
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	5.2	8.1	11.3	7.9	28.5	9.5
Cycle Q Clear(g_c), s	5.2	8.1	11.3	7.9	28.5	9.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	272	242	336	1359	892	756
V/C Ratio(X)	0.46	0.68	0.76	0.36	0.83	0.38
Avail Cap(c_a), veh/h	431	384	431	1359	892	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	33.1	31.8	4.2	18.8	13.8
Incr Delay (d2), s/veh	1.2	3.3	6.0	0.7	6.9	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.2	5.1	2.0	12.1	10.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	33.1	36.4	37.8	4.9	25.6	14.1
LnGrp LOS	C	D	D	A	C	B
Approach Vol, veh/h	288			740	1030	
Approach Delay, s/veh	35.0			16.3	22.4	
Approach LOS	C			B	C	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	65.0			17.6	20.6	44.4
Change Period (Y+Rc), s	7.0			7.0	7.0	* 7
Max Green Setting (Gmax), s	58.0			18.0	18.0	* 36
Max Q Clear Time (g_c+I1), s	9.9			10.1	13.3	30.5
Green Ext Time (p_c), s	3.0			0.5	0.3	2.5

### Intersection Summary

HCM 7th Control Delay, s/veh	22.0
HCM 7th LOS	C

### Notes

\* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.