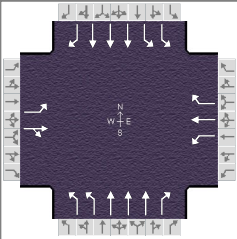


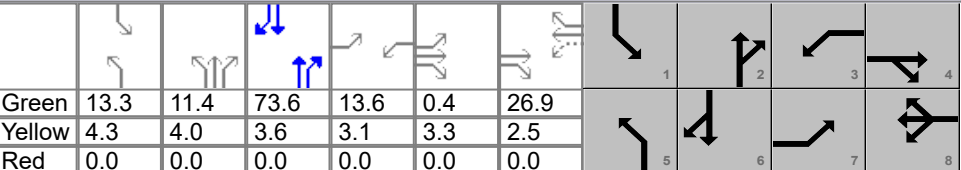
# HCS7 Signalized Intersection Input Data

General Information					Intersection Information							
Agency	Group 4				Duration, h	0.250						
Analyst	Jorge Ugan and Md Rakibul Alam		Analysis Date	10/18/2020		Area Type	Other					
Jurisdiction	HCM		Time Period	4pm to 7pm		PHF	0.90					
Urban Street	North Alafaya Trail		Analysis Year	2020		Analysis Period	1 > 7:00					
Intersection	North Alafaya Trail & Wa...		File Name	Project1PlanB.xus								
Project Description	TTE6256 Project											

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand ( v ), veh/h	124	32	125	194	55	138	267	1025	149	183	1144	651

Signal Information																							
Cycle, s	160.0	Reference Phase	2	Green	13.3	11.4	73.6	13.6	0.4	26.9	Yellow	4.3	4.0	3.6	3.1	3.3	2.5	Red	0.0	0.0	0.0	0.0	0.0
Offset, s	0	Reference Point	End	Uncoordinated	No	Simult. Gap E/W	On	Force Mode	Fixed	Simult. Gap N/S	On												

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	124	32	125	194	55	138	267	1025	149	183	1144	651
Initial Queue (Q <sub>b</sub> ), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s <sub>o</sub> ), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N <sub>m</sub> ), man/h	None			None			None			None		
Heavy Vehicles (P <sub>HV</sub> ), %	0	0		0	0	0	0	0	0	0	0	0
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N <sub>b</sub> ), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Lane Width (W), ft	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	212	0		118	0	0	256	0	0	344	0	0
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G <sub>max</sub> ) or Phase Split, s	20.4	33.1	16.7	29.4	33.0	92.6	17.6	77.2
Yellow Change Interval (Y), s	3.3	3.2	3.1	2.5	4.0	4.0	4.3	3.6
Red Clearance Interval ( R <sub>c</sub> ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Green ( G <sub>min</sub> ), s	6	6	6	6	6	6	6	6
Start-Up Lost Time ( lt ), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

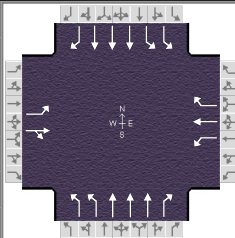
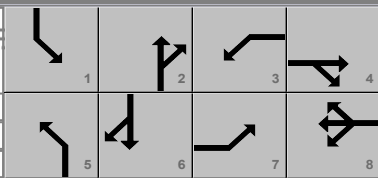
  

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

# HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		Group 4				Duration, h		0.250							
Analyst		Jorge Ugan and Md Rakibul Alam		Analysis Date		10/18/2020		Area Type		Other					
Jurisdiction		HCM		Time Period		4pm to 7pm		PHF		0.90					
Urban Street		North Alafaya Trail		Analysis Year		2020		Analysis Period		1> 7:00					
Intersection		North Alafaya Trail & Wa...		File Name		Project1PlanB.xus									
Project Description		TTE6256 Project													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand ( v ), veh/h				124	32	125	194	55	138	267	1025	149	183	1144	651
Signal Information															
Cycle, s	160.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
				Green	13.3	11.4	73.6	13.6	0.4	26.9					
				Yellow	4.3	4.0	3.6	3.1	3.3	2.5					
				Red	0.0	0.0	0.0	0.0	0.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				7	4	3	8	5	2	1	6				
Case Number				2.0	4.0	1.1	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s				20.4	33.1	16.7	29.4	33.0	92.6	17.6	77.2				
Change Period, ( Y+R c ), s				3.3	3.2	3.1	3.2	4.0	4.0	4.3	4.0				
Max Allow Headway ( MAH ), s				3.1	3.3	3.1	3.3	3.1	0.0	3.1	0.0				
Queue Clearance Time ( g s ), s				13.8	17.3	15.6	16.1	14.1		8.7					
Green Extension Time ( g e ), s				0.1	0.7	0.0	0.6	0.6	0.0	0.1	0.0				
Phase Call Probability				1.00	1.00	1.00	1.00	1.00		1.00					
Max Out Probability				0.79	0.00	1.00	0.01	0.00		0.14					
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate ( v ), veh/h				138	174		216	61	153	297	1139	166	147	919	523
Adjusted Saturation Flow Rate ( s ), veh/h/ln				1810	1662		1810	1900	1610	1757	1725	1610	1757	1725	1610
Queue Service Time ( g s ), s				11.8	15.3		13.6	4.4	14.1	12.1	20.1	8.2	6.7	13.6	29.8
Cycle Queue Clearance Time ( g c ), s				11.8	15.3		13.6	4.4	14.1	12.1	20.1	8.2	6.7	13.6	29.8
Green Ratio ( g/C )				0.11	0.19		0.25	0.16	0.16	0.18	0.55	0.55	0.08	0.46	0.46
Capacity ( c ), veh/h				193	311		296	311	264	637	2866	892	292	2368	737
Volume-to-Capacity Ratio ( X )				0.712	0.562		0.728	0.196	0.582	0.466	0.397	0.186	0.503	0.388	0.710
Back of Queue ( Q ), ft/ln ( 50 th percentile)				150	164		55.6	54	148.2	135.2	206	79.9	79.5	123.4	166
Back of Queue ( Q ), veh/ln ( 50 th percentile)				6.0	6.6		2.2	2.2	5.9	5.4	8.2	3.2	3.2	4.9	6.6
Queue Storage Ratio ( RQ ) ( 50 th percentile)				0.71	0.00		0.47	0.00	0.00	0.53	0.00	0.00	0.23	0.00	0.00
Uniform Delay ( d 1 ), s/veh				69.1	59.1		54.1	57.8	61.8	58.6	20.4	17.8	76.7	18.1	16.4
Incremental Delay ( d 2 ), s/veh				10.1	1.4		7.7	0.1	2.2	0.2	0.4	0.5	0.4	0.4	4.7
Initial Queue Delay ( d 3 ), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay ( d ), s/veh				79.1	60.5		61.7	57.9	64.0	58.8	20.8	18.2	77.1	18.5	21.1
Level of Service (LOS)				E	E		E	E	E	E	C	B	E	B	C
Approach Delay, s/veh / LOS				68.7	E		62.0	E		27.6	C		24.8	C	
Intersection Delay, s/veh / LOS				33.5						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.87	C		2.87	C		2.27	B		2.11	B	
Bicycle LOS Score / LOS				1.00	A		1.20	A		1.37	A		1.70	B	

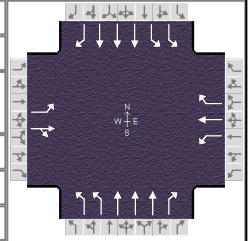
# HCS7 Signalized Intersection Intermediate Values

General Information						Intersection Information										
Agency		Group 4				Duration, h		0.250								
Analyst		Jorge Ugan and Md Rakibul Alam		Analysis Date		10/18/2020		Area Type		Other						
Jurisdiction		HCM		Time Period		4pm to 7pm		PHF		0.90						
Urban Street		North Alafaya Trail		Analysis Year		2020		Analysis Period		1> 7:00						
Intersection		North Alafaya Trail & Wa...		File Name		Project1PlanB.xus										
Project Description		TTE6256 Project														
Demand Information				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Demand ( v ), veh/h				124	32	125	194	55	138	267	1025	149	183	1144	651	
Signal Information																
Cycle, s	160.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green	13.3	11.4	73.6	13.6	0.4	26.9										
Yellow	4.3	4.0	3.6	3.1	3.3	2.5										
Red	0.0	0.0	0.0	0.0	0.0	0.0										
Saturation Flow / Delay				L	T	R	L	T	R	L	T	R	L	T	R	
Lane Width Adjustment Factor (f_w)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Heavy Vehicles and Grade Factor (f_HVg)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Parking Activity Adjustment Factor (f_p)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Bus Blockage Adjustment Factor (f_bb)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Area Type Adjustment Factor (f_a)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Lane Utilization Adjustment Factor (f_LU)				1.000	1.000	1.000	1.000	1.000	1.000	0.971	0.908	1.000	0.971	0.908	1.000	
Left-Turn Adjustment Factor (f_LT)				0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000		
Right-Turn Adjustment Factor (f_RT)					0.875	0.875		0.000	0.847		0.000	0.847		0.000	0.847	
Left-Turn Pedestrian Adjustment Factor (f_Lpb)				1.000			1.000			1.000			1.000			
Right-Turn Ped-Bike Adjustment Factor (f_Rpb)						1.000			1.000			1.000			1.000	
Work Zone Adjustment Factor (f_wz)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
DDI Factor (f_DDI)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Movement Saturation Flow Rate (s), veh/h				1810	339	1323	1810	1900	1610	3514	5176	1610	3514	5176	1610	
Proportion of Vehicles Arriving on Green (P)				0.11	0.19	0.19	0.09	0.16	0.16	0.18	0.55	0.55	0.00	0.64	0.72	
Incremental Delay Factor (k)				0.24	0.10		0.25	0.04	0.12	0.04	0.50	0.50	0.04	0.50	0.50	
Signal Timing / Movement Groups				EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R					
Lost Time (t_L)				3.3	3.2	3.1	3.2	4.0	4.0	4.3	4.0					
Green Ratio (g/C)				0.11	0.19	0.25	0.16	0.18	0.55	0.08	0.46					
Permitted Saturation Flow Rate (s_p), veh/h/ln				0	0	1229	0	0	0	0	0					
Shared Saturation Flow Rate (s_sh), veh/h/ln																
Permitted Effective Green Time (g_p), s				0.0	0.0	26.2	0.0	0.0	0.0	0.0	0.0					
Permitted Service Time (g_u), s				0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0					
Permitted Queue Service Time (g_ps), s						7.1										
Time to First Blockage (g_t), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Queue Service Time Before Blockage (g_ts), s																
Protected Right Saturation Flow (s_R), veh/h/ln							0		0		0					
Protected Right Effective Green Time (g_R), s							0.0		0.0		0.0					
Multimodal				EB			WB			NB			SB			
Pedestrian F_w / F_v				2.107	0.000	2.107	0.000	1.557	0.000	1.389	0.000	1.389	0.000	0.000	0.000	
Pedestrian F_s / F_delay				0.000	0.159	0.000	0.161	0.000	0.111	0.000	0.111	0.000	0.126	0.000	0.000	
Pedestrian M_corner / M_cw																
Bicycle c_b / d_b				373.75	52.89	336.25	55.36	1107.50	15.93	920.00	23.33	920.00	23.33	23.33	23.33	
Bicycle F_w / F_v				-3.64	0.52	-3.64	0.71	-3.64	0.88	-3.64	0.88	-3.64	0.88	1.21	1.21	

# HCS7 Signalized Intersection Results Graphical Summary

## General Information

Agency	Group 4		
Analyst	Jorge Ugan and Md Rakibul Alam	Analysis Date	10/18/2020
Jurisdiction	HCM	Time Period	4pm to 7pm
Urban Street	North Alafaya Trail	Analysis Year	2020
Intersection	North Alafaya Trail & Wa...	File Name	Project1PlanB.xus
Project Description	TTE6256 Project		



## Demand Information

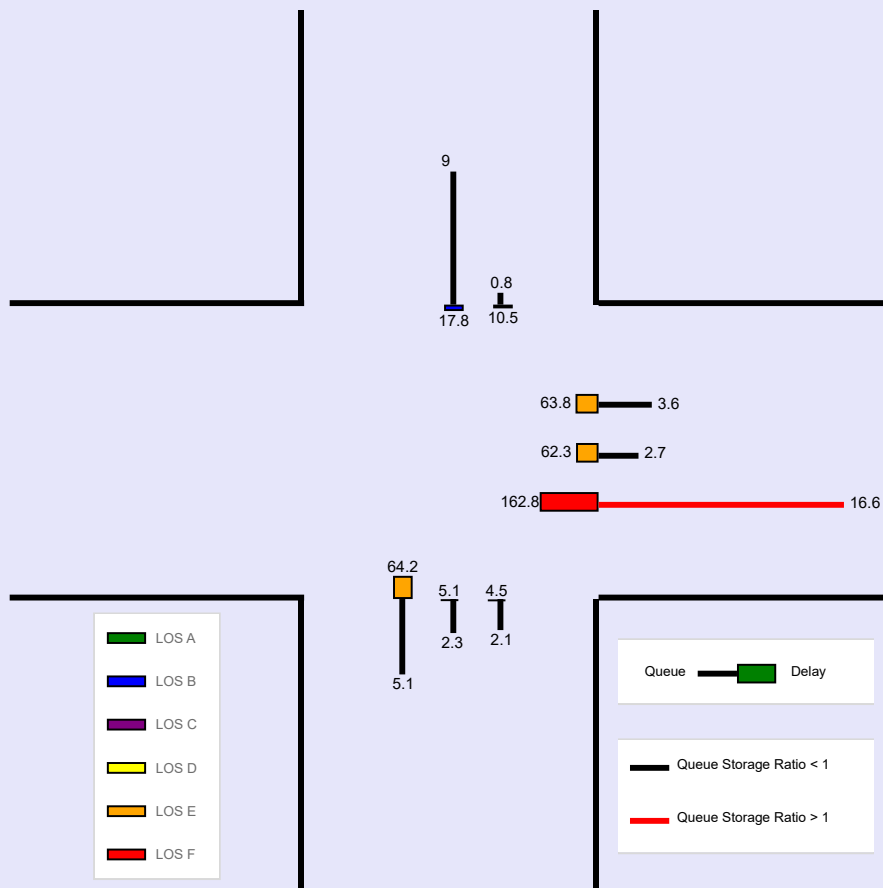
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand ( v ), veh/h	124	32	125	194	55	138	267	1025	149	183	1144	651

## Signal Information

Cycle, s	160.0	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	13.3	11.4	73.6	13.6	0.4	26.9				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.3	4.0	3.6	3.1	3.3	2.5				
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0				

## Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue ( Q ), ft/ln ( 50 th percentile)	150	164		55.6	54	148.2	135.2	206	79.9	79.5	123.4	166
Back of Queue ( Q ), veh/ln ( 50 th percentile)	6.0	6.6		2.2	2.2	5.9	5.4	8.2	3.2	3.2	4.9	6.6
Queue Storage Ratio ( RQ ) ( 50 th percentile)	0.71	0.00		0.47	0.00	0.00	0.53	0.00	0.00	0.23	0.00	0.00
Control Delay ( d ), s/veh	79.1	60.5		61.7	57.9	64.0	58.8	20.8	18.2	77.1	18.5	21.1
Level of Service (LOS)	E	E		E	E	E	E	C	B	E	B	C
Approach Delay, s/veh / LOS	68.7		E	62.0		E	27.6		C	24.8		C
Intersection Delay, s/veh / LOS	33.5						C					





**--- Messages ---**

WARNING: According to input data, upstream feeding volume is equal to 74% of downstream exit volume during time period #1, for thru movement #6.

**--- Comments ---**