



















Appendix E

Traffic Calculations

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Existing Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	29	0	645	0	1110	56	0	159	201
Future Volume (veh/h)	0	0	0	29	0	645	0	1110	56	0	159	201
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	0	1845	1900	0	1845	1845
Adj Flow Rate, veh/h				33	0	682	0	1261	0	0	181	0
Adj No. of Lanes				1	1	2	0	2	0	0	2	1
Peak Hour Factor				0.88	0.96	0.88	0.96	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				3	3	3	0	3	3	0	3	3
Cap, veh/h				536	562	841	0	1657	0	0	1657	741
Arrive On Green				0.30	0.00	0.30	0.00	0.47	0.00	0.00	0.47	0.00
Sat Flow, veh/h				1757	1845	2760	0	3689	0	0	3597	1568
Grp Volume(v), veh/h				33	0	682	0	1261	0	0	181	0
Grp Sat Flow(s),veh/h/ln				1757	1845	1380	0	1752	0	0	1752	1568
Q Serve(g_s), s				0.5	0.0	8.9	0.0	11.6	0.0	0.0	1.1	0.0
Cycle Q Clear(g_c), s				0.5	0.0	8.9	0.0	11.6	0.0	0.0	1.1	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				536	562	841	0	1657	0	0	1657	741
V/C Ratio(X)				0.06	0.00	0.81	0.00	0.76	0.00	0.00	0.11	0.00
Avail Cap(c_a), veh/h				1123	1179	1764	0	3137	0	0	3137	1403
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				9.6	0.0	12.5	0.0	8.5	0.0	0.0	5.7	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.7	0.0	0.3	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.3	0.0	3.4	0.0	5.5	0.0	0.0	0.5	0.0
LnGrp Delay(d),s/veh				9.6	0.0	13.3	0.0	8.8	0.0	0.0	5.7	0.0
LnGrp LOS				A		B		A			A	
Approach Vol, veh/h					715			1261			181	
Approach Delay, s/veh					13.1			8.8			5.7	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		23.1				23.1		16.0				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		35.0				35.0		25.0				
Max Q Clear Time (g_c+I1), s		13.6				3.1		10.9				
Green Ext Time (p_c), s		4.8				5.1		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				10.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	720	2	10	0	0	0	0	446	19	0	188	0
Future Volume (veh/h)	720	2	10	0	0	0	0	446	19	0	188	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1845	1845	0	1845	0
Adj Flow Rate, veh/h	901	0	3				0	558	5	0	235	0
Adj No. of Lanes	2	0	1				0	2	1	0	2	0
Peak Hour Factor	0.80	0.80	0.80				0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3				0	3	3	0	3	0
Cap, veh/h	1280	0	570				0	1117	498	0	1117	0
Arrive On Green	0.36	0.00	0.36				0.00	0.32	0.32	0.00	0.32	0.00
Sat Flow, veh/h	3514	0	1565				0	3597	1563	0	3689	0
Grp Volume(v), veh/h	901	0	3				0	558	5	0	235	0
Grp Sat Flow(s),veh/h/ln	1757	0	1565				0	1752	1563	0	1752	0
Q Serve(g_s), s	6.0	0.0	0.0				0.0	3.5	0.1	0.0	1.3	0.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0				0.0	3.5	0.1	0.0	1.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1280	0	570				0	1117	498	0	1117	0
V/C Ratio(X)	0.70	0.00	0.01				0.00	0.50	0.01	0.00	0.21	0.00
Avail Cap(c_a), veh/h	3839	0	1711				0	4468	1993	0	4468	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	5.6				0.0	7.6	6.4	0.0	6.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0				0.0	0.1	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0				0.0	1.7	0.0	0.0	0.7	0.0
LnGrp Delay(d),s/veh	7.7	0.0	5.6				0.0	7.7	6.4	0.0	6.9	0.0
LnGrp LOS	A		A					A	A		A	
Approach Vol, veh/h		904						563			235	
Approach Delay, s/veh		7.7						7.7			6.9	
Approach LOS		A						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		13.4		14.1		13.4						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		35.0		30.0		35.0						
Max Q Clear Time (g_c+I1), s		5.5		8.0		3.3						
Green Ext Time (p_c), s		3.1		1.8		3.1						
Intersection Summary												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 3: White Rock Rd & Prairie City Rd

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	306	333	0	0	0	581	144	0	0	0	20	0	183
Future Volume (veh/h)	306	333	0	0	0	581	144	0	0	0	20	0	183
Number	1	6	16			5	2	12	7	4	14	3	8
Initial Q (Qb), veh	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, veh/h/ln	1845	1845	0		0	1845	1845	0	1845	0	1845	0	1845
Adj Flow Rate, veh/h	356	387	0		0	676	65	0	0	0	23	0	0
Adj No. of Lanes	1	2	0		0	2	1	0	1	0	1	0	1
Peak Hour Factor	0.86	0.86	0.96		0.96	0.86	0.86	0.96	0.96	0.96	0.86	0.96	0.86
Percent Heavy Veh, %	3	3	0		0	3	3	0	3	0	3	0	3
Cap, veh/h	426	2320	0		0	991	442	0	5	0	30	0	0
Arrive On Green	0.24	0.66	0.00		0.00	0.28	0.28	0.00	0.00	0.00	0.02	0.00	0.00
Sat Flow, veh/h	1757	3597	0		0	3597	1562	0-64563	0	1757	23		
Grp Volume(v), veh/h	356	387	0		0	676	65	0	0	0	23	32.7	
Grp Sat Flow(s),veh/h/ln	1757	1752	0		0	1752	1562	0	1845	0	1757	C	
Q Serve(g_s), s	7.3	1.6	0.0		0.0	6.5	1.2	0.0	0.0	0.0	0.5		
Cycle Q Clear(g_c), s	7.3	1.6	0.0		0.0	6.5	1.2	0.0	0.0	0.0	0.5		
Prop In Lane	1.00		0.00		0.00		1.00	0.00		0.00	1.00		
Lane Grp Cap(c), veh/h	426	2320	0		0	991	442	0	5	0	30		
V/C Ratio(X)	0.84	0.17	0.00		0.00	0.68	0.15	0.00	0.00	0.00	0.77		
Avail Cap(c_a), veh/h	1619	6467	0		0	6458	2879	0	1360	0	1850		
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00		0.00	1.00	1.00	0.00	0.00	0.00	1.00		
Uniform Delay (d), s/veh	13.7	2.4	0.0		0.0	12.1	10.2	0.0	0.0	0.0	18.6		
Incr Delay (d2), s/veh	1.7	0.0	0.0		0.0	0.3	0.1	0.0	0.0	0.0	14.1		
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		
%ile BackOfQ(50%),veh/ln	8.7	0.8	0.0		0.0	3.1	0.5	0.0	0.0	0.0	0.4		
LnGrp Delay(d),s/veh	15.4	2.5	0.0		0.0	12.4	10.3	0.0	0.0	0.0	32.7		
LnGrp LOS	B	A				B	B				C		
Approach Vol, veh/h		743				741			0				
Approach Delay, s/veh		8.6				12.2			0.0				
Approach LOS		A				B							
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4		6							
Phs Duration (G+Y+Rc), s	14.4	17.4	6.1	0.0		31.8							
Change Period (Y+Rc), s	5.2	* 6.7	5.5	3.5		* 6.7							
Max Green Setting (Gmax), s	35	* 70	40.0	28.0		* 70							
Max Q Clear Time (g_c+I), s	19.3	8.5	2.5	0.0		3.6							
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0		2.1							
Intersection Summary													
HCM 2010 Ctrl Delay				10.8									
HCM 2010 LOS				B									
Notes													

HCM 2010 TWSC
4: Scott Road (West) & White Rock Road

Existing Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	3.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	25	22	660	65	61
Future Vol, veh/h	328	25	22	660	65	61
Conflicting Peds, #/hr	0	2	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	395	30	27	795	78	73

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	427	0	1260 414
Stage 1	-	-	-	-	412 -
Stage 2	-	-	-	-	848 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1127	-	187 636
Stage 1	-	-	-	-	666 -
Stage 2	-	-	-	-	418 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1125	-	179 634
Mov Cap-2 Maneuver	-	-	-	-	179 -
Stage 1	-	-	-	-	665 -
Stage 2	-	-	-	-	400 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	33.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	274	-	-	1125	-
HCM Lane V/C Ratio	0.554	-	-	0.024	-
HCM Control Delay (s)	33.3	-	-	8.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	35.6
Intersection LOS	E



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	
Traffic Vol, veh/h	206	183	397	63	71	285
Future Vol, veh/h	206	183	397	63	71	285
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	251	223	484	77	87	348
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	17.1	58.1	26.8
HCM LOS	C	F	D

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	20%
Vol Thru, %	0%	100%	86%	0%
Vol Right, %	0%	0%	14%	80%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	183	460	356
LT Vol	206	0	0	71
Through Vol	0	183	397	0
RT Vol	0	0	63	285
Lane Flow Rate	251	223	561	434
Geometry Grp	7	7	5	2
Degree of Util (X)	0.53	0.439	0.981	0.762
Departure Headway (Hd)	7.597	7.084	6.298	6.321
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	475	509	578	573
Service Time	5.35	4.837	4.338	4.356
HCM Lane V/C Ratio	0.528	0.438	0.971	0.757
HCM Control Delay	18.7	15.3	58.1	26.8
HCM Lane LOS	C	C	F	D
HCM 95th-tile Q	3	2.2	13.8	6.8

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Existing Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	34	0	343	0	1036	38	0	325	642
Future Volume (veh/h)	0	0	0	34	0	343	0	1036	38	0	325	642
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	0	1845	1900	0	1845	1845
Adj Flow Rate, veh/h				35	0	267	0	1079	0	0	339	0
Adj No. of Lanes				1	1	2	0	2	0	0	2	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	0	3	3	0	3	3
Cap, veh/h				285	299	447	0	1731	0	0	1731	775
Arrive On Green				0.16	0.00	0.16	0.00	0.49	0.00	0.00	0.49	0.00
Sat Flow, veh/h				1757	1845	2760	0	3689	0	0	3597	1568
Grp Volume(v), veh/h				35	0	267	0	1079	0	0	339	0
Grp Sat Flow(s),veh/h/ln				1757	1845	1380	0	1752	0	0	1752	1568
Q Serve(g_s), s				0.4	0.0	2.3	0.0	5.7	0.0	0.0	1.4	0.0
Cycle Q Clear(g_c), s				0.4	0.0	2.3	0.0	5.7	0.0	0.0	1.4	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				285	299	447	0	1731	0	0	1731	775
V/C Ratio(X)				0.12	0.00	0.60	0.00	0.62	0.00	0.00	0.20	0.00
Avail Cap(c_a), veh/h				1736	1823	2728	0	4850	0	0	4850	2170
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				9.1	0.0	9.8	0.0	4.7	0.0	0.0	3.6	0.0
Incr Delay (d2), s/veh				0.1	0.0	0.5	0.0	0.1	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.9	0.0	2.7	0.0	0.0	0.7	0.0
LnGrp Delay(d),s/veh				9.1	0.0	10.3	0.0	4.8	0.0	0.0	3.6	0.0
LnGrp LOS				A		B		A			A	
Approach Vol, veh/h					302			1079			339	
Approach Delay, s/veh					10.2			4.8			3.6	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.1				17.1		8.2				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		35.0				35.0		25.0				
Max Q Clear Time (g_c+I1), s		7.7				3.4		4.3				
Green Ext Time (p_c), s		4.7				4.8		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay				5.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 2: Prairie City Rd & US 50 Eastbound Ramps

Existing Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	724	2	45	0	0	0	0	350	25	0	359	0
Future Volume (veh/h)	724	2	45	0	0	0	0	350	25	0	359	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1845	1845	0	1845	0
Adj Flow Rate, veh/h	755	0	19				0	365	7	0	374	0
Adj No. of Lanes	2	0	1				0	2	1	0	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3				0	3	3	0	3	0
Cap, veh/h	1181	0	526				0	1027	458	0	1027	0
Arrive On Green	0.34	0.00	0.34				0.00	0.29	0.29	0.00	0.29	0.00
Sat Flow, veh/h	3514	0	1565				0	3597	1563	0	3689	0
Grp Volume(v), veh/h	755	0	19				0	365	7	0	374	0
Grp Sat Flow(s),veh/h/ln	1757	0	1565				0	1752	1563	0	1752	0
Q Serve(g_s), s	4.3	0.0	0.2				0.0	1.9	0.1	0.0	2.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	0.2				0.0	1.9	0.1	0.0	2.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1181	0	526				0	1027	458	0	1027	0
V/C Ratio(X)	0.64	0.00	0.04				0.00	0.36	0.02	0.00	0.36	0.00
Avail Cap(c_a), veh/h	4493	0	2001				0	5228	2331	0	5228	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	5.2				0.0	6.5	5.9	0.0	6.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0				0.0	0.1	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.1				0.0	0.9	0.0	0.0	0.9	0.0
LnGrp Delay(d),s/veh	6.8	0.0	5.2				0.0	6.6	5.9	0.0	6.6	0.0
LnGrp LOS	A		A					A	A		A	
Approach Vol, veh/h		774						372			374	
Approach Delay, s/veh		6.8						6.6			6.6	
Approach LOS		A						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		11.5		12.0		11.5						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		35.0		30.0		35.0						
Max Q Clear Time (g_c+I1), s		3.9		6.3		4.0						
Green Ext Time (p_c), s		2.8		1.5		2.8						
Intersection Summary												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	294	648	0	0	0	335	83	0	0	0	106	0	298
Future Volume (veh/h)	294	648	0	0	0	335	83	0	0	0	106	0	298
Number	1	6	16			5	2	12	7	4	14	3	8
Initial Q (Qb), veh	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
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
Adj Sat Flow, veh/h/ln	1845	1845	0			1845	1845	0	1845	0	1845	0	1845
Adj Flow Rate, veh/h	327	720	0			372	9	0	0	0	118	0	331
Adj No. of Lanes	1	2	0			0	2	1	0	1	0	1	1
Peak Hour Factor	0.90	0.90	0.96			0.96	0.90	0.90	0.96	0.96	0.90	0.96	0.90
Percent Heavy Veh, %	3	3	0			0	3	3	0	3	0	3	0
Cap, veh/h	397	2035	0			0	743	331	0	5	0	149	0
Arrive On Green	0.23	0.58	0.00			0.00	0.21	0.21	0.00	0.00	0.00	0.08	0.00
Sat Flow, veh/h	1757	3597	0			0	3597	1561	0-64563	0	1757	118	
Grp Volume(v), veh/h	327	720	0			0	372	9	0	0	118	19.9	
Grp Sat Flow(s),veh/h/ln	1757	1752	0			0	1752	1561	0	1845	0	1757	B
Q Serve(g_s), s	6.5	4.0	0.0			0.0	3.4	0.2	0.0	0.0	0.0	2.4	
Cycle Q Clear(g_c), s	6.5	4.0	0.0			0.0	3.4	0.2	0.0	0.0	0.0	2.4	
Prop In Lane	1.00		0.00			0.00		1.00	0.00		0.00	1.00	
Lane Grp Cap(c), veh/h	397	2035	0			0	743	331	0	5	0	149	
V/C Ratio(X)	0.82	0.35	0.00			0.00	0.50	0.03	0.00	0.00	0.00	0.79	
Avail Cap(c_a), veh/h	1686	6737	0			0	6727	2995	0	1416	0	1927	
HCM Platoon Ratio	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.00			0.00	1.00	1.00	0.00	0.00	0.00	1.00	
Uniform Delay (d), s/veh	13.4	4.0	0.0			0.0	12.7	11.4	0.0	0.0	0.0	16.4	
Incr Delay (d2), s/veh	1.7	0.0	0.0			0.0	0.2	0.0	0.0	0.0	0.0	3.5	
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	
%ile BackOfQ(50%),veh/ln	8.3	1.8	0.0			0.0	1.7	0.1	0.0	0.0	0.0	1.3	
LnGrp Delay(d),s/veh	15.1	4.1	0.0			0.0	12.9	11.4	0.0	0.0	0.0	19.9	
LnGrp LOS	B	A					B	B				B	
Approach Vol, veh/h		1047				381			0				
Approach Delay, s/veh		7.5				12.8			0.0				
Approach LOS		A				B							
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4		6							
Phs Duration (G+Y+Rc), s	13.4	14.4	8.6	0.0		27.9							
Change Period (Y+Rc), s	5.2	* 6.7	5.5	3.5		* 6.7							
Max Green Setting (Gmax), s	35	* 70	40.0	28.0		* 70							
Max Q Clear Time (g_c+I), s	10.5	5.4	4.4	0.0		6.0							
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0		2.1							
Intersection Summary													
HCM 2010 Ctrl Delay			9.8										
HCM 2010 LOS			A										
Notes													

HCM 2010 TWSC
4: Scott Road (West) & White Rock Road

Existing Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	689	65	85	374	44	48
Future Vol, veh/h	689	65	85	374	44	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	741	70	91	402	47	52

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	811	0	1361	776
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	585	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	811	-	163	396
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	811	-	140	396
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	475	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	36.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	211	-	-	811	-
HCM Lane V/C Ratio	0.469	-	-	0.113	-
HCM Control Delay (s)	36.3	-	-	10	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	2.3	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	37.2
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	485	252	255	108	134	204
Future Vol, veh/h	485	252	255	108	134	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	527	274	277	117	146	222
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	52.2	21.7	21
HCM LOS	F	C	C



















Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	40%
Vol Thru, %	0%	100%	70%	0%
Vol Right, %	0%	0%	30%	60%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	485	252	363	338
LT Vol	485	0	0	134
Through Vol	0	252	255	0
RT Vol	0	0	108	204
Lane Flow Rate	527	274	395	367
Geometry Grp	7	7	5	2
Degree of Util (X)	1.02	0.491	0.682	0.655
Departure Headway (Hd)	6.968	6.458	6.218	6.416
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	517	553	576	558
Service Time	4.754	4.244	4.296	4.49
HCM Lane V/C Ratio	1.019	0.495	0.686	0.658
HCM Control Delay	71.3	15.4	21.7	21
HCM Lane LOS	F	C	C	C
HCM 95th-tile Q	14.6	2.7	5.2	4.8

APPENDIX X.2:

Existing Plus Project Intersection
Level of Service (LOS) Calculations

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Existing Plus Project Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	29	0	645	0	1137	56	0	188	201
Future Volume (veh/h)	0	0	0	29	0	645	0	1137	56	0	188	201
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	0	1828	1900	0	1827	1845
Adj Flow Rate, veh/h				33	0	682	0	1292	0	0	214	0
Adj No. of Lanes				1	1	2	0	2	0	0	2	1
Peak Hour Factor				0.88	0.96	0.88	0.96	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				3	3	3	0	4	4	0	4	3
Cap, veh/h				532	559	836	0	1675	0	0	1674	756
Arrive On Green				0.30	0.00	0.30	0.00	0.48	0.00	0.00	0.48	0.00
Sat Flow, veh/h				1757	1845	2760	0	3656	0	0	3563	1568
Grp Volume(v), veh/h				33	0	682	0	1292	0	0	214	0
Grp Sat Flow(s),veh/h/ln				1757	1845	1380	0	1736	0	0	1736	1568
Q Serve(g_s), s				0.5	0.0	9.3	0.0	12.4	0.0	0.0	1.4	0.0
Cycle Q Clear(g_c), s				0.5	0.0	9.3	0.0	12.4	0.0	0.0	1.4	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				532	559	836	0	1675	0	0	1674	756
V/C Ratio(X)				0.06	0.00	0.82	0.00	0.77	0.00	0.00	0.13	0.00
Avail Cap(c_a), veh/h				1084	1139	1703	0	3001	0	0	3000	1355
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				10.0	0.0	13.1	0.0	8.6	0.0	0.0	5.8	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.8	0.0	0.3	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.3	0.0	3.6	0.0	5.8	0.0	0.0	0.7	0.0
LnGrp Delay(d),s/veh				10.0	0.0	13.8	0.0	8.9	0.0	0.0	5.8	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					715			1292			214	
Approach Delay, s/veh					13.7			8.9			5.8	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		24.1				24.1		16.4				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		35.0				35.0		25.0				
Max Q Clear Time (g_c+I1), s		14.4				3.4		11.3				
Green Ext Time (p_c), s		5.0				5.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				10.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	720	2	10	0	0	0	0	473	19	0	217	0
Future Volume (veh/h)	720	2	10	0	0	0	0	473	19	0	217	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1827	1845	0	1827	0
Adj Flow Rate, veh/h	901	0	3				0	591	5	0	271	0
Adj No. of Lanes	2	0	1				0	2	1	0	2	0
Peak Hour Factor	0.80	0.80	0.80				0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3				0	4	3	0	4	0
Cap, veh/h	1269	0	565				0	1152	519	0	1152	0
Arrive On Green	0.36	0.00	0.36				0.00	0.33	0.33	0.00	0.33	0.00
Sat Flow, veh/h	3514	0	1565				0	3563	1563	0	3654	0
Grp Volume(v), veh/h	901	0	3				0	591	5	0	271	0
Grp Sat Flow(s),veh/h/ln	1757	0	1565				0	1736	1563	0	1736	0
Q Serve(g_s), s	6.2	0.0	0.0				0.0	3.9	0.1	0.0	1.6	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0				0.0	3.9	0.1	0.0	1.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1269	0	565				0	1152	519	0	1152	0
V/C Ratio(X)	0.71	0.00	0.01				0.00	0.51	0.01	0.00	0.24	0.00
Avail Cap(c_a), veh/h	3719	0	1657				0	4287	1931	0	4287	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	5.8				0.0	7.6	6.3	0.0	6.9	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0				0.0	0.1	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln	8.1	0.0	5.8				0.0	1.8	0.0	0.0	0.8	0.0
LnGrp Delay(d),s/veh	8.1	0.0	5.8				0.0	7.8	6.3	0.0	6.9	0.0
LnGrp LOS	A		A					A	A		A	
Approach Vol, veh/h		904						596			271	
Approach Delay, s/veh		8.0						7.7			6.9	
Approach LOS		A						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		14.0		14.3		14.0						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		35.0		30.0		35.0						
Max Q Clear Time (g_c+I1), s		5.9		8.2		3.6						
Green Ext Time (p_c), s		3.4		1.8		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Existing Plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	333	0	14	581	144	0	27	13	20	29	183
Future Volume (veh/h)	306	333	0	14	581	144	0	27	13	20	29	183
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1900	1583	1845	1845	1845	1056	1056	1900	1687	1845
Adj Flow Rate, veh/h	356	387	0	15	676	65	0	28	14	23	30	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.96	0.96	0.86	0.86	0.96	0.96	0.96	0.86	0.96	0.86
Percent Heavy Veh, %	3	3	3	20	3	3	3	80	80	20	20	3
Cap, veh/h	398	1907	0	308	850	379	177	106	90	48	63	105
Arrive On Green	0.23	0.54	0.00	0.24	0.24	0.24	0.00	0.10	0.10	0.07	0.07	0.00
Sat Flow, veh/h	1757	3597	0	844	3505	1561	1757	1056	897	717	935	1568
Grp Volume(v), veh/h	356	387	0	15	676	65	0	28	14	53	0	0
Grp Sat Flow(s),veh/h/ln	1757	1752	0	844	1752	1561	1757	1056	897	1651	0	1568
Q Serve(g_s), s	13.6	3.9	0.0	1.0	12.6	2.3	0.0	1.7	1.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	13.6	3.9	0.0	1.0	12.6	2.3	0.0	1.7	1.0	2.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	398	1907	0	308	850	379	177	106	90	111	0	105
V/C Ratio(X)	0.89	0.20	0.00	0.05	0.80	0.17	0.00	0.26	0.15	0.48	0.00	0.00
Avail Cap(c_a), veh/h	931	3961	0	508	1680	749	675	406	345	666	0	632
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)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.0	8.1	0.0	20.3	24.7	20.8	0.0	28.8	28.5	31.2	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.0	0.7	0.1	0.0	0.5	0.3	1.2	0.0	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
%ile BackOfQ(50%),veh/ln	6.9	1.9	0.0	0.2	6.2	1.0	0.0	0.5	0.3	1.0	0.0	0.0
LnGrp Delay(d),s/veh	28.9	8.1	0.0	20.3	25.3	20.9	0.0	29.3	28.8	32.4	0.0	0.0
LnGrp LOS	C	A		C	C	C		C	C	C		
Approach Vol, veh/h		743			756			42			53	
Approach Delay, s/veh		18.1			24.9			29.2			32.4	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		13.7		44.5		11.3	20.9	23.5				
Change Period (Y+Rc), s		* 6.7		* 6.7		6.6	* 5.2	* 6.7				
Max Green Setting (Gmax), s		* 27		* 79		28.0	* 37	* 33				
Max Q Clear Time (g_c+I1), s		3.7		5.9		4.1	15.6	14.6				
Green Ext Time (p_c), s		0.0		2.1		0.1	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				22.1								
HCM 2010 LOS				C								
Notes												

HCM 2010 TWSC
4: Scott Road (West) & White Rock Road

Existing Plus Project Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	341	25	22	674	65	61
Future Vol, veh/h	341	25	22	674	65	61
Conflicting Peds, #/hr	0	2	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	5	3	3	5	3	3
Mvmt Flow	411	30	27	812	78	73

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	443	0	1293
Stage 1	-	-	-	-	428
Stage 2	-	-	-	-	865
Critical Hdwy	-	-	4.13	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.227	-	3.527
Pot Cap-1 Maneuver	-	-	1112	-	179
Stage 1	-	-	-	-	655
Stage 2	-	-	-	-	411
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1110	-	171
Mov Cap-2 Maneuver	-	-	-	-	171
Stage 1	-	-	-	-	654
Stage 2	-	-	-	-	393

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	35.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	263	-	-	1110	-
HCM Lane V/C Ratio	0.577	-	-	0.024	-
HCM Control Delay (s)	35.8	-	-	8.3	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	3.3	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	38.6
Intersection LOS	E



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑	↘		↙	
Traffic Vol, veh/h	219	183	397	63	71	299
Future Vol, veh/h	219	183	397	63	71	299
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	10	3	3	3	3	10
Mvmt Flow	267	223	484	77	87	365
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	18.3	63.4	29.9
HCM LOS	C	F	D

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	19%
Vol Thru, %	0%	100%	86%	0%
Vol Right, %	0%	0%	14%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	183	460	370
LT Vol	219	0	0	71
Through Vol	0	183	397	0
RT Vol	0	0	63	299
Lane Flow Rate	267	223	561	451
Geometry Grp	7	7	5	2
Degree of Util (X)	0.581	0.446	1	0.8
Departure Headway (Hd)	7.836	7.2	6.417	6.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	467	507	567	578
Service Time	5.459	4.839	4.464	4.32
HCM Lane V/C Ratio	0.572	0.44	0.989	0.78
HCM Control Delay	20.7	15.5	63.4	29.9
HCM Lane LOS	C	C	F	D
HCM 95th-tile Q	3.6	2.3	14.5	7.8

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Existing Plus Project Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	34	0	343	0	1048	38	0	334	642
Future Volume (veh/h)	0	0	0	34	0	343	0	1048	38	0	334	642
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	0	1828	1900	0	1827	1845
Adj Flow Rate, veh/h				35	0	267	0	1092	0	0	348	0
Adj No. of Lanes				1	1	2	0	2	0	0	2	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	0	4	4	0	4	3
Cap, veh/h				284	298	446	0	1733	0	0	1732	783
Arrive On Green				0.16	0.00	0.16	0.00	0.50	0.00	0.00	0.50	0.00
Sat Flow, veh/h				1757	1845	2760	0	3655	0	0	3563	1568
Grp Volume(v), veh/h				35	0	267	0	1092	0	0	348	0
Grp Sat Flow(s),veh/h/ln				1757	1845	1380	0	1736	0	0	1736	1568
Q Serve(g_s), s				0.4	0.0	2.3	0.0	5.9	0.0	0.0	1.4	0.0
Cycle Q Clear(g_c), s				0.4	0.0	2.3	0.0	5.9	0.0	0.0	1.4	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				284	298	446	0	1733	0	0	1732	783
V/C Ratio(X)				0.12	0.00	0.60	0.00	0.63	0.00	0.00	0.20	0.00
Avail Cap(c_a), veh/h				1713	1799	2691	0	4740	0	0	4738	2140
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				9.2	0.0	10.0	0.0	4.7	0.0	0.0	3.6	0.0
Incr Delay (d2), s/veh				0.1	0.0	0.5	0.0	0.1	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.9	0.0	2.8	0.0	0.0	0.7	0.0
LnGrp Delay(d),s/veh				9.3	0.0	10.5	0.0	4.8	0.0	0.0	3.6	0.0
LnGrp LOS				A		B		A			A	
Approach Vol, veh/h					302			1092			348	
Approach Delay, s/veh					10.3			4.8			3.6	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.4				17.4		8.2				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		35.0				35.0		25.0				
Max Q Clear Time (g_c+I1), s		7.9				3.4		4.3				
Green Ext Time (p_c), s		4.8				4.9		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay				5.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Plus Project Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	724	2	45	0	0	0	0	362	25	0	368	0
Future Volume (veh/h)	724	2	45	0	0	0	0	362	25	0	368	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1827	1845	0	1827	0
Adj Flow Rate, veh/h	755	0	19				0	377	7	0	383	0
Adj No. of Lanes	2	0	1				0	2	1	0	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3				0	4	3	0	4	0
Cap, veh/h	1177	0	524				0	1035	466	0	1035	0
Arrive On Green	0.33	0.00	0.33				0.00	0.30	0.30	0.00	0.30	0.00
Sat Flow, veh/h	3514	0	1565				0	3563	1563	0	3654	0
Grp Volume(v), veh/h	755	0	19				0	377	7	0	383	0
Grp Sat Flow(s),veh/h/ln	1757	0	1565				0	1736	1563	0	1736	0
Q Serve(g_s), s	4.3	0.0	0.2				0.0	2.0	0.1	0.0	2.1	0.0
Cycle Q Clear(g_c), s	4.3	0.0	0.2				0.0	2.0	0.1	0.0	2.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1177	0	524				0	1035	466	0	1035	0
V/C Ratio(X)	0.64	0.00	0.04				0.00	0.36	0.02	0.00	0.37	0.00
Avail Cap(c_a), veh/h	4445	0	1980				0	5123	2306	0	5123	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	6.7	0.0	5.3				0.0	6.6	5.9	0.0	6.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0				0.0	0.1	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.1				0.0	1.0	0.0	0.0	1.0	0.0
LnGrp Delay(d),s/veh	6.9	0.0	5.3				0.0	6.6	5.9	0.0	6.6	0.0
LnGrp LOS	A		A					A	A		A	
Approach Vol, veh/h		774						384			383	
Approach Delay, s/veh		6.9						6.6			6.6	
Approach LOS		A						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		11.7		12.0		11.7						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		35.0		30.0		35.0						
Max Q Clear Time (g_c+I1), s		4.0		6.3		4.1						
Green Ext Time (p_c), s		2.9		1.5		2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Existing Plus Project Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	648	0	4	335	83	0	12	6	106	9	298
Future Volume (veh/h)	294	648	0	4	335	83	0	12	6	106	9	298
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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, veh/h/ln	1845	1845	1900	1583	1845	1845	1845	1583	1583	1900	1823	1845
Adj Flow Rate, veh/h	327	720	0	4	372	9	0	12	6	118	9	331
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.96	0.96	0.90	0.90	0.96	0.96	0.96	0.90	0.96	0.90
Percent Heavy Veh, %	3	3	3	20	3	3	3	20	20	20	20	3
Cap, veh/h	369	1522	0	202	568	253	174	156	133	384	29	372
Arrive On Green	0.21	0.43	0.00	0.16	0.16	0.16	0.00	0.10	0.10	0.24	0.24	0.24
Sat Flow, veh/h	1757	3597	0	620	3505	1558	1757	1583	1346	1619	123	1568
Grp Volume(v), veh/h	327	720	0	4	372	9	0	12	6	127	0	331
Grp Sat Flow(s),veh/h/ln	1757	1752	0	620	1752	1558	1757	1583	1346	1742	0	1568
Q Serve(g_s), s	12.8	10.4	0.0	0.4	7.0	0.3	0.0	0.5	0.3	4.3	0.0	14.5
Cycle Q Clear(g_c), s	12.8	10.4	0.0	0.4	7.0	0.3	0.0	0.5	0.3	4.3	0.0	14.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.93		1.00
Lane Grp Cap(c), veh/h	369	1522	0	202	568	253	174	156	133	413	0	372
V/C Ratio(X)	0.89	0.47	0.00	0.02	0.65	0.04	0.00	0.08	0.05	0.31	0.00	0.89
Avail Cap(c_a), veh/h	1032	3685	0	351	1410	627	709	639	543	753	0	677
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)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	14.3	0.0	25.0	27.8	25.0	0.0	29.0	28.9	22.2	0.0	26.1
Incr Delay (d2), s/veh	2.9	0.1	0.0	0.0	0.5	0.0	0.0	0.1	0.1	0.2	0.0	3.0
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
%ile BackOfQ(50%),veh/ln	6.5	5.0	0.0	0.1	3.4	0.1	0.0	0.2	0.1	2.1	0.0	6.6
LnGrp Delay(d),s/veh	30.0	14.4	0.0	25.0	28.3	25.0	0.0	29.1	29.0	22.4	0.0	29.1
LnGrp LOS	C	B		C	C	C		C	C	C		C
Approach Vol, veh/h		1047			385			18			458	
Approach Delay, s/veh		19.3			28.2			29.0			27.3	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		11.4		38.3		21.2	19.3	19.0				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 29		* 75		30.6	* 42	* 29				
Max Q Clear Time (g_c+I1), s		2.5		12.4		16.5	14.8	9.0				
Green Ext Time (p_c), s		0.0		2.2		0.3	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				23.1								
HCM 2010 LOS				C								
Notes												

HCM 2010 TWSC
4: Scott Road (West) & White Rock Road

Existing Plus Project Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	695	65	85	378	44	48
Future Vol, veh/h	695	65	85	378	44	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	3	3	5	3	3
Mvmt Flow	747	70	91	406	47	52

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	817	0	1371 782
Stage 1	-	-	-	-	782 -
Stage 2	-	-	-	-	589 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	807	-	160 393
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	553 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	807	-	137 393
Mov Cap-2 Maneuver	-	-	-	-	137 -
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	472 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	37.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	208	-	-	807	-
HCM Lane V/C Ratio	0.476	-	-	0.113	-
HCM Control Delay (s)	37.1	-	-	10	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	2.3	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	39.7
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	491	252	255	108	134	208
Future Vol, veh/h	491	252	255	108	134	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	3	3	3	3	5
Mvmt Flow	534	274	277	117	146	226
Number of Lanes	1	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	56.7	22	21.4
HCM LOS	F	C	C

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	39%
Vol Thru, %	0%	100%	70%	0%
Vol Right, %	0%	0%	30%	61%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	491	252	363	342
LT Vol	491	0	0	134
Through Vol	0	252	255	0
RT Vol	0	0	108	208
Lane Flow Rate	534	274	395	372
Geometry Grp	7	7	5	2
Degree of Util (X)	1.042	0.493	0.685	0.664
Departure Headway (Hd)	7.029	6.484	6.251	6.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	512	553	576	558
Service Time	4.815	4.269	4.331	4.507
HCM Lane V/C Ratio	1.043	0.495	0.686	0.667
HCM Control Delay	77.8	15.5	22	21.4
HCM Lane LOS	F	C	C	C
HCM 95th-tile Q	15.5	2.7	5.3	4.9

















APPENDIX X.3:

Cumulative Intersection

Level of Service (LOS) Calculations

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Cumulative No Project Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	0	650	0	1680	290	0	550	230
Future Volume (veh/h)	0	0	0	30	0	650	0	1680	290	0	550	230
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1845	1900	0	1845	1900
Adj Flow Rate, veh/h				31	0	643	0	1750	0	0	573	0
Adj No. of Lanes				2	0	2	0	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	3	0	3	3	0	3	3
Cap, veh/h				910	0	737	0	2097	0	0	2097	0
Arrive On Green				0.27	0.00	0.27	0.00	0.60	0.00	0.00	0.60	0.00
Sat Flow, veh/h				3408	0	2760	0	3689	0	0	3689	0
Grp Volume(v), veh/h				31	0	643	0	1750	0	0	573	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1752	0	0	1752	0
Q Serve(g_s), s				0.4	0.0	13.2	0.0	23.8	0.0	0.0	4.7	0.0
Cycle Q Clear(g_c), s				0.4	0.0	13.2	0.0	23.8	0.0	0.0	4.7	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				910	0	737	0	2097	0	0	2097	0
V/C Ratio(X)				0.03	0.00	0.87	0.00	0.83	0.00	0.00	0.27	0.00
Avail Cap(c_a), veh/h				1091	0	884	0	2835	0	0	2835	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.1	0.0	20.8	0.0	9.6	0.0	0.0	5.7	0.0
Incr Delay (d2), s/veh				0.0	0.0	7.4	0.0	1.3	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	5.8	0.0	11.5	0.0	0.0	2.2	0.0
LnGrp Delay(d),s/veh				16.1	0.0	28.2	0.0	10.8	0.0	0.0	5.7	0.0
LnGrp LOS				B		C		B			A	
Approach Vol, veh/h					674			1750			573	
Approach Delay, s/veh					27.7			10.8			5.7	
Approach LOS					C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		39.5				39.5		19.8				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		47.4				47.4		18.9				
Max Q Clear Time (g_c+I1), s		25.8				6.7		15.2				
Green Ext Time (p_c), s		9.1				10.9		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
2: Prairie City Rd & US 50 Eastbound Ramps

























Cumulative No Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	640	10	290	0	0	0	0	1330	120	0	580	0
Future Volume (veh/h)	640	10	290	0	0	0	0	1330	120	0	580	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1845	1845	0	1845	0
Adj Flow Rate, veh/h	704	0	125				0	1446	103	0	630	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	3	3	0	3	0
Cap, veh/h	960	0	854				0	1901	849	0	1901	0
Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.00	0.54	0.00
Sat Flow, veh/h	3514	0	3124				0	3597	1565	0	3689	0
Grp Volume(v), veh/h	704	0	125				0	1446	103	0	630	0
Grp Sat Flow(s),veh/h/ln	1757	0	1562				0	1752	1565	0	1752	0
Q Serve(g_s), s	7.9	0.0	1.3				0.0	13.9	1.4	0.0	4.4	0.0
Cycle Q Clear(g_c), s	7.9	0.0	1.3				0.0	13.9	1.4	0.0	4.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	960	0	854				0	1901	849	0	1901	0
V/C Ratio(X)	0.73	0.00	0.15				0.00	0.76	0.12	0.00	0.33	0.00
Avail Cap(c_a), veh/h	2357	0	2096				0	2254	1006	0	2254	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	0.0	11.9				0.0	7.7	4.9	0.0	5.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0				0.0	1.0	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.6				0.0	6.9	0.6	0.0	2.1	0.0
LnGrp Delay(d),s/veh	14.7	0.0	12.0				0.0	8.7	4.9	0.0	5.6	0.0
LnGrp LOS	B		B					A	A		A	
Approach Vol, veh/h		829						1549			630	
Approach Delay, s/veh		14.3						8.5			5.6	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		27.5		15.9		27.5						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		27.3		29.0		27.3						
Max Q Clear Time (g_c+I1), s		15.9		9.9		6.4						
Green Ext Time (p_c), s		7.0		1.6		10.0						
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									
Notes												

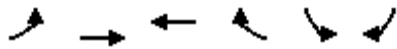
HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Cumulative No Project Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	700	1200	10	20	1560	40	10	150	50	20	50	430
Future Volume (veh/h)	700	1200	10	20	1560	40	10	150	50	20	50	430
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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		0.99	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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	729	1250	10	21	1625	-23	10	156	52	21	52	-2
Adj No. of Lanes	2	2	1	1	3	1	1	1	1	1	1	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	825	2351	1048	238	1939	604	194	204	171	101	106	180
Arrive On Green	0.24	0.67	0.67	0.39	0.39	0.00	0.11	0.11	0.11	0.06	0.06	0.00
Sat Flow, veh/h	3408	3505	1562	434	5036	1568	1757	1845	1547	1757	1845	3136
Grp Volume(v), veh/h	729	1250	10	21	1625	-23	10	156	52	21	52	-2
Grp Sat Flow(s),veh/h/ln	1704	1752	1562	434	1679	1568	1757	1845	1547	1757	1845	1568
Q Serve(g_s), s	20.8	18.4	0.2	3.2	29.6	0.0	0.5	8.3	3.1	1.2	2.8	0.0
Cycle Q Clear(g_c), s	20.8	18.4	0.2	3.2	29.6	0.0	0.5	8.3	3.1	1.2	2.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	825	2351	1048	238	1939	604	194	204	171	101	106	180
V/C Ratio(X)	0.88	0.53	0.01	0.09	0.84	-0.04	0.05	0.77	0.30	0.21	0.49	-0.01
Avail Cap(c_a), veh/h	999	2586	1153	245	2020	629	541	568	476	489	513	873
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)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.9	8.5	5.5	20.1	28.2	0.0	40.2	43.7	41.3	45.4	46.1	0.0
Incr Delay (d2), s/veh	8.2	0.1	0.0	0.2	3.2	0.0	0.1	5.9	1.0	0.4	1.3	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
%ile BackOfQ(50%),veh/ln	10.8	8.9	0.1	0.4	14.3	0.0	0.3	4.6	1.4	0.6	1.4	0.0
LnGrp Delay(d),s/veh	45.1	8.6	5.5	20.2	31.4	0.0	40.3	49.6	42.3	45.8	47.4	0.0
LnGrp LOS	D	A	A	C	C		D	D	D	D	D	
Approach Vol, veh/h		1989			1623			218			71	
Approach Delay, s/veh		22.0			31.7			47.4			48.3	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		15.5		75.2		10.2	28.8	46.4				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 31		* 75		28.1	* 30	* 41				
Max Q Clear Time (g_c+I1), s		10.3		20.4		4.8	22.8	31.6				
Green Ext Time (p_c), s		0.8		24.1		0.1	1.6	7.3				
Intersection Summary												
HCM 2010 Ctrl Delay				27.9								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
 5: White Rock Road & Scott Road (East)

Cumulative No Project Conditions
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↶↷	↑↑	↑↑↑	↶	↶	↶↷		
Traffic Volume (veh/h)	380	870	1210	80	170	360		
Future Volume (veh/h)	380	870	1210	80	170	360		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
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		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845		
Adj Flow Rate, veh/h	396	906	1260	60	177	2		
Adj No. of Lanes	2	2	3	1	1	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	558	2516	2432	756	246	386		
Arrive On Green	0.16	0.72	0.48	0.48	0.14	0.14		
Sat Flow, veh/h	3408	3597	5202	1565	1757	2760		
Grp Volume(v), veh/h	396	906	1260	60	177	2		
Grp Sat Flow(s),veh/h/ln	1704	1752	1679	1565	1757	1380		
Q Serve(g_s), s	6.2	5.5	9.7	1.2	5.4	0.0		
Cycle Q Clear(g_c), s	6.2	5.5	9.7	1.2	5.4	0.0		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	558	2516	2432	756	246	386		
V/C Ratio(X)	0.71	0.36	0.52	0.08	0.72	0.01		
Avail Cap(c_a), veh/h	1212	3739	3224	1002	1000	1570		
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	22.2	3.0	10.0	7.8	23.1	20.8		
Incr Delay (d2), s/veh	1.7	0.1	0.2	0.0	4.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.0	2.7	4.5	0.5	2.9	0.0		
LnGrp Delay(d),s/veh	23.9	3.1	10.2	7.9	27.1	20.8		
LnGrp LOS	C	A	B	A	C	C		
Approach Vol, veh/h		1302	1320		179			
Approach Delay, s/veh		9.4	10.1		27.0			
Approach LOS		A	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				44.4		11.9	13.2	31.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				60.0		32.0	20.0	36.0
Max Q Clear Time (g_c+1), s				7.5		7.4	8.2	11.7
Green Ext Time (p_c), s				23.1		0.4	1.1	15.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.9					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
6: Prairie City Rd & Easton Valley Pkwy

Cumulative No Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	200	220	80	250	780	260	360	990	220	330	720	120
Future Volume (veh/h)	200	220	80	250	780	260	360	990	220	330	720	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	217	239	22	272	848	162	391	1076	-1	359	783	42
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	297	1226	381	360	1319	410	488	1702	530	452	1648	512
Arrive On Green	0.09	0.24	0.24	0.11	0.26	0.26	0.14	0.34	0.00	0.13	0.33	0.33
Sat Flow, veh/h	3408	5036	1564	3408	5036	1564	3408	5036	1568	3408	5036	1565
Grp Volume(v), veh/h	217	239	22	272	848	162	391	1076	-1	359	783	42
Grp Sat Flow(s),veh/h/ln	1704	1679	1564	1704	1679	1564	1704	1679	1568	1704	1679	1565
Q Serve(g_s), s	5.5	3.3	1.0	6.9	13.3	7.6	9.9	16.0	0.0	9.1	11.0	1.6
Cycle Q Clear(g_c), s	5.5	3.3	1.0	6.9	13.3	7.6	9.9	16.0	0.0	9.1	11.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	1226	381	360	1319	410	488	1702	530	452	1648	512
V/C Ratio(X)	0.73	0.19	0.06	0.75	0.64	0.40	0.80	0.63	0.00	0.79	0.48	0.08
Avail Cap(c_a), veh/h	461	1816	564	614	2043	635	768	2156	671	691	2043	635
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	26.7	25.8	38.6	29.1	27.0	36.8	24.7	0.0	37.3	23.8	20.6
Incr Delay (d2), s/veh	3.4	0.1	0.1	3.2	0.5	0.6	3.3	0.4	0.0	3.6	0.2	0.1
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
%ile BackOfQ(50%),veh/ln	2.7	1.6	0.4	3.4	6.2	3.3	4.8	7.4	0.0	4.5	5.1	0.7
LnGrp Delay(d),s/veh	42.9	26.7	25.8	41.8	29.6	27.6	40.1	25.1	0.0	41.0	24.0	20.7
LnGrp LOS	D	C	C	D	C	C	D	C		D	C	C
Approach Vol, veh/h		478			1282			1466			1184	
Approach Delay, s/veh		34.0			31.9			29.1			29.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	34.0	13.4	25.6	16.7	33.0	11.7	27.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	38.0	16.0	32.0	20.0	36.0	12.0	36.0				
Max Q Clear Time (g_c+M), s	15.0	18.0	8.9	5.3	11.9	13.0	7.5	15.3				
Green Ext Time (p_c), s	0.7	11.9	0.5	8.4	0.9	13.0	0.3	7.7				
Intersection Summary												
HCM 2010 Ctrl Delay			30.4									
HCM 2010 LOS			C									
Notes												

Intersection

Int Delay, s/veh 0.7

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations		↗ ↑↑↑			↑↑↑	
Traffic Vol, veh/h	0	70	1130	10	0	640
Future Vol, veh/h	0	70	1130	10	0	640
Conflicting Peds, #/hr	0	5	0	5	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	76	1228	11	0	696

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	-	630	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	362	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	-	359	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach WB NB SB












HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBT

Capacity (veh/h)	-	-	359	-
HCM Lane V/C Ratio	-	-	0.212	-
HCM Control Delay (s)	-	-	17.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.8	-

HCM 2010 Signalized Intersection Summary
8: Street A & Prairie City Rd

Cumulative No Project Conditions
AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	70	390	760	50	200	440		
Future Volume (veh/h)	70	390	760	50	200	440		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1845		
Adj Flow Rate, veh/h	76	111	826	47	217	478		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	199	177	1399	80	283	2383		
Arrive On Green	0.11	0.11	0.42	0.42	0.16	0.68		
Sat Flow, veh/h	1757	1568	3462	192	1757	3597		
Grp Volume(v), veh/h	76	111	429	444	217	478		
Grp Sat Flow(s),veh/h/ln	1757	1568	1752	1809	1757	1752		
Q Serve(g_s), s	1.5	2.6	7.3	7.3	4.6	2.0		
Cycle Q Clear(g_c), s	1.5	2.6	7.3	7.3	4.6	2.0		
Prop In Lane	1.00	1.00		0.11	1.00			
Lane Grp Cap(c), veh/h	199	177	728	751	283	2383		
V/C Ratio(X)	0.38	0.63	0.59	0.59	0.77	0.20		
Avail Cap(c_a), veh/h	910	812	1089	1124	637	3811		
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	15.9	16.4	8.7	8.8	15.5	2.3		
Incr Delay (d2), s/veh	1.2	3.6	0.8	0.7	4.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.3	3.6	3.7	2.5	0.9		
LnGrp Delay(d),s/veh	17.1	20.0	9.5	9.5	19.8	2.3		
LnGrp LOS	B	B	A	A	B	A		
Approach Vol, veh/h	187		873			695		
Approach Delay, s/veh	18.8		9.5			7.8		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.2	20.0				30.3		8.4
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	14.0	24.0				42.0		20.0
Max Q Clear Time (g_c+I1), s	6.6	9.3				4.0		4.6
Green Ext Time (p_c), s	0.3	6.7				9.6		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative No Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑	↗		↑↑	↗
Traffic Volume (veh/h)	0	0	0	510	0	160	0	1160	330	0	530	1100
Future Volume (veh/h)	0	0	0	510	0	160	0	1160	330	0	530	1100
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h				554	0	139	0	1261	0	0	576	0
Adj No. of Lanes				2	0	2	0	2	1	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	0	3	0	3	3	0	3	3
Cap, veh/h				860	0	696	0	1830	819	0	1830	819
Arrive On Green				0.25	0.00	0.25	0.00	0.52	0.00	0.00	0.52	0.00
Sat Flow, veh/h				3408	0	2760	0	3597	1568	0	3597	1568
Grp Volume(v), veh/h				554	0	139	0	1261	0	0	576	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1752	1568	0	1752	1568
Q Serve(g_s), s				5.1	0.0	1.4	0.0	9.5	0.0	0.0	3.3	0.0
Cycle Q Clear(g_c), s				5.1	0.0	1.4	0.0	9.5	0.0	0.0	3.3	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				860	0	696	0	1830	819	0	1830	819
V/C Ratio(X)				0.64	0.00	0.20	0.00	0.69	0.00	0.00	0.31	0.00
Avail Cap(c_a), veh/h				1537	0	1245	0	2075	928	0	2075	928
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				11.8	0.0	10.4	0.0	6.3	0.0	0.0	4.8	0.0
Incr Delay (d2), s/veh				0.8	0.0	0.1	0.0	0.8	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				2.5	0.0	0.5	0.0	4.6	0.0	0.0	1.6	0.0
LnGrp Delay(d),s/veh				12.7	0.0	10.6	0.0	7.2	0.0	0.0	4.9	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					693			1261			576	
Approach Delay, s/veh					12.2			7.2			4.9	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		22.5				22.5		13.0				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		21.0				21.0		16.0				
Max Q Clear Time (g_c+I1), s		11.5				5.3		7.1				
Green Ext Time (p_c), s		7.0				10.3		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				8.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative No Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔↔					↑↑	↗		↑↑	↗
Traffic Volume (veh/h)	790	0	190	0	0	0	0	700	140	0	900	140
Future Volume (veh/h)	790	0	190	0	0	0	0	700	140	0	900	140
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	1845				0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	859	0	155				0	761	0	0	978	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	0	3				0	3	3	0	3	3
Cap, veh/h	1178	0	954				0	1476	660	0	1476	660
Arrive On Green	0.35	0.00	0.35				0.00	0.42	0.00	0.00	0.42	0.00
Sat Flow, veh/h	3408	0	2760				0	3597	1568	0	3597	1568
Grp Volume(v), veh/h	859	0	155				0	761	0	0	978	0
Grp Sat Flow(s),veh/h/ln	1704	0	1380				0	1752	1568	0	1752	1568
Q Serve(g_s), s	7.6	0.0	1.3				0.0	5.5	0.0	0.0	7.7	0.0
Cycle Q Clear(g_c), s	7.6	0.0	1.3				0.0	5.5	0.0	0.0	7.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1178	0	954				0	1476	660	0	1476	660
V/C Ratio(X)	0.73	0.00	0.16				0.00	0.52	0.00	0.00	0.66	0.00
Avail Cap(c_a), veh/h	1590	0	1288				0	1635	732	0	1635	732
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	7.8				0.0	7.3	0.0	0.0	8.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.1				0.0	0.3	0.0	0.0	0.9	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
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.5				0.0	2.7	0.0	0.0	3.8	0.0
LnGrp Delay(d),s/veh	11.0	0.0	7.9				0.0	7.6	0.0	0.0	8.9	0.0
LnGrp LOS	B		A					A			A	
Approach Vol, veh/h		1014						761			978	
Approach Delay, s/veh		10.5						7.6			8.9	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		15.8		18.4						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		16.0		16.0		16.0						
Max Q Clear Time (g_c+I1), s		7.5		9.6		9.7						
Green Ext Time (p_c), s		6.1		2.3		4.8						
Intersection Summary												
HCM 2010 Ctrl Delay			9.1									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 11: Easton Valley Pkwy & Oak Ave Pkwy

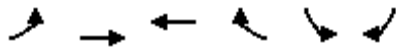
Cumulative No Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖↗	↖↗	↖	↖↗	↖↗	↖	↖↗	↖↗	↖
Traffic Volume (veh/h)	240	260	40	60	700	210	110	390	110	80	220	790
Future Volume (veh/h)	240	260	40	60	700	210	110	390	110	80	220	790
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	261	283	21	65	761	85	120	424	57	87	239	659
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	342	1138	508	120	909	406	184	1487	665	143	1446	646
Arrive On Green	0.10	0.32	0.32	0.04	0.26	0.26	0.05	0.42	0.42	0.04	0.41	0.41
Sat Flow, veh/h	3408	3505	1565	3408	3505	1564	3408	3505	1566	3408	3505	1566
Grp Volume(v), veh/h	261	283	21	65	761	85	120	424	57	87	239	659
Grp Sat Flow(s),veh/h/ln	1704	1752	1565	1704	1752	1564	1704	1752	1566	1704	1752	1566
Q Serve(g_s), s	6.9	5.5	0.8	1.7	18.9	3.9	3.2	7.3	2.0	2.3	4.0	38.0
Cycle Q Clear(g_c), s	6.9	5.5	0.8	1.7	18.9	3.9	3.2	7.3	2.0	2.3	4.0	38.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	342	1138	508	120	909	406	184	1487	665	143	1446	646
V/C Ratio(X)	0.76	0.25	0.04	0.54	0.84	0.21	0.65	0.29	0.09	0.61	0.17	1.02
Avail Cap(c_a), veh/h	518	1294	578	222	989	442	222	1487	665	222	1446	646
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	22.8	21.3	43.7	32.3	26.7	42.7	17.4	15.8	43.4	17.1	27.1
Incr Delay (d2), s/veh	3.6	0.1	0.0	3.8	6.0	0.3	5.0	0.1	0.1	4.1	0.1	40.6
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
%ile BackOfQ(50%),veh/ln	8.4	2.7	0.4	0.9	9.8	1.7	1.6	3.6	0.9	1.2	1.9	23.6
LnGrp Delay(d),s/veh	44.0	23.0	21.3	47.5	38.2	27.0	47.7	17.5	15.9	47.5	17.1	67.7
LnGrp LOS	D	C	C	D	D	C	D	B	B	D	B	F
Approach Vol, veh/h		565			911			601			985	
Approach Delay, s/veh		32.6			37.8			23.4			53.6	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	43.1	7.2	33.9	9.0	42.0	13.2	27.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	38.0	6.0	34.0	6.0	38.0	14.0	26.0					
Max Q Clear Time (g_c+1), s	9.3	3.7	7.5	5.2	40.0	8.9	20.9					
Green Ext Time (p_c), s	0.0	7.7	0.0	7.6	0.0	0.0	0.4	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			39.1									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
 12: White Rock Road/White Rock Rd & Oak Ave Pkwy

















Cumulative No Project Conditions
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖↗	↗↗	↖↖↖	↗↖	↖↖	↗↖		
Traffic Volume (veh/h)	320	800	1090	100	100	290		
Future Volume (veh/h)	320	800	1090	100	100	290		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845		
Adj Flow Rate, veh/h	348	870	1185	46	109	166		
Adj No. of Lanes	2	2	3	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	343	2229	2189	678	554	255		
Arrive On Green	0.10	0.64	0.43	0.43	0.16	0.16		
Sat Flow, veh/h	3408	3597	5202	1559	3408	1568		
Grp Volume(v), veh/h	348	870	1185	46	109	166		
Grp Sat Flow(s),veh/h/ln	1704	1752	1679	1559	1704	1568		
Q Serve(g_s), s	4.0	4.8	6.9	0.7	1.1	3.9		
Cycle Q Clear(g_c), s	4.0	4.8	6.9	0.7	1.1	3.9		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	343	2229	2189	678	554	255		
V/C Ratio(X)	1.01	0.39	0.54	0.07	0.20	0.65		
Avail Cap(c_a), veh/h	343	2471	2536	785	2489	1145		
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	17.9	3.5	8.3	6.5	14.4	15.6		
Incr Delay (d2), s/veh	52.1	0.1	0.2	0.0	0.2	2.8		
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.3	2.2	3.2	0.3	0.5	3.5		
LnGrp Delay(d),s/veh	70.0	3.6	8.5	6.6	14.6	18.4		
LnGrp LOS	F	A	A	A	B	B		
Approach Vol, veh/h		1218	1231		275			
Approach Delay, s/veh		22.6	8.4		16.9			
Approach LOS		C	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				29.3		10.5	8.0	21.3
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		29.0	4.0	20.0
Max Q Clear Time (g_c+I1), s				6.8		5.9	6.0	8.9
Green Ext Time (p_c), s				13.4		0.8	0.0	8.3
Intersection Summary								
HCM 2010 Ctrl Delay			15.6					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Cumulative No Project Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	40	0	500	0	1310	310	0	940	650
Future Volume (veh/h)	0	0	0	40	0	500	0	1310	310	0	940	650
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1845	1900	0	1845	1900
Adj Flow Rate, veh/h				42	0	455	0	1365	0	0	979	0
Adj No. of Lanes				2	0	2	0	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	3	0	3	3	0	3	3
Cap, veh/h				737	0	597	0	1974	0	0	1974	0
Arrive On Green				0.22	0.00	0.22	0.00	0.56	0.00	0.00	0.56	0.00
Sat Flow, veh/h				3408	0	2760	0	3689	0	0	3689	0
Grp Volume(v), veh/h				42	0	455	0	1365	0	0	979	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1752	0	0	1752	0
Q Serve(g_s), s				0.4	0.0	6.1	0.0	11.0	0.0	0.0	6.7	0.0
Cycle Q Clear(g_c), s				0.4	0.0	6.1	0.0	11.0	0.0	0.0	6.7	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				737	0	597	0	1974	0	0	1974	0
V/C Ratio(X)				0.06	0.00	0.76	0.00	0.69	0.00	0.00	0.50	0.00
Avail Cap(c_a), veh/h				1201	0	972	0	3323	0	0	3323	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				12.3	0.0	14.5	0.0	6.2	0.0	0.0	5.2	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.8	0.0	0.2	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	2.3	0.0	5.2	0.0	0.0	3.1	0.0
LnGrp Delay(d),s/veh				12.3	0.0	15.3	0.0	6.3	0.0	0.0	5.3	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					497			1365			979	
Approach Delay, s/veh					15.0			6.3			5.3	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		26.8				26.8		12.6				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		37.4				37.4		13.9				
Max Q Clear Time (g_c+I1), s		13.0				8.7		8.1				
Green Ext Time (p_c), s		9.2				9.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 2: Prairie City Rd & US 50 Eastbound Ramps

























Cumulative No Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	10	470	0	0	0	0	1150	40	0	980	0
Future Volume (veh/h)	470	10	470	0	0	0	0	1150	40	0	980	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1845	1845	0	1845	0
Adj Flow Rate, veh/h	519	0	476				0	1250	-50	0	1065	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	3	3	0	3	0
Cap, veh/h	860	0	765				0	1879	840	0	1879	0
Arrive On Green	0.24	0.00	0.24				0.00	0.54	0.00	0.00	0.54	0.00
Sat Flow, veh/h	3514	0	3123				0	3597	1568	0	3689	0
Grp Volume(v), veh/h	519	0	476				0	1250	-50	0	1065	0
Grp Sat Flow(s),veh/h/ln	1757	0	1562				0	1752	1568	0	1752	0
Q Serve(g_s), s	5.2	0.0	5.4				0.0	10.2	0.0	0.0	8.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	5.4				0.0	10.2	0.0	0.0	8.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	860	0	765				0	1879	840	0	1879	0
V/C Ratio(X)	0.60	0.00	0.62				0.00	0.67	-0.06	0.00	0.57	0.00
Avail Cap(c_a), veh/h	2566	0	2281				0	2410	1078	0	2410	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	13.3	0.0	13.4				0.0	6.6	0.0	0.0	6.1	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.3				0.0	0.2	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.3				0.0	4.9	0.0	0.0	3.9	0.0
LnGrp Delay(d),s/veh	13.5	0.0	13.7				0.0	6.9	0.0	0.0	6.2	0.0
LnGrp LOS	B		B					A			A	
Approach Vol, veh/h		995						1200			1065	
Approach Delay, s/veh		13.6						7.1			6.2	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.9		13.8		25.9						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		27.3		29.0		27.3						
Max Q Clear Time (g_c+I1), s		12.2		7.4		10.0						
Green Ext Time (p_c), s		9.0		2.1		9.8						
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									
Notes												

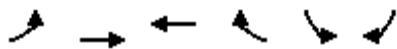
HCM 2010 Signalized Intersection Summary
 3: White Rock Rd & Prairie City Rd

Cumulative No Project Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	600	1570	10	70	1330	40	10	80	30	30	140	650
Future Volume (veh/h)	600	1570	10	70	1330	40	10	80	30	30	140	650
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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		0.98	1.00		0.99
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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	625	1635	10	73	1385	-20	10	83	31	31	146	34
Adj No. of Lanes	2	2	1	1	3	1	1	1	1	1	1	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	718	2359	1051	184	2121	660	115	120	100	192	201	338
Arrive On Green	0.21	0.67	0.67	0.42	0.42	0.00	0.07	0.07	0.07	0.11	0.11	0.11
Sat Flow, veh/h	3408	3505	1562	300	5036	1568	1757	1845	1532	1757	1845	3093
Grp Volume(v), veh/h	625	1635	10	73	1385	-20	10	83	31	31	146	34
Grp Sat Flow(s),veh/h/ln	1704	1752	1562	300	1679	1568	1757	1845	1532	1757	1845	1546
Q Serve(g_s), s	18.9	30.5	0.2	21.1	23.4	0.0	0.6	4.7	2.1	1.7	8.2	1.1
Cycle Q Clear(g_c), s	18.9	30.5	0.2	24.7	23.4	0.0	0.6	4.7	2.1	1.7	8.2	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	718	2359	1051	184	2121	660	115	120	100	192	201	338
V/C Ratio(X)	0.87	0.69	0.01	0.40	0.65	-0.03	0.09	0.69	0.31	0.16	0.73	0.10
Avail Cap(c_a), veh/h	945	2905	1295	210	2571	800	265	278	231	479	503	843
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)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	10.7	5.7	26.5	24.7	0.0	46.9	48.8	47.6	43.1	46.0	42.8
Incr Delay (d2), s/veh	7.1	0.3	0.0	1.4	0.4	0.0	0.3	6.9	1.7	0.1	1.9	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
%ile BackOfQ(50%),veh/ln	9.6	14.6	0.1	1.8	10.9	0.0	0.3	2.6	0.9	0.8	4.3	0.5
LnGrp Delay(d),s/veh	47.8	11.0	5.7	27.9	25.1	0.0	47.2	55.7	49.4	43.3	47.9	42.9
LnGrp LOS	D	B	A	C	C		D	E	D	D	D	D
Approach Vol, veh/h		2270			1438			124			211	
Approach Delay, s/veh		21.1			25.6			53.4			46.4	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		11.4		79.4		16.1	26.9	52.5				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 16		* 89		29.1	* 30	* 55				
Max Q Clear Time (g_c+I1), s		6.7		32.5		10.2	20.9	26.7				
Green Ext Time (p_c), s		0.3		26.6		0.2	1.6	18.3				
Intersection Summary												
HCM 2010 Ctrl Delay				25.0								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: White Rock Road & Scott Road (East)

Cumulative No Project Conditions
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖ ↗	↗ ↗	↖ ↖ ↖ ↖	↗ ↖	↖ ↖	↗ ↗		
Traffic Volume (veh/h)	610	1030	960	110	220	470		
Future Volume (veh/h)	610	1030	960	110	220	470		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
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		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845		
Adj Flow Rate, veh/h	635	1073	1000	75	229	17		
Adj No. of Lanes	2	2	3	1	1	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	825	2435	1939	602	297	467		
Arrive On Green	0.24	0.69	0.38	0.38	0.17	0.17		
Sat Flow, veh/h	3408	3597	5202	1564	1757	2760		
Grp Volume(v), veh/h	635	1073	1000	75	229	17		
Grp Sat Flow(s),veh/h/ln	1704	1752	1679	1564	1757	1380		
Q Serve(g_s), s	10.2	7.9	9.0	1.8	7.3	0.3		
Cycle Q Clear(g_c), s	10.2	7.9	9.0	1.8	7.3	0.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	825	2435	1939	602	297	467		
V/C Ratio(X)	0.77	0.44	0.52	0.12	0.77	0.04		
Avail Cap(c_a), veh/h	1621	3571	2395	744	955	1500		
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	20.8	4.0	13.9	11.7	23.4	20.4		
Incr Delay (d2), s/veh	1.6	0.1	0.2	0.1	4.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9	3.8	4.2	0.8	3.9	0.3		
LnGrp Delay(d),s/veh	22.3	4.1	14.1	11.8	27.6	20.5		
LnGrp LOS	C	A	B	B	C	C		
Approach Vol, veh/h		1708	1075		246			
Approach Delay, s/veh		10.9	13.9		27.1			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				44.9		14.0	18.2	26.7
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				60.0		32.0	28.0	28.0
Max Q Clear Time (g_c+I1), s				9.9		9.3	12.2	11.0
Green Ext Time (p_c), s				21.4		0.6	2.0	11.7
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
6: Prairie City Rd & Easton Valley Pkwy

Cumulative No Project Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	180	670	210	270	470	360	110	880	290	380	1030	150
Future Volume (veh/h)	180	670	210	270	470	360	110	880	290	380	1030	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	196	728	89	293	511	227	120	957	125	413	1120	45
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	272	1246	387	377	1402	436	185	1611	501	508	2088	649
Arrive On Green	0.08	0.25	0.25	0.11	0.28	0.28	0.05	0.32	0.32	0.15	0.41	0.41
Sat Flow, veh/h	3408	5036	1564	3408	5036	1565	3408	5036	1565	3408	5036	1566
Grp Volume(v), veh/h	196	728	89	293	511	227	120	957	125	413	1120	45
Grp Sat Flow(s),veh/h/ln	1704	1679	1564	1704	1679	1565	1704	1679	1565	1704	1679	1566
Q Serve(g_s), s	5.2	11.8	4.2	7.7	7.5	11.3	3.2	14.8	5.5	10.9	15.5	1.6
Cycle Q Clear(g_c), s	5.2	11.8	4.2	7.7	7.5	11.3	3.2	14.8	5.5	10.9	15.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1246	387	377	1402	436	185	1611	501	508	2088	649
V/C Ratio(X)	0.72	0.58	0.23	0.78	0.36	0.52	0.65	0.59	0.25	0.81	0.54	0.07
Avail Cap(c_a), veh/h	442	1741	541	589	1958	608	295	1904	592	773	2611	812
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	30.6	27.8	40.0	26.8	28.2	42.9	26.4	23.3	38.2	20.4	16.3
Incr Delay (d2), s/veh	3.6	0.4	0.3	3.5	0.2	1.0	3.8	0.4	0.3	4.0	0.2	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
%ile BackOfQ(50%),veh/ln	2.6	5.5	1.9	3.8	3.5	5.0	1.6	6.9	2.4	5.4	7.2	0.7
LnGrp Delay(d),s/veh	45.2	31.1	28.1	43.5	27.0	29.2	46.7	26.8	23.5	42.1	20.6	16.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		1013			1031			1202			1578	
Approach Delay, s/veh		33.5			32.2			28.4			26.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	33.6	14.3	26.9	9.0	42.4	11.4	29.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	35.0	16.0	32.0	8.0	48.0	12.0	36.0				
Max Q Clear Time (g_c+1.2), s	12.0	16.8	9.7	13.8	5.2	17.5	7.2	13.3				
Green Ext Time (p_c), s	0.9	12.7	0.5	8.7	0.1	17.9	0.2	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay				29.5								
HCM 2010 LOS				C								

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑	↗ ↑↑↑			↑↑↑
Traffic Vol, veh/h	0	40	800	20	0	1110
Future Vol, veh/h	0	40	800	20	0	1110
Conflicting Peds, #/hr	0	5	0	5	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	43	870	22	0	1207












Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	456	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-
Pot Cap-1 Maneuver	0	470	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	466	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	466
HCM Lane V/C Ratio	-	-	0.093
HCM Control Delay (s)	-	-	13.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

HCM 2010 Signalized Intersection Summary
 8: Street A & Prairie City Rd

Cumulative No Project Conditions
 PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	70	250	570	70	410	710		
Future Volume (veh/h)	70	250	570	70	410	710		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1845		
Adj Flow Rate, veh/h	76	18	620	65	446	772		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	114	102	1057	111	533	2573		
Arrive On Green	0.06	0.06	0.33	0.33	0.30	0.73		
Sat Flow, veh/h	1757	1568	3292	335	1757	3597		
Grp Volume(v), veh/h	76	18	339	346	446	772		
Grp Sat Flow(s),veh/h/ln	1757	1568	1752	1783	1757	1752		
Q Serve(g_s), s	1.7	0.4	6.4	6.4	9.4	3.0		
Cycle Q Clear(g_c), s	1.7	0.4	6.4	6.4	9.4	3.0		
Prop In Lane	1.00	1.00		0.19	1.00			
Lane Grp Cap(c), veh/h	114	102	579	589	533	2573		
V/C Ratio(X)	0.67	0.18	0.59	0.59	0.84	0.30		
Avail Cap(c_a), veh/h	883	788	704	716	750	3257		
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	18.2	17.6	11.1	11.1	13.0	1.8		
Incr Delay (d2), s/veh	6.5	0.8	0.9	0.9	5.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	0.2	3.2	3.2	5.3	1.4		
LnGrp Delay(d),s/veh	24.7	18.4	12.0	12.0	18.8	1.9		
LnGrp LOS	C	B	B	B	B	A		
Approach Vol, veh/h	94		685			1218		
Approach Delay, s/veh	23.5		12.0			8.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.1	17.2				33.2		6.6
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	17.0	16.0				37.0		20.0
Max Q Clear Time (g_c+I1), s	11.4	8.4				5.0		3.7
Green Ext Time (p_c), s	0.7	4.7				10.4		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative No Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	340	0	160	0	1510	350	0	600	980
Future Volume (veh/h)	0	0	0	340	0	160	0	1510	350	0	600	980
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h				370	0	100	0	1641	0	0	652	0
Adj No. of Lanes				2	0	2	0	2	1	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	0	3	0	3	3	0	3	3
Cap, veh/h				528	0	427	0	2509	1122	0	2509	1122
Arrive On Green				0.15	0.00	0.15	0.00	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h				3408	0	2760	0	3597	1568	0	3597	1568
Grp Volume(v), veh/h				370	0	100	0	1641	0	0	652	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1752	1568	0	1752	1568
Q Serve(g_s), s				6.4	0.0	2.0	0.0	15.5	0.0	0.0	4.0	0.0
Cycle Q Clear(g_c), s				6.4	0.0	2.0	0.0	15.5	0.0	0.0	4.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				528	0	427	0	2509	1122	0	2509	1122
V/C Ratio(X)				0.70	0.00	0.23	0.00	0.65	0.00	0.00	0.26	0.00
Avail Cap(c_a), veh/h				992	0	804	0	3628	1623	0	3628	1623
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.8	0.0	22.9	0.0	4.7	0.0	0.0	3.1	0.0
Incr Delay (d2), s/veh				1.7	0.0	0.3	0.0	0.3	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				3.1	0.0	0.8	0.0	7.4	0.0	0.0	1.9	0.0
LnGrp Delay(d),s/veh				26.5	0.0	23.2	0.0	5.0	0.0	0.0	3.1	0.0
LnGrp LOS				C		C		A			A	
Approach Vol, veh/h					470			1641			652	
Approach Delay, s/veh					25.8			5.0			3.1	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		48.2				48.2		13.6				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		64.0				64.0		18.0				
Max Q Clear Time (g_c+I1), s		17.5				6.0		8.4				
Green Ext Time (p_c), s		26.8				30.0		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				8.1								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative No Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗		↖↗					↑↑	↖		↑↑	↖
Traffic Volume (veh/h)	1070	0	180	0	0	0	0	790	410	0	770	170
Future Volume (veh/h)	1070	0	180	0	0	0	0	790	410	0	770	170
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	1845				0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	1163	0	139				0	859	0	0	837	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	0	3				0	3	3	0	3	3
Cap, veh/h	1435	0	1162				0	1327	594	0	1327	594
Arrive On Green	0.42	0.00	0.42				0.00	0.38	0.00	0.00	0.38	0.00
Sat Flow, veh/h	3408	0	2760				0	3597	1568	0	3597	1568
Grp Volume(v), veh/h	1163	0	139				0	859	0	0	837	0
Grp Sat Flow(s),veh/h/ln	1704	0	1380				0	1752	1568	0	1752	1568
Q Serve(g_s), s	12.0	0.0	1.2				0.0	8.1	0.0	0.0	7.8	0.0
Cycle Q Clear(g_c), s	12.0	0.0	1.2				0.0	8.1	0.0	0.0	7.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1435	0	1162				0	1327	594	0	1327	594
V/C Ratio(X)	0.81	0.00	0.12				0.00	0.65	0.00	0.00	0.63	0.00
Avail Cap(c_a), veh/h	1706	0	1382				0	1492	667	0	1492	667
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	7.0				0.0	10.2	0.0	0.0	10.1	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0				0.0	0.8	0.0	0.0	0.7	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
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.5				0.0	4.0	0.0	0.0	3.9	0.0
LnGrp Delay(d),s/veh	12.8	0.0	7.1				0.0	11.0	0.0	0.0	10.8	0.0
LnGrp LOS	B		A					B			B	
Approach Vol, veh/h		1302						859			837	
Approach Delay, s/veh		12.2						11.0			10.8	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		19.1		20.8		19.1						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		17.0		20.0		17.0						
Max Q Clear Time (g_c+I1), s		10.1		14.0		9.8						
Green Ext Time (p_c), s		5.1		2.8		5.2						
Intersection Summary												
HCM 2010 Ctrl Delay			11.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 11: Easton Valley Pkwy & Oak Ave Pkwy

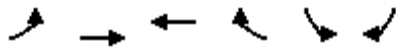
Cumulative No Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	760	670	130	120	410	210	50	230	80	90	380	480
Future Volume (veh/h)	760	670	130	120	410	210	50	230	80	90	380	480
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	826	728	31	130	446	146	54	250	12	98	413	86
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	983	1659	741	211	865	386	127	659	294	166	699	312
Arrive On Green	0.29	0.47	0.47	0.06	0.25	0.25	0.04	0.19	0.19	0.05	0.20	0.20
Sat Flow, veh/h	3408	3505	1566	3408	3505	1564	3408	3505	1563	3408	3505	1563
Grp Volume(v), veh/h	826	728	31	130	446	146	54	250	12	98	413	86
Grp Sat Flow(s),veh/h/ln	1704	1752	1566	1704	1752	1564	1704	1752	1563	1704	1752	1563
Q Serve(g_s), s	16.0	9.7	0.7	2.6	7.7	5.4	1.1	4.4	0.4	2.0	7.5	3.3
Cycle Q Clear(g_c), s	16.0	9.7	0.7	2.6	7.7	5.4	1.1	4.4	0.4	2.0	7.5	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	983	1659	741	211	865	386	127	659	294	166	699	312
V/C Ratio(X)	0.84	0.44	0.04	0.62	0.52	0.38	0.43	0.38	0.04	0.59	0.59	0.28
Avail Cap(c_a), veh/h	1313	2251	1006	389	1300	580	195	1350	602	195	1350	602
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	12.3	9.9	32.1	22.8	21.9	33.0	24.9	23.3	32.7	25.5	23.8
Incr Delay (d2), s/veh	3.8	0.2	0.0	2.9	0.5	0.6	2.3	0.4	0.1	3.4	0.8	0.5
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
%ile BackOfQ(50%),veh/ln	8.0	4.7	0.3	1.3	3.8	2.4	0.5	2.2	0.2	1.0	3.7	1.5
LnGrp Delay(d),s/veh	27.2	12.5	9.9	35.0	23.3	22.5	35.3	25.2	23.3	36.1	26.3	24.2
LnGrp LOS	C	B	A	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1585			722			316			597	
Approach Delay, s/veh		20.1			25.2			26.9			27.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	17.2	8.3	37.2	6.6	18.0	24.2	21.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	27.0	8.0	45.0	4.0	27.0	27.0	26.0				
Max Q Clear Time (g_c+1), s	4.0	6.4	4.6	11.7	3.1	9.5	18.0	9.7				
Green Ext Time (p_c), s	0.0	4.2	0.1	9.6	0.0	4.0	2.3	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay				23.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 12: White Rock Road/White Rock Rd & Oak Ave Pkwy

Cumulative No Project Conditions
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖↗	↗↗	↖↖↖	↗	↖↗	↗		
Traffic Volume (veh/h)	340	900	840	80	90	420		
Future Volume (veh/h)	340	900	840	80	90	420		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845		
Adj Flow Rate, veh/h	370	978	913	62	98	291		
Adj No. of Lanes	2	2	3	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	3		
Cap, veh/h	536	2080	1775	549	815	375		
Arrive On Green	0.16	0.59	0.35	0.35	0.24	0.24		
Sat Flow, veh/h	3408	3597	5202	1557	3408	1568		
Grp Volume(v), veh/h	370	978	913	62	98	291		
Grp Sat Flow(s),veh/h/ln	1704	1752	1679	1557	1704	1568		
Q Serve(g_s), s	4.9	7.5	6.9	1.3	1.1	8.3		
Cycle Q Clear(g_c), s	4.9	7.5	6.9	1.3	1.1	8.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	536	2080	1775	549	815	375		
V/C Ratio(X)	0.69	0.47	0.51	0.11	0.12	0.78		
Avail Cap(c_a), veh/h	927	2714	2108	652	2140	984		
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	19.0	5.5	12.2	10.4	14.2	17.0		
Incr Delay (d2), s/veh	1.6	0.2	0.2	0.1	0.1	3.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	3.6	3.2	0.6	0.5	7.1		
LnGrp Delay(d),s/veh	20.6	5.6	12.5	10.5	14.3	20.4		
LnGrp LOS	C	A	B	B	B	C		
Approach Vol, veh/h		1348	975		389			
Approach Delay, s/veh		9.8	12.3		18.9			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				32.4		15.4	11.5	20.8
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				37.0		30.0	13.0	20.0
Max Q Clear Time (g_c+I1), s				9.5		10.3	6.9	8.9
Green Ext Time (p_c), s				14.4		1.2	0.7	7.9
Intersection Summary								
HCM 2010 Ctrl Delay			12.0					
HCM 2010 LOS			B					

APPENDIX X.4:

















Cumulative Plus Project

Intersection Level of Service (LOS)

Calculations

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	0	650	0	1689	290	0	560	230
Future Volume (veh/h)	0	0	0	30	0	650	0	1689	290	0	560	230
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1830	1900	0	1832	1900
Adj Flow Rate, veh/h				31	0	643	0	1759	0	0	583	0
Adj No. of Lanes				2	0	2	0	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	3	0	4	4	0	4	4
Cap, veh/h				906	0	734	0	2091	0	0	2094	0
Arrive On Green				0.27	0.00	0.27	0.00	0.60	0.00	0.00	0.60	0.00
Sat Flow, veh/h				3408	0	2760	0	3659	0	0	3664	0
Grp Volume(v), veh/h				31	0	643	0	1759	0	0	583	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1738	0	0	1740	0
Q Serve(g_s), s				0.4	0.0	13.5	0.0	24.7	0.0	0.0	4.8	0.0
Cycle Q Clear(g_c), s				0.4	0.0	13.5	0.0	24.7	0.0	0.0	4.8	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				906	0	734	0	2091	0	0	2094	0
V/C Ratio(X)				0.03	0.00	0.88	0.00	0.84	0.00	0.00	0.28	0.00
Avail Cap(c_a), veh/h				1072	0	868	0	2762	0	0	2766	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.4	0.0	21.2	0.0	9.7	0.0	0.0	5.8	0.0
Incr Delay (d2), s/veh				0.0	0.0	7.9	0.0	1.5	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	5.9	0.0	11.9	0.0	0.0	2.3	0.0
LnGrp Delay(d),s/veh				16.4	0.0	29.2	0.0	11.2	0.0	0.0	5.8	0.0
LnGrp LOS				B		C		B			A	
Approach Vol, veh/h					674			1759			583	
Approach Delay, s/veh					28.6			11.2			5.8	
Approach LOS					C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.3				40.3		20.1				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		47.4				47.4		18.9				
Max Q Clear Time (g_c+I1), s		26.7				6.8		15.5				
Green Ext Time (p_c), s		9.1				11.1		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				14.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	640	10	290	0	0	0	0	1339	120	0	590	0
Future Volume (veh/h)	640	10	290	0	0	0	0	1339	120	0	590	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1827	1845	0	1827	0
Adj Flow Rate, veh/h	704	0	125				0	1455	103	0	641	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	4	3	0	4	0
Cap, veh/h	958	0	852				0	1891	853	0	1891	0
Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.00	0.54	0.00
Sat Flow, veh/h	3514	0	3124				0	3563	1565	0	3654	0
Grp Volume(v), veh/h	704	0	125				0	1455	103	0	641	0
Grp Sat Flow(s),veh/h/ln	1757	0	1562				0	1736	1565	0	1736	0
Q Serve(g_s), s	8.0	0.0	1.3				0.0	14.4	1.4	0.0	4.5	0.0
Cycle Q Clear(g_c), s	8.0	0.0	1.3				0.0	14.4	1.4	0.0	4.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	958	0	852				0	1891	853	0	1891	0
V/C Ratio(X)	0.74	0.00	0.15				0.00	0.77	0.12	0.00	0.34	0.00
Avail Cap(c_a), veh/h	2336	0	2077				0	2212	997	0	2212	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	14.5	0.0	12.1				0.0	7.8	4.9	0.0	5.6	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0				0.0	1.2	0.0	0.0	0.0	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
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.6				0.0	7.0	0.6	0.0	2.1	0.0
LnGrp Delay(d),s/veh	14.9	0.0	12.1				0.0	9.0	4.9	0.0	5.6	0.0
LnGrp LOS	B		B					A	A		A	
Approach Vol, veh/h		829						1558			641	
Approach Delay, s/veh		14.5						8.7			5.6	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		27.8		15.9		27.8						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		27.3		29.0		27.3						
Max Q Clear Time (g_c+I1), s		16.4		10.0		6.5						
Green Ext Time (p_c), s		6.9		1.6		10.1						
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 3: White Rock Rd & Prairie City Rd

Cumulative Plus Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑↑	↗	↖	↑	↗	↖	↓	↖↖
Traffic Volume (veh/h)	700	1200	10	34	1560	40	10	177	63	20	79	430
Future Volume (veh/h)	700	1200	10	34	1560	40	10	177	63	20	79	430
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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		0.99	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, veh/h/ln	1845	1845	1845	1727	1845	1845	1845	1583	1583	1845	1730	1845
Adj Flow Rate, veh/h	729	1250	10	35	1625	-23	10	184	66	21	82	-2
Adj No. of Lanes	2	2	1	1	3	1	1	1	1	1	1	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	10	3	3	3	20	20	3	10	3
Cap, veh/h	807	2231	994	211	1813	565	246	222	186	134	132	239
Arrive On Green	0.24	0.64	0.64	0.36	0.36	0.00	0.14	0.14	0.14	0.08	0.08	0.00
Sat Flow, veh/h	3408	3505	1562	406	5036	1568	1757	1583	1331	1757	1730	3136
Grp Volume(v), veh/h	729	1250	10	35	1625	-23	10	184	66	21	82	-2
Grp Sat Flow(s),veh/h/ln	1704	1752	1562	406	1679	1568	1757	1583	1331	1757	1730	1568
Q Serve(g_s), s	23.0	22.3	0.3	6.7	33.8	0.0	0.5	12.5	5.0	1.2	5.1	0.0
Cycle Q Clear(g_c), s	23.0	22.3	0.3	6.7	33.8	0.0	0.5	12.5	5.0	1.2	5.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	807	2231	994	211	1813	565	246	222	186	134	132	239
V/C Ratio(X)	0.90	0.56	0.01	0.17	0.90	-0.04	0.04	0.83	0.35	0.16	0.62	-0.01
Avail Cap(c_a), veh/h	910	2355	1049	213	1839	573	493	444	373	445	438	795
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)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.1	11.4	7.4	24.8	33.5	0.0	41.2	46.4	43.1	47.9	49.6	0.0
Incr Delay (d2), s/veh	11.3	0.1	0.0	0.4	6.2	0.0	0.1	7.8	1.1	0.2	1.8	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
%ile BackOfQ(50%),veh/ln	12.1	10.8	0.1	0.8	16.7	0.0	0.3	5.9	1.9	0.6	2.5	0.0
LnGrp Delay(d),s/veh	52.4	11.5	7.4	25.2	39.7	0.0	41.3	54.2	44.3	48.1	51.4	0.0
LnGrp LOS	D	B	A	C	D		D	D	D	D	D	
Approach Vol, veh/h		1989			1637			260			101	
Approach Delay, s/veh		26.5			39.9			51.2			51.7	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9		78.1		12.9	30.7	47.4				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 31		* 75		28.1	* 30	* 41				
Max Q Clear Time (g_c+I1), s		14.5		24.3		7.1	25.0	35.8				
Green Ext Time (p_c), s		1.0		24.0		0.1	1.2	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				34.3								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: White Rock Road & Scott Road (East)

Cumulative Plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖↗	↔	↔↔	↖↗	↖↗	↖↗		
Traffic Volume (veh/h)	383	873	1214	80	170	364		
Future Volume (veh/h)	383	873	1214	80	170	364		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
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		
Adj Sat Flow, veh/h/ln	1810	1827	1827	1845	1810	1845		
Adj Flow Rate, veh/h	399	909	1265	60	177	6		
Adj No. of Lanes	2	2	3	1	1	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	5	4	4	3	5	3		
Cap, veh/h	556	2493	2402	754	244	390		
Arrive On Green	0.17	0.72	0.48	0.48	0.14	0.14		
Sat Flow, veh/h	3343	3563	5152	1565	1723	2760		
Grp Volume(v), veh/h	399	909	1265	60	177	6		
Grp Sat Flow(s),veh/h/ln	1672	1736	1663	1565	1723	1380		
Q Serve(g_s), s	6.4	5.7	10.0	1.2	5.6	0.1		
Cycle Q Clear(g_c), s	6.4	5.7	10.0	1.2	5.6	0.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	556	2493	2402	754	244	390		
V/C Ratio(X)	0.72	0.36	0.53	0.08	0.73	0.02		
Avail Cap(c_a), veh/h	1174	3657	3153	989	968	1551		
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	22.5	3.1	10.3	8.0	23.4	21.0		
Incr Delay (d2), s/veh	1.8	0.1	0.2	0.0	4.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.1	2.7	4.6	0.5	2.9	0.1		
LnGrp Delay(d),s/veh	24.2	3.2	10.4	8.0	27.5	21.1		
LnGrp LOS	C	A	B	A	C	C		
Approach Vol, veh/h		1308	1325		183			
Approach Delay, s/veh		9.6	10.3		27.3			
Approach LOS		A	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				44.9		12.1	13.5	31.4
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				60.0		32.0	20.0	36.0
Max Q Clear Time (g_c+1), s				7.7		7.6	8.4	12.0
Green Ext Time (p_c), s				23.3		0.5	1.1	15.4
Intersection Summary								
HCM 2010 Ctrl Delay			11.1					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
6: Prairie City Rd & Easton Valley Pkwy

Cumulative Plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	200	220	80	257	780	258	360	1001	227	328	732	120
Future Volume (veh/h)	200	220	80	257	780	258	360	1001	227	328	732	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1827	1845	1845	1845	1827	1827	1845	1827	1845
Adj Flow Rate, veh/h	217	239	22	279	848	159	391	1088	7	357	796	42
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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
Percent Heavy Veh, %	3	3	3	4	3	3	3	4	4	3	4	3
Cap, veh/h	297	1207	375	366	1315	408	488	1700	528	449	1644	516
Arrive On Green	0.09	0.24	0.24	0.11	0.26	0.26	0.14	0.34	0.34	0.13	0.33	0.33
Sat Flow, veh/h	3408	5036	1564	3375	5036	1564	3408	4988	1550	3408	4988	1565
Grp Volume(v), veh/h	217	239	22	279	848	159	391	1088	7	357	796	42
Grp Sat Flow(s),veh/h/ln	1704	1679	1564	1688	1679	1564	1704	1663	1550	1704	1663	1565
Q Serve(g_s), s	5.5	3.4	1.0	7.2	13.4	7.5	9.9	16.4	0.3	9.1	11.4	1.7
Cycle Q Clear(g_c), s	5.5	3.4	1.0	7.2	13.4	7.5	9.9	16.4	0.3	9.1	11.4	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	1207	375	366	1315	408	488	1700	528	449	1644	516
V/C Ratio(X)	0.73	0.20	0.06	0.76	0.64	0.39	0.80	0.64	0.01	0.79	0.48	0.08
Avail Cap(c_a), veh/h	458	1804	560	605	2030	631	763	2122	660	687	2011	631
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	27.1	26.2	38.7	29.3	27.1	37.0	24.8	19.5	37.6	23.9	20.6
Incr Delay (d2), s/veh	3.5	0.1	0.1	3.3	0.5	0.6	3.4	0.4	0.0	3.7	0.2	0.1
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
%ile BackOfQ(50%),veh/ln	2.8	1.6	0.4	3.5	6.3	3.3	4.9	7.6	0.1	4.5	5.3	0.7
LnGrp Delay(d),s/veh	43.2	27.2	26.2	42.0	29.9	27.7	40.4	25.3	19.5	41.3	24.1	20.7
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		478			1286			1486			1195	
Approach Delay, s/veh		34.4			32.2			29.2			29.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	34.4	13.7	25.4	16.8	33.4	11.8	27.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	38.0	16.0	32.0	20.0	36.0	12.0	36.0				
Max Q Clear Time (g_c+M), s	15.0	18.4	9.2	5.4	11.9	13.4	7.5	15.4				
Green Ext Time (p_c), s	0.7	11.9	0.5	8.4	0.9	13.1	0.3	7.7				
Intersection Summary												
HCM 2010 Ctrl Delay				30.6								
HCM 2010 LOS				C								
Notes												

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑ ↑↑	↑↑↑			↑↑↑
Traffic Vol, veh/h	0	70	1148	13	0	660
Future Vol, veh/h	0	70	1148	13	0	660
Conflicting Peds, #/hr	0	5	0	5	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	5	4	3	5
Mvmt Flow	0	76	1248	14	0	717

Major/Minor

	Minor1	Major1	Major2
Conflicting Flow All	-	641	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.16	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.93	-
Pot Cap-1 Maneuver	0	356	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	353	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach












	WB	NB	SB
HCM Control Delay, s	18	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	353
HCM Lane V/C Ratio	-	-	0.216
HCM Control Delay (s)	-	-	18
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.8

HCM 2010 Signalized Intersection Summary
8: Street A & Prairie City Rd

Cumulative Plus Project Conditions
AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	77	388	783	53	198	462		
Future Volume (veh/h)	77	388	783	53	198	462		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1845	1811	1900	1845	1810		
Adj Flow Rate, veh/h	84	109	851	51	215	502		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	4	3	5	5	3	5		
Cap, veh/h	196	177	1398	84	280	2354		
Arrive On Green	0.11	0.11	0.42	0.42	0.16	0.68		
Sat Flow, veh/h	1740	1568	3387	198	1757	3529		
Grp Volume(v), veh/h	84	109	444	458	215	502		
Grp Sat Flow(s),veh/h/ln	1740	1568	1720	1774	1757	1719		
Q Serve(g_s), s	1.8	2.6	7.9	7.9	4.6	2.1		
Cycle Q Clear(g_c), s	1.8	2.6	7.9	7.9	4.6	2.1		
Prop In Lane	1.00	1.00		0.11	1.00			
Lane Grp Cap(c), veh/h	196	177	729	752	280	2354		
V/C Ratio(X)	0.43	0.62	0.61	0.61	0.77	0.21		
Avail Cap(c_a), veh/h	881	794	1045	1078	623	3655		
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	16.3	16.7	8.8	8.8	15.9	2.3		
Incr Delay (d2), s/veh	1.5	3.5	0.8	0.8	4.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.3	3.9	4.0	2.6	1.0		
LnGrp Delay(d),s/veh	17.8	20.2	9.7	9.6	20.3	2.3		
LnGrp LOS	B	C	A	A	C	A		
Approach Vol, veh/h	193		902			717		
Approach Delay, s/veh	19.1		9.6			7.7		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.3	20.8				31.1		8.5
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	14.0	24.0				42.0		20.0
Max Q Clear Time (g_c+I1), s	6.6	9.9				4.1		4.6
Green Ext Time (p_c), s	0.3	6.8				10.1		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑	↗		↑↑	↗
Traffic Volume (veh/h)	0	0	0	510	0	160	0	1165	330	0	535	1100
Future Volume (veh/h)	0	0	0	510	0	160	0	1165	330	0	535	1100
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1827	1845	0	1827	1845
Adj Flow Rate, veh/h				554	0	139	0	1266	0	0	582	0
Adj No. of Lanes				2	0	2	0	2	1	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	0	3	0	4	3	0	4	3
Cap, veh/h				859	0	695	0	1817	821	0	1817	821
Arrive On Green				0.25	0.00	0.25	0.00	0.52	0.00	0.00	0.52	0.00
Sat Flow, veh/h				3408	0	2760	0	3563	1568	0	3563	1568
Grp Volume(v), veh/h				554	0	139	0	1266	0	0	582	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1736	1568	0	1736	1568
Q Serve(g_s), s				5.2	0.0	1.4	0.0	9.7	0.0	0.0	3.4	0.0
Cycle Q Clear(g_c), s				5.2	0.0	1.4	0.0	9.7	0.0	0.0	3.4	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				859	0	695	0	1817	821	0	1817	821
V/C Ratio(X)				0.65	0.00	0.20	0.00	0.70	0.00	0.00	0.32	0.00
Avail Cap(c_a), veh/h				1531	0	1240	0	2047	925	0	2047	925
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				11.9	0.0	10.5	0.0	6.4	0.0	0.0	4.9	0.0
Incr Delay (d2), s/veh				0.8	0.0	0.1	0.0	0.9	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				2.5	0.0	0.6	0.0	4.8	0.0	0.0	1.6	0.0
LnGrp Delay(d),s/veh				12.7	0.0	10.6	0.0	7.3	0.0	0.0	5.0	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					693			1266			582	
Approach Delay, s/veh					12.3			7.3			5.0	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		22.6				22.6		13.0				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		21.0				21.0		16.0				
Max Q Clear Time (g_c+I1), s		11.7				5.4		7.2				
Green Ext Time (p_c), s		6.9				10.3		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				8.1								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔↔					↑↑	↗		↑↑	↗
Traffic Volume (veh/h)	790	0	190	0	0	0	0	705	140	0	905	140
Future Volume (veh/h)	790	0	190	0	0	0	0	705	140	0	905	140
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	1845				0	1827	1845	0	1827	1845
Adj Flow Rate, veh/h	859	0	155				0	766	0	0	984	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	0	3				0	4	3	0	4	3
Cap, veh/h	1176	0	953				0	1466	662	0	1466	662
Arrive On Green	0.35	0.00	0.35				0.00	0.42	0.00	0.00	0.42	0.00
Sat Flow, veh/h	3408	0	2760				0	3563	1568	0	3563	1568
Grp Volume(v), veh/h	859	0	155				0	766	0	0	984	0
Grp Sat Flow(s),veh/h/ln	1704	0	1380				0	1736	1568	0	1736	1568
Q Serve(g_s), s	7.6	0.0	1.3				0.0	5.6	0.0	0.0	7.9	0.0
Cycle Q Clear(g_c), s	7.6	0.0	1.3				0.0	5.6	0.0	0.0	7.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1176	0	953				0	1466	662	0	1466	662
V/C Ratio(X)	0.73	0.00	0.16				0.00	0.52	0.00	0.00	0.67	0.00
Avail Cap(c_a), veh/h	1586	0	1284				0	1615	729	0	1615	729
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	9.9	0.0	7.8				0.0	7.4	0.0	0.0	8.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.1				0.0	0.3	0.0	0.0	1.0	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
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.5				0.0	2.7	0.0	0.0	3.9	0.0
LnGrp Delay(d),s/veh	11.0	0.0	7.9				0.0	7.7	0.0	0.0	9.0	0.0
LnGrp LOS	B		A					A			A	
Approach Vol, veh/h		1014						766			984	
Approach Delay, s/veh		10.5						7.7			9.0	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.5		15.9		18.5						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		16.0		16.0		16.0						
Max Q Clear Time (g_c+I1), s		7.6		9.6		9.9						
Green Ext Time (p_c), s		6.1		2.3		4.7						
Intersection Summary												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 11: Easton Valley Pkwy & Oak Ave Pkwy

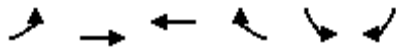
Cumulative Plus Project Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	243	260	40	60	700	210	110	392	110	80	222	793
Future Volume (veh/h)	243	260	40	60	700	210	110	392	110	80	222	793
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1827	1845	1845	1845	1845	1845	1845	1827	1845	1845	1827	1827
Adj Flow Rate, veh/h	264	283	21	65	761	85	120	426	57	87	241	662
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
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
Percent Heavy Veh, %	4	3	3	3	3	3	3	4	3	3	4	4
Cap, veh/h	344	1142	510	120	909	406	184	1470	663	143	1429	638
Arrive On Green	0.10	0.33	0.33	0.04	0.26	0.26	0.05	0.42	0.42	0.04	0.41	0.41
Sat Flow, veh/h	3375	3505	1565	3408	3505	1564	3408	3471	1566	3408	3471	1551
Grp Volume(v), veh/h	264	283	21	65	761	85	120	426	57	87	241	662
Grp Sat Flow(s),veh/h/ln	1688	1752	1565	1704	1752	1564	1704	1736	1566	1704	1736	1551
Q Serve(g_s), s	7.0	5.5	0.8	1.7	19.0	3.9	3.2	7.4	2.0	2.3	4.1	38.0
Cycle Q Clear(g_c), s	7.0	5.5	0.8	1.7	19.0	3.9	3.2	7.4	2.0	2.3	4.1	38.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	1142	510	120	909	406	184	1470	663	143	1429	638
V/C Ratio(X)	0.77	0.25	0.04	0.54	0.84	0.21	0.65	0.29	0.09	0.61	0.17	1.04
Avail Cap(c_a), veh/h	512	1291	577	222	987	441	222	1470	663	222	1429	638
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	22.8	21.3	43.8	32.3	26.8	42.8	17.5	15.9	43.5	17.2	27.1
Incr Delay (d2), s/veh	4.0	0.1	0.0	3.8	6.0	0.3	5.0	0.1	0.1	4.1	0.1	45.5
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
%ile BackOfQ(50%),veh/ln	3.5	2.7	0.4	0.9	10.0	1.7	1.6	3.6	0.9	1.2	2.0	24.3
LnGrp Delay(d),s/veh	44.4	22.9	21.3	47.6	38.4	27.0	47.9	17.6	16.0	47.6	17.2	72.7
LnGrp LOS	D	C	C	D	D	C	D	B	B	D	B	F
Approach Vol, veh/h		568			911			603			990	
Approach Delay, s/veh		32.8			38.0			23.5			57.0	
Approach LOS		C			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	43.1	7.2	34.1	9.0	42.0	13.4	27.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	38.0	38.0	6.0	34.0	6.0	38.0	14.0	26.0				
Max Q Clear Time (g_c+1), s	9.4	9.4	3.7	7.5	5.2	40.0	9.0	21.0				
Green Ext Time (p_c), s	0.0	7.8	0.0	7.6	0.0	0.0	0.4	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				40.3								
HCM 2010 LOS				D								
Notes												

HCM 2010 Signalized Intersection Summary
 12: White Rock Road/White Rock Rd & Oak Ave Pkwy

















Cumulative Plus Project Conditions
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↶↷	↑↑	↑↑↑	↶	↶↷	↶		
Traffic Volume (veh/h)	327	807	1097	100	100	297		
Future Volume (veh/h)	327	807	1097	100	100	297		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1810	1827	1827	1845	1810	1845		
Adj Flow Rate, veh/h	355	877	1192	46	109	174		
Adj No. of Lanes	2	2	3	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	5	4	4	3	5	3		
Cap, veh/h	333	2196	2162	676	561	263		
Arrive On Green	0.10	0.63	0.43	0.43	0.17	0.17		
Sat Flow, veh/h	3343	3563	5152	1559	3343	1568		
Grp Volume(v), veh/h	355	877	1192	46	109	174		
Grp Sat Flow(s),veh/h/ln	1672	1736	1663	1559	1672	1568		
Q Serve(g_s), s	4.0	5.0	7.1	0.7	1.1	4.2		
Cycle Q Clear(g_c), s	4.0	5.0	7.1	0.7	1.1	4.2		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	333	2196	2162	676	561	263		
V/C Ratio(X)	1.07	0.40	0.55	0.07	0.19	0.66		
Avail Cap(c_a), veh/h	333	2422	2486	777	2416	1133		
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	18.1	3.6	8.5	6.6	14.4	15.6		
Incr Delay (d2), s/veh	67.6	0.1	0.2	0.0	0.2	2.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9	2.4	3.2	0.3	0.5	3.8		
LnGrp Delay(d),s/veh	85.7	3.7	8.7	6.7	14.5	18.5		
LnGrp LOS	F	A	A	A	B	B		
Approach Vol, veh/h		1232	1238		283			
Approach Delay, s/veh		27.3	8.6		16.9			
Approach LOS		C	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				29.4		10.7	8.0	21.4
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		29.0	4.0	20.0
Max Q Clear Time (g_c+I1), s				7.0		6.2	6.0	9.1
Green Ext Time (p_c), s				13.4		0.9	0.0	8.2
Intersection Summary								
HCM 2010 Ctrl Delay			17.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 1: Prairie City Rd & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	40	0	500	0	1315	310	0	942	650
Future Volume (veh/h)	0	0	0	40	0	500	0	1315	310	0	942	650
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1816	1900	0	1824	1900
Adj Flow Rate, veh/h				42	0	455	0	1370	0	0	981	0
Adj No. of Lanes				2	0	2	0	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	3	0	5	5	0	5	5
Cap, veh/h				735	0	595	0	1955	0	0	1964	0
Arrive On Green				0.22	0.00	0.22	0.00	0.57	0.00	0.00	0.57	0.00
Sat Flow, veh/h				3408	0	2760	0	3632	0	0	3647	0
Grp Volume(v), veh/h				42	0	455	0	1370	0	0	981	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1725	0	0	1733	0
Q Serve(g_s), s				0.4	0.0	6.2	0.0	11.4	0.0	0.0	6.8	0.0
Cycle Q Clear(g_c), s				0.4	0.0	6.2	0.0	11.4	0.0	0.0	6.8	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				735	0	595	0	1955	0	0	1964	0
V/C Ratio(X)				0.06	0.00	0.76	0.00	0.70	0.00	0.00	0.50	0.00
Avail Cap(c_a), veh/h				1186	0	960	0	3230	0	0	3243	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				12.4	0.0	14.7	0.0	6.2	0.0	0.0	5.2	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.8	0.0	0.2	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				0.2	0.0	2.4	0.0	5.4	0.0	0.0	3.2	0.0
LnGrp Delay(d),s/veh				12.5	0.0	15.5	0.0	6.4	0.0	0.0	5.3	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					497			1370			981	
Approach Delay, s/veh					15.2			6.4			5.3	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		27.2				27.2		12.7				
Change Period (Y+Rc), s		4.6				4.6		4.1				
Max Green Setting (Gmax), s		37.4				37.4		13.9				
Max Q Clear Time (g_c+I1), s		13.4				8.8		8.2				
Green Ext Time (p_c), s		9.2				9.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.6								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	10	470	0	0	0	0	1155	40	0	982	0
Future Volume (veh/h)	470	10	470	0	0	0	0	1155	40	0	982	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845				0	1810	1845	0	1810	0
Adj Flow Rate, veh/h	519	0	476				0	1255	-50	0	1067	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	5	3	0	5	0
Cap, veh/h	858	0	762				0	1852	845	0	1852	0
Arrive On Green	0.24	0.00	0.24				0.00	0.54	0.00	0.00	0.54	0.00
Sat Flow, veh/h	3514	0	3123				0	3529	1568	0	3619	0
Grp Volume(v), veh/h	519	0	476				0	1255	-50	0	1067	0
Grp Sat Flow(s),veh/h/ln	1757	0	1562				0	1719	1568	0	1719	0
Q Serve(g_s), s	5.2	0.0	5.4				0.0	10.6	0.0	0.0	8.3	0.0
Cycle Q Clear(g_c), s	5.2	0.0	5.4				0.0	10.6	0.0	0.0	8.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	858	0	762				0	1852	845	0	1852	0
V/C Ratio(X)	0.61	0.00	0.62				0.00	0.68	-0.06	0.00	0.58	0.00
Avail Cap(c_a), veh/h	2544	0	2261				0	2344	1069	0	2344	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	13.5				0.0	6.7	0.0	0.0	6.2	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.3				0.0	0.3	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.3				0.0	5.0	0.0	0.0	3.9	0.0
LnGrp Delay(d),s/veh	13.7	0.0	13.8				0.0	7.0	0.0	0.0	6.3	0.0
LnGrp LOS	B		B					A			A	
Approach Vol, veh/h		995						1205			1067	
Approach Delay, s/veh		13.7						7.3			6.3	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		26.2		13.9		26.2						
Change Period (Y+Rc), s		4.6		4.1		4.6						
Max Green Setting (Gmax), s		27.3		29.0		27.3						
Max Q Clear Time (g_c+I1), s		12.6		7.4		10.3						
Green Ext Time (p_c), s		8.9		2.1		9.8						
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 3: White Rock Rd & Prairie City Rd

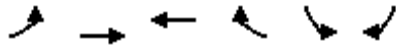
Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖↗	↖↗↗	↖	↖	↖	↖	↖	↖↗	↖↗
Traffic Volume (veh/h)	600	1570	10	74	1330	40	10	92	36	30	149	650
Future Volume (veh/h)	600	1570	10	74	1330	40	10	92	36	30	149	650
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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		0.98	1.00		0.99
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, veh/h/ln	1845	1845	1845	1727	1845	1845	1845	1727	1727	1845	1729	1845
Adj Flow Rate, veh/h	625	1635	10	77	1385	-20	10	96	38	31	155	34
Adj No. of Lanes	2	2	1	1	3	1	1	1	1	1	1	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	10	3	3	3	10	10	3	10	3
Cap, veh/h	706	2343	1044	168	2132	664	130	128	107	205	202	361
Arrive On Green	0.21	0.67	0.67	0.42	0.42	0.00	0.07	0.07	0.07	0.12	0.12	0.12
Sat Flow, veh/h	3408	3505	1562	281	5036	1568	1757	1727	1438	1757	1729	3096
Grp Volume(v), veh/h	625	1635	10	77	1385	-20	10	96	38	31	155	34
Grp Sat Flow(s),veh/h/ln	1704	1752	1562	281	1679	1568	1757	1727	1438	1757	1729	1548
Q Serve(g_s), s	20.6	33.6	0.2	27.2	25.4	0.0	0.6	6.3	2.9	1.8	10.1	1.1
Cycle Q Clear(g_c), s	20.6	33.6	0.2	32.4	25.4	0.0	0.6	6.3	2.9	1.8	10.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	706	2343	1044	168	2132	664	130	128	107	205	202	361
V/C Ratio(X)	0.89	0.70	0.01	0.46	0.65	-0.03	0.08	0.75	0.36	0.15	0.77	0.09
Avail Cap(c_a), veh/h	870	2675	1192	182	2367	737	244	240	200	441	434	777
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)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	11.9	6.4	30.8	26.6	0.0	50.0	52.6	51.0	46.0	49.7	45.7
Incr Delay (d2), s/veh	9.3	0.5	0.0	1.9	0.5	0.0	0.2	8.4	2.0	0.1	2.3	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
%ile BackOfQ(50%),veh/ln	10.6	16.3	0.1	2.2	11.8	0.0	0.3	3.3	1.2	0.9	5.0	0.5
LnGrp Delay(d),s/veh	53.9	12.4	6.4	32.8	27.1	0.0	50.2	61.1	53.0	46.2	52.0	45.8
LnGrp LOS	D	B	A	C	C		D	E	D	D	D	D
Approach Vol, veh/h		2270			1442			144			220	
Approach Delay, s/veh		23.8			27.8			58.2			50.2	
Approach LOS		C			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0		85.0		17.9	28.4	56.6				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 16		* 89		29.1	* 30	* 55				
Max Q Clear Time (g_c+I1), s		8.3		35.6		12.1	22.6	34.4				
Green Ext Time (p_c), s		0.3		26.5		0.2	1.4	14.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.9								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: White Rock Road & Scott Road (East)

Cumulative Plus Project Conditions
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖ ↗	↔	←	↗ ↖	↙ ↘	↘ ↙		
Traffic Volume (veh/h)	612	1032	961	110	220	471		
Future Volume (veh/h)	612	1032	961	110	220	471		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
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		
Adj Sat Flow, veh/h/ln	1827	1827	1827	1845	1845	1827		
Adj Flow Rate, veh/h	638	1075	1001	75	229	18		
Adj No. of Lanes	2	2	3	1	1	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	4	4	4	3	3	4		
Cap, veh/h	824	2416	1917	601	297	462		
Arrive On Green	0.24	0.70	0.38	0.38	0.17	0.17		
Sat Flow, veh/h	3375	3563	5152	1564	1757	2733		
Grp Volume(v), veh/h	638	1075	1001	75	229	18		
Grp Sat Flow(s),veh/h/ln	1688	1736	1663	1564	1757	1367		
Q Serve(g_s), s	10.4	8.1	9.2	1.8	7.4	0.3		
Cycle Q Clear(g_c), s	10.4	8.1	9.2	1.8	7.4	0.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	824	2416	1917	601	297	462		
V/C Ratio(X)	0.77	0.44	0.52	0.12	0.77	0.04		
Avail Cap(c_a), veh/h	1594	3513	2356	739	948	1475		
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	20.9	4.0	14.1	11.8	23.5	20.6		
Incr Delay (d2), s/veh	1.6	0.1	0.2	0.1	4.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.1	3.8	4.2	0.8	3.9	0.3		
LnGrp Delay(d),s/veh	22.5	4.1	14.3	11.9	27.8	20.6		
LnGrp LOS	C	A	B	B	C	C		
Approach Vol, veh/h		1713	1076		247			
Approach Delay, s/veh		10.9	14.1		27.2			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				45.3		14.0	18.5	26.8
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				60.0		32.0	28.0	28.0
Max Q Clear Time (g_c+I1), s				10.1		9.4	12.4	11.2
Green Ext Time (p_c), s				21.5		0.6	2.0	11.6
Intersection Summary								
HCM 2010 Ctrl Delay			13.4					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Prairie City Rd & Easton Valley Pkwy

Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	180	670	210	272	470	359	110	885	293	379	1033	150
Future Volume (veh/h)	180	670	210	272	470	359	110	885	293	379	1033	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1845	1827	1845	1845	1845	1810	1827	1845	1810	1845
Adj Flow Rate, veh/h	196	728	89	296	511	226	120	962	128	412	1123	45
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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
Percent Heavy Veh, %	3	3	3	4	3	3	3	5	4	3	5	3
Cap, veh/h	272	1242	386	379	1405	437	185	1586	498	506	2052	650
Arrive On Green	0.08	0.25	0.25	0.11	0.28	0.28	0.05	0.32	0.32	0.15	0.42	0.42
Sat Flow, veh/h	3408	5036	1564	3375	5036	1565	3408	4940	1550	3408	4940	1566
Grp Volume(v), veh/h	196	728	89	296	511	226	120	962	128	412	1123	45
Grp Sat Flow(s),veh/h/ln	1704	1679	1564	1688	1679	1565	1704	1647	1550	1704	1647	1566
Q Serve(g_s), s	5.2	11.9	4.2	8.0	7.6	11.3	3.2	15.3	5.7	10.9	16.0	1.6
Cycle Q Clear(g_c), s	5.2	11.9	4.2	8.0	7.6	11.3	3.2	15.3	5.7	10.9	16.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1242	386	379	1405	437	185	1586	498	506	2052	650
V/C Ratio(X)	0.72	0.59	0.23	0.78	0.36	0.52	0.65	0.61	0.26	0.81	0.55	0.07
Avail Cap(c_a), veh/h	439	1729	537	579	1945	604	293	1855	582	768	2544	806
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	30.9	28.0	40.3	27.0	28.3	43.2	26.7	23.4	38.4	20.6	16.4
Incr Delay (d2), s/veh	3.6	0.4	0.3	3.8	0.2	1.0	3.8	0.4	0.3	4.1	0.2	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
%ile BackOfQ(50%),veh/ln	2.6	5.6	1.9	3.9	3.5	5.0	1.6	7.0	2.5	5.4	7.3	0.7
LnGrp Delay(d),s/veh	45.5	31.4	28.4	44.1	27.1	29.3	47.0	27.1	23.7	42.5	20.8	16.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		1013			1033			1210			1580	
Approach Delay, s/veh		33.8			32.4			28.7			26.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	33.9	14.5	27.0	9.1	42.7	11.4	30.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	35.0	16.0	32.0	8.0	48.0	12.0	36.0				
Max Q Clear Time (g_c+1/2g), s	17.3	17.3	10.0	13.9	5.2	18.0	7.2	13.3				
Green Ext Time (p_c), s	0.9	12.5	0.5	8.6	0.1	17.8	0.2	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay				29.8								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 0.3

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations		↗ ↑↑↑				↑↑↑
Traffic Vol, veh/h	0	40	808	22	0	1116
Future Vol, veh/h	0	40	808	22	0	1116
Conflicting Peds, #/hr	0	5	0	5	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	5	4	3	5
Mvmt Flow	0	43	878	24	0	1213

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	-	461	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	466	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	-	462	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach WB NB SB












HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBT

Capacity (veh/h)	-	-	462	-
HCM Lane V/C Ratio	-	-	0.094	-
HCM Control Delay (s)	-	-	13.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

HCM 2010 Signalized Intersection Summary
8: Street A & Prairie City Rd

Cumulative Plus Project Conditions
PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	72	249	581	72	409	717		
Future Volume (veh/h)	72	249	581	72	409	717		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1810	1845	1810	1900	1845	1810		
Adj Flow Rate, veh/h	78	17	632	67	445	779		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	5	3	5	5	3	5		
Cap, veh/h	112	102	1046	111	531	2529		
Arrive On Green	0.07	0.07	0.33	0.33	0.30	0.74		
Sat Flow, veh/h	1723	1568	3226	332	1757	3529		
Grp Volume(v), veh/h	78	17	346	353	445	779		
Grp Sat Flow(s),veh/h/ln	1723	1568	1719	1748	1757	1719		
Q Serve(g_s), s	1.8	0.4	6.7	6.8	9.5	3.1		
Cycle Q Clear(g_c), s	1.8	0.4	6.7	6.8	9.5	3.1		
Prop In Lane	1.00	1.00		0.19	1.00			
Lane Grp Cap(c), veh/h	112	102	573	583	531	2529		
V/C Ratio(X)	0.70	0.17	0.60	0.61	0.84	0.31		
Avail Cap(c_a), veh/h	859	782	686	697	744	3171		
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	18.4	17.7	11.2	11.2	13.1	1.8		
Incr Delay (d2), s/veh	7.5	0.8	1.1	1.1	6.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	0.2	3.3	3.4	5.5	1.4		
LnGrp Delay(d),s/veh	25.9	18.5	12.2	12.2	19.1	1.9		
LnGrp LOS	C	B	B	B	B	A		
Approach Vol, veh/h	95		699			1224		
Approach Delay, s/veh	24.5		12.2			8.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.1	17.4				33.5		6.6
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	17.0	16.0				37.0		20.0
Max Q Clear Time (g_c+I1), s	11.5	8.8				5.1		3.8
Green Ext Time (p_c), s	0.7	4.5				10.6		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑	↗		↑↑	↗
Traffic Volume (veh/h)	0	0	0	340	0	160	0	1512	350	0	601	980
Future Volume (veh/h)	0	0	0	340	0	160	0	1512	350	0	601	980
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	0	1845	0	1810	1845	0	1810	1845
Adj Flow Rate, veh/h				370	0	100	0	1643	0	0	653	0
Adj No. of Lanes				2	0	2	0	2	1	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	0	3	0	5	3	0	5	3
Cap, veh/h				526	0	426	0	2467	1125	0	2467	1125
Arrive On Green				0.15	0.00	0.15	0.00	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h				3408	0	2760	0	3529	1568	0	3529	1568
Grp Volume(v), veh/h				370	0	100	0	1643	0	0	653	0
Grp Sat Flow(s),veh/h/ln				1704	0	1380	0	1719	1568	0	1719	1568
Q Serve(g_s), s				6.4	0.0	2.0	0.0	16.1	0.0	0.0	4.1	0.0
Cycle Q Clear(g_c), s				6.4	0.0	2.0	0.0	16.1	0.0	0.0	4.1	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				526	0	426	0	2467	1125	0	2467	1125
V/C Ratio(X)				0.70	0.00	0.23	0.00	0.67	0.00	0.00	0.26	0.00
Avail Cap(c_a), veh/h				982	0	795	0	3523	1607	0	3523	1607
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				25.1	0.0	23.2	0.0	4.8	0.0	0.0	3.1	0.0
Incr Delay (d2), s/veh				1.7	0.0	0.3	0.0	0.3	0.0	0.0	0.1	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
%ile BackOfQ(50%),veh/ln				3.2	0.0	0.8	0.0	7.4	0.0	0.0	1.9	0.0
LnGrp Delay(d),s/veh				26.8	0.0	23.5	0.0	5.1	0.0	0.0	3.1	0.0
LnGrp LOS				C		C		A			A	
Approach Vol, veh/h					470			1643			653	
Approach Delay, s/veh					26.1			5.1			3.1	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		48.8				48.8		13.6				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		64.0				64.0		18.0				
Max Q Clear Time (g_c+I1), s		18.1				6.1		8.4				
Green Ext Time (p_c), s		26.7				30.1		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				8.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗		↖↗					↑↑	↖		↑↑	↖
Traffic Volume (veh/h)	1070	0	180	0	0	0	0	792	410	0	771	170
Future Volume (veh/h)	1070	0	180	0	0	0	0	792	410	0	771	170
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	1845				0	1810	1845	0	1810	1845
Adj Flow Rate, veh/h	1163	0	139				0	861	0	0	838	0
Adj No. of Lanes	2	0	2				0	2	1	0	2	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	0	3				0	5	3	0	5	3
Cap, veh/h	1433	0	1160				0	1306	596	0	1306	596
Arrive On Green	0.42	0.00	0.42				0.00	0.38	0.00	0.00	0.38	0.00
Sat Flow, veh/h	3408	0	2760				0	3529	1568	0	3529	1568
Grp Volume(v), veh/h	1163	0	139				0	861	0	0	838	0
Grp Sat Flow(s),veh/h/ln	1704	0	1380				0	1719	1568	0	1719	1568
Q Serve(g_s), s	12.0	0.0	1.2				0.0	8.3	0.0	0.0	8.0	0.0
Cycle Q Clear(g_c), s	12.0	0.0	1.2				0.0	8.3	0.0	0.0	8.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1433	0	1160				0	1306	596	0	1306	596
V/C Ratio(X)	0.81	0.00	0.12				0.00	0.66	0.00	0.00	0.64	0.00
Avail Cap(c_a), veh/h	1700	0	1377				0	1458	665	0	1458	665
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	7.1				0.0	10.3	0.0	0.0	10.2	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0				0.0	0.9	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.5				0.0	4.0	0.0	0.0	3.9	0.0
LnGrp Delay(d),s/veh	12.9	0.0	7.1				0.0	11.2	0.0	0.0	11.0	0.0
LnGrp LOS	B		A					B			B	
Approach Vol, veh/h		1302						861			838	
Approach Delay, s/veh		12.3						11.2			11.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		19.2		20.9		19.2						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		17.0		20.0		17.0						
Max Q Clear Time (g_c+I1), s		10.3		14.0		10.0						
Green Ext Time (p_c), s		4.9		2.8		5.1						
Intersection Summary												
HCM 2010 Ctrl Delay			11.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 11: Easton Valley Pkwy & Oak Ave Pkwy

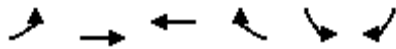
Cumulative Plus Project Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖↗	↖↖	↖	↖↗	↖↖	↖	↖↗	↖↖	↖
Traffic Volume (veh/h)	761	670	130	120	410	210	50	231	80	90	380	481
Future Volume (veh/h)	761	670	130	120	410	210	50	231	80	90	380	481
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1827	1845	1845	1845	1845	1845	1845	1827	1845	1845	1827	1827
Adj Flow Rate, veh/h	827	728	31	130	446	146	54	251	12	98	413	87
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
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
Percent Heavy Veh, %	4	3	3	3	3	3	3	4	3	3	4	4
Cap, veh/h	980	1663	743	210	862	385	126	655	295	165	694	310
Arrive On Green	0.29	0.47	0.47	0.06	0.25	0.25	0.04	0.19	0.19	0.05	0.20	0.20
Sat Flow, veh/h	3375	3505	1566	3408	3505	1564	3408	3471	1563	3408	3471	1548
Grp Volume(v), veh/h	827	728	31	130	446	146	54	251	12	98	413	87
Grp Sat Flow(s),veh/h/ln	1688	1752	1566	1704	1752	1564	1704	1736	1563	1704	1736	1548
Q Serve(g_s), s	16.2	9.7	0.7	2.6	7.8	5.5	1.1	4.5	0.4	2.0	7.6	3.4
Cycle Q Clear(g_c), s	16.2	9.7	0.7	2.6	7.8	5.5	1.1	4.5	0.4	2.0	7.6	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	980	1663	743	210	862	385	126	655	295	165	694	310
V/C Ratio(X)	0.84	0.44	0.04	0.62	0.52	0.38	0.43	0.38	0.04	0.59	0.60	0.28
Avail Cap(c_a), veh/h	1292	2237	999	387	1292	577	193	1329	598	193	1329	593
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	12.3	9.9	32.3	23.0	22.1	33.2	25.0	23.4	32.9	25.6	23.9
Incr Delay (d2), s/veh	4.1	0.2	0.0	2.9	0.5	0.6	2.3	0.4	0.1	3.6	0.8	0.5
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
%ile BackOfQ(50%),veh/ln	8.1	4.7	0.3	1.3	3.8	2.4	0.6	2.2	0.2	1.0	3.7	1.5
LnGrp Delay(d),s/veh	27.6	12.5	10.0	35.2	23.5	22.7	35.5	25.4	23.4	36.4	26.4	24.4
LnGrp LOS	C	B	A	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1586			722			317			598	
Approach Delay, s/veh		20.3			25.4			27.0			27.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	17.3	8.4	37.4	6.6	18.1	24.5	21.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	27.0	8.0	45.0	4.0	27.0	27.0	26.0				
Max Q Clear Time (g_c+1), s	4.0	6.5	4.6	11.7	3.1	9.6	18.2	9.8				
Green Ext Time (p_c), s	0.0	4.2	0.1	9.6	0.0	4.0	2.2	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay				23.5								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 12: White Rock Road/White Rock Rd & Oak Ave Pkwy

Cumulative Plus Project Conditions
 PM Peak Hour



























Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖↗	↗↗	↖↖↖	↗	↖↗	↗		
Traffic Volume (veh/h)	343	903	842	80	90	422		
Future Volume (veh/h)	343	903	842	80	90	422		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1810	1810	1810	1845	1845	1810		
Adj Flow Rate, veh/h	373	982	915	62	98	293		
Adj No. of Lanes	2	2	3	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	5	5	5	3	3	5		
Cap, veh/h	533	2035	1730	545	829	374		
Arrive On Green	0.16	0.59	0.35	0.35	0.24	0.24		
Sat Flow, veh/h	3343	3529	5103	1557	3408	1538		
Grp Volume(v), veh/h	373	982	915	62	98	293		
Grp Sat Flow(s),veh/h/ln	1672	1719	1647	1557	1704	1538		
Q Serve(g_s), s	5.1	7.9	7.2	1.3	1.1	8.6		
Cycle Q Clear(g_c), s	5.1	7.9	7.2	1.3	1.1	8.6		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	533	2035	1730	545	829	374		
V/C Ratio(X)	0.70	0.48	0.53	0.11	0.12	0.78		
Avail Cap(c_a), veh/h	895	2621	2036	641	2107	951		
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	19.3	5.7	12.6	10.7	14.3	17.2		
Incr Delay (d2), s/veh	1.7	0.2	0.3	0.1	0.1	3.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.5	3.7	3.3	0.6	0.5	7.3		
LnGrp Delay(d),s/veh	21.0	5.8	12.8	10.8	14.4	20.8		
LnGrp LOS	C	A	B	B	B	C		
Approach Vol, veh/h		1355	977		391			
Approach Delay, s/veh		10.0	12.7		19.2			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				32.7		15.8	11.7	21.0
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				37.0		30.0	13.0	20.0
Max Q Clear Time (g_c+I1), s				9.9		10.6	7.1	9.2
Green Ext Time (p_c), s				14.3		1.2	0.7	7.7
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

APPENDIX X.5:

Existing Plus Project (Mitigated)
Intersection Level of Service (LOS)
Calculations























HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Existing Plus Project Conditions (Mitigated)
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	306	314	19	36	529	131	52	40	74	14	35	183
Future Volume (veh/h)	306	314	19	36	529	131	52	40	74	14	35	183
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1900	1583	1845	1845	1845	1056	1056	1900	1655	1845
Adj Flow Rate, veh/h	356	365	20	38	615	50	54	42	77	16	36	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.96	0.96	0.86	0.86	0.96	0.96	0.96	0.86	0.96	0.86
Percent Heavy Veh, %	3	3	3	20	3	3	3	80	80	20	20	3
Cap, veh/h	399	1780	97	294	785	350	200	120	102	34	76	106
Arrive On Green	0.23	0.53	0.53	0.22	0.22	0.22	0.11	0.11	0.11	0.07	0.07	0.00
Sat Flow, veh/h	1757	3380	185	845	3505	1561	1757	1056	897	502	1129	1568
Grp Volume(v), veh/h	356	189	196	38	615	50	54	42	77	52	0	0
Grp Sat Flow(s),veh/h/ln	1757	1752	1812	845	1752	1561	1757	1056	897	1630	0	1568
Q Serve(g_s), s	13.5	3.9	3.9	2.5	11.3	1.8	1.9	2.5	5.7	2.1	0.0	0.0
Cycle Q Clear(g_c), s	13.5	3.9	3.9	2.5	11.3	1.8	1.9	2.5	5.7	2.1	0.0	0.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	399	923	955	294	785	350	200	120	102	110	0	106
V/C Ratio(X)	0.89	0.20	0.21	0.13	0.78	0.14	0.27	0.35	0.75	0.47	0.00	0.00
Avail Cap(c_a), veh/h	943	2007	2075	516	1703	758	684	411	350	666	0	641
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.7	8.6	8.6	21.6	25.0	21.3	27.8	28.0	29.4	30.8	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.1	0.7	0.1	0.3	0.6	4.1	1.2	0.0	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
%ile BackOfQ(50%),veh/ln	6.8	1.9	2.0	0.6	5.5	0.8	0.9	0.8	1.5	1.0	0.0	0.0
LnGrp Delay(d),s/veh	28.5	8.6	8.6	21.7	25.7	21.4	28.0	28.7	33.6	32.0	0.0	0.0
LnGrp LOS	C	A	A	C	C	C	C	C	C	C		
Approach Vol, veh/h		741			703			173			52	
Approach Delay, s/veh		18.2			25.2			30.6			32.0	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		14.5		42.8		11.2	20.8	22.0				
Change Period (Y+Rc), s		* 6.7		* 6.7		6.6	* 5.2	* 6.7				
Max Green Setting (Gmax), s		* 27		* 79		28.0	* 37	* 33				
Max Q Clear Time (g_c+I1), s		7.7		5.9		4.1	15.5	13.3				
Green Ext Time (p_c), s		0.1		1.8		0.1	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				22.9								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
3: White Rock Rd & Prairie City Rd

Existing Plus Project Conditions (Mitigated)
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	603	45	89	300	74	35	21	54	86	29	298
Future Volume (veh/h)	294	603	45	89	300	74	35	21	54	86	29	298
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), 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, veh/h/ln	1845	1845	1900	1583	1845	1845	1845	1583	1583	1900	1775	1845
Adj Flow Rate, veh/h	327	670	47	93	333	-1	36	22	56	96	30	331
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.96	0.96	0.90	0.90	0.96	0.96	0.96	0.90	0.96	0.90
Percent Heavy Veh, %	3	3	3	20	3	3	3	20	20	20	20	3
Cap, veh/h	366	1536	108	216	690	309	160	144	122	306	96	368
Arrive On Green	0.21	0.46	0.46	0.20	0.20	0.00	0.09	0.09	0.09	0.23	0.23	0.23
Sat Flow, veh/h	1757	3323	233	622	3505	1568	1757	1583	1346	1303	407	1568
Grp Volume(v), veh/h	327	353	364	93	333	-1	36	22	56	126	0	331
Grp Sat Flow(s),veh/h/ln	1757	1752	1804	622	1752	1568	1757	1583	1346	1710	0	1568
Q Serve(g_s), s	13.9	10.4	10.5	10.9	6.5	0.0	1.5	1.0	3.0	4.7	0.0	15.7
Cycle Q Clear(g_c), s	13.9	10.4	10.5	10.9	6.5	0.0	1.5	1.0	3.0	4.7	0.0	15.7
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	0.76		1.00
Lane Grp Cap(c), veh/h	366	810	834	216	690	309	160	144	122	402	0	368
V/C Ratio(X)	0.89	0.44	0.44	0.43	0.48	0.00	0.23	0.15	0.46	0.31	0.00	0.90
Avail Cap(c_a), veh/h	950	1697	1747	324	1299	581	653	589	500	680	0	624
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)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	13.9	13.9	29.2	27.4	0.0	32.4	32.2	33.2	24.3	0.0	28.5
Incr Delay (d2), s/veh	3.1	0.1	0.1	0.5	0.2	0.0	0.3	0.2	1.0	0.2	0.0	5.3
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
%ile BackOfQ(50%),veh/ln	7.0	5.0	5.2	1.9	3.2	0.0	0.7	0.4	1.2	2.2	0.0	7.3
LnGrp Delay(d),s/veh	32.7	14.1	14.1	29.7	27.6	0.0	32.7	32.4	34.1	24.5	0.0	33.9
LnGrp LOS	C	B	B	C	C		C	C	C	C		C
Approach Vol, veh/h		1044			425			114			457	
Approach Delay, s/veh		19.9			28.1			33.4			31.3	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		11.4		43.1		22.5	20.4	22.6				
Change Period (Y+Rc), s		* 4.4		* 7.5		4.4	* 4.4	* 7.5				
Max Green Setting (Gmax), s		* 29		* 75		30.6	* 42	* 29				
Max Q Clear Time (g_c+I1), s		5.0		12.5		17.7	15.9	12.9				
Green Ext Time (p_c), s		0.1		2.1		0.3	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				24.9								
HCM 2010 LOS				C								
Notes												

Intersection

Int Delay, s/veh 3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	341	25	22	674	65	61
Future Vol, veh/h	341	25	22	674	65	61
Conflicting Peds, #/hr	0	2	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	5	3	3	5	3	3
Mvmt Flow	411	30	27	812	78	73

Major/Minor

	Major1	Major2	Minor1
Conflicting Flow All	0	0	443
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.13
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.227
Pot Cap-1 Maneuver	-	-	1112
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1110
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.3	34.9
HCM LOS			D

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	-	-	1110	-
HCM Lane V/C Ratio	0.569	-	-	0.024	-
HCM Control Delay (s)	34.9	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	3.2	-	-	0.1	-

HCM 2010 TWSC
 4: Scott Road (West) & White Rock Road

Existing Plus Project (Mitigated) Conditions
 PM Peak Hour

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	695	65	85	378	44	48
Future Vol, veh/h	695	65	85	378	44	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	3	3	5	3	3
Mvmt Flow	747	70	91	406	47	52

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	817	0	1371 782
Stage 1	-	-	-	-	782 -
Stage 2	-	-	-	-	589 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	807	-	160 393
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	553 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	807	-	142 393
Mov Cap-2 Maneuver	-	-	-	-	142 -
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	491 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	1.8	35.8
HCM LOS			E

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	213	-	-	807	-
HCM Lane V/C Ratio	0.464	-	-	0.113	-
HCM Control Delay (s)	35.8	-	-	10	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	2.2	-	-	0.4	-

APPENDIX X.6:
Existing Freeway Off-
Ramp Queues

Queues

Existing Conditions

1: Prairie City Rd & US 50 Westbound Ramps

AM Peak Hour



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	33	733	1325	181	228
v/c Ratio	0.06	0.76	0.79	0.11	0.15
Control Delay	13.5	20.2	15.3	7.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	20.2	15.3	7.9	0.2
Queue Length 50th (ft)	6	94	151	13	0
Queue Length 95th (ft)	25	190	280	33	0
Internal Link Dist (ft)			568	292	
Turn Bay Length (ft)	605	605			
Base Capacity (vph)	933	1502	2541	2558	1568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.49	0.52	0.07	0.15

Intersection Summary

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	450	453	13	558	24	235
v/c Ratio	0.64	0.64	0.02	0.49	0.05	0.21
Control Delay	14.0	14.0	2.8	12.7	6.1	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	14.0	2.8	12.7	6.1	10.8
Queue Length 50th (ft)	62	62	0	43	0	16
Queue Length 95th (ft)	169	170	4	101	11	45
Internal Link Dist (ft)		881		982		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1353	1357	1262	3088	1352	3088
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.33	0.01	0.18	0.02	0.08
Intersection Summary						

Queues

Existing Conditions

1: Prairie City Rd & US 50 Westbound Ramps

PM Peak Hour



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	35	357	1119	339	669
v/c Ratio	0.09	0.49	0.65	0.20	0.60
Control Delay	12.3	10.9	8.3	5.1	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	10.9	8.3	5.1	3.2
Queue Length 50th (ft)	4	18	60	13	0
Queue Length 95th (ft)	24	63	130	34	33
Internal Link Dist (ft)			568	292	
Turn Bay Length (ft)	605	605			
Base Capacity (vph)	1387	2209	3291	3309	1518
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.34	0.10	0.44

Intersection Summary

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	377	379	47	365	26	374
v/c Ratio	0.57	0.57	0.07	0.34	0.05	0.35
Control Delay	12.0	12.0	3.3	10.7	5.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	12.0	3.3	10.7	5.4	10.7
Queue Length 50th (ft)	38	38	0	21	0	21
Queue Length 95th (ft)	164	165	14	74	13	76
Internal Link Dist (ft)		881		982		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1467	1471	1369	3202	1402	3202
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.26	0.03	0.11	0.02	0.12

Intersection Summary

APPENDIX X.7:
Existing Plus Project
Freeway Off-Ramp
Queues

Queues

Existing Plus Project Conditions

1: Prairie City Rd & US 50 Westbound Ramps

AM Peak Hour



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	33	733	1356	214	228
v/c Ratio	0.06	0.76	0.80	0.13	0.15
Control Delay	13.8	20.9	16.0	8.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	20.9	16.0	8.0	0.2
Queue Length 50th (ft)	7	99	163	16	0
Queue Length 95th (ft)	25	192	293	38	0
Internal Link Dist (ft)			568	292	
Turn Bay Length (ft)	605	605			
Base Capacity (vph)	905	1456	2456	2472	1568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.50	0.55	0.09	0.15

Intersection Summary

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Plus Project Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	450	453	13	591	24	271
v/c Ratio	0.64	0.64	0.02	0.51	0.05	0.24
Control Delay	14.2	14.3	2.7	13.0	6.3	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	14.3	2.7	13.0	6.3	10.9
Queue Length 50th (ft)	64	65	0	47	0	19
Queue Length 95th (ft)	169	170	4	107	11	51
Internal Link Dist (ft)		881		982		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1339	1343	1248	3030	1340	3030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.34	0.01	0.20	0.02	0.09
Intersection Summary						

Queues

Existing Plus Project Conditions

1: Prairie City Rd & US 50 Westbound Ramps

PM Peak Hour



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	35	357	1132	348	669
v/c Ratio	0.09	0.49	0.66	0.20	0.60
Control Delay	12.3	11.0	8.6	5.1	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	11.0	8.6	5.1	3.2
Queue Length 50th (ft)	4	18	62	14	0
Queue Length 95th (ft)	24	64	134	35	33
Internal Link Dist (ft)			568	292	
Turn Bay Length (ft)	605	605			
Base Capacity (vph)	1371	2184	3246	3264	1514
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.35	0.11	0.44

Intersection Summary

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Existing Plus Project Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	377	379	47	377	26	383
v/c Ratio	0.57	0.57	0.07	0.35	0.05	0.36
Control Delay	12.0	12.0	3.3	10.8	5.4	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	12.0	3.3	10.8	5.4	10.8
Queue Length 50th (ft)	38	38	0	22	0	22
Queue Length 95th (ft)	164	165	14	77	13	78
Internal Link Dist (ft)		881		982		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1464	1469	1366	3170	1402	3170
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.26	0.03	0.12	0.02	0.12

Intersection Summary

APPENDIX X.8:
Cumulative Freeway Off-
Ramp Queues

Queues

Cumulative No Project Conditions

1: Prairie City Rd & US 50 Westbound Ramps

AM Peak Hour



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	31	677	2052	813
v/c Ratio	0.04	0.92	0.94	0.37
Control Delay	21.3	45.6	22.2	5.4
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	21.3	45.6	22.4	5.4
Queue Length 50th (ft)	5	163	382	61
Queue Length 95th (ft)	15	#277	#624	89
Internal Link Dist (ft)			568	452
Turn Bay Length (ft)	605	605		
Base Capacity (vph)	906	770	2317	2312
Starvation Cap Reductn	0	0	26	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.88	0.90	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative No Project Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	355	352	315	1446	130	630
v/c Ratio	0.65	0.64	0.29	0.81	0.16	0.35
Control Delay	20.6	20.3	3.4	17.7	6.8	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	20.3	3.4	17.7	6.8	9.6
Queue Length 50th (ft)	98	97	4	171	11	53
Queue Length 95th (ft)	168	166	26	#432	48	126
Internal Link Dist (ft)		881		1035		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	958	962	1669	1934	867	1934
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.37	0.19	0.75	0.15	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative No Project Conditions
 AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	554	174	1261	359	576	1196
v/c Ratio	0.54	0.20	0.74	0.23	0.34	0.76
Control Delay	13.8	8.4	11.8	0.3	7.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	8.4	11.8	0.3	7.2	3.8
Queue Length 50th (ft)	54	11	98	0	34	0
Queue Length 95th (ft)	87	28	195	0	72	0
Internal Link Dist (ft)			617		398	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1423	1184	1925	1568	1925	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.15	0.66	0.23	0.30	0.76
Intersection Summary						

Queues
10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative No Project Conditions
AM Peak Hour



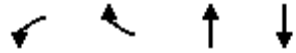
Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	859	207	761	152	978	152
v/c Ratio	0.66	0.19	0.55	0.10	0.70	0.10
Control Delay	12.5	5.8	10.6	0.1	12.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	5.8	10.6	0.1	12.8	0.1
Queue Length 50th (ft)	74	10	64	0	89	0
Queue Length 95th (ft)	117	25	101	0	138	0
Internal Link Dist (ft)			339		617	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1505	1261	1551	1568	1551	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.16	0.49	0.10	0.63	0.10
Intersection Summary						

Queues

Cumulative No Project Conditions

1: Prairie City Rd & US 50 Westbound Ramps

PM Peak Hour



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	42	521	1688	1656
v/c Ratio	0.05	0.74	0.84	0.77
Control Delay	17.4	22.8	12.3	7.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.4	22.8	12.3	7.6
Queue Length 50th (ft)	5	63	167	95
Queue Length 95th (ft)	17	#136	275	181
Internal Link Dist (ft)			568	292
Turn Bay Length (ft)	605	605		
Base Capacity (vph)	1023	901	2723	2738
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.58	0.62	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative No Project Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	261	261	511	1250	43	1065
v/c Ratio	0.48	0.48	0.55	0.76	0.06	0.65
Control Delay	15.9	15.9	13.7	15.4	6.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	15.9	13.7	15.4	6.7	12.6
Queue Length 50th (ft)	56	56	53	121	3	95
Queue Length 95th (ft)	121	121	102	#325	22	245
Internal Link Dist (ft)		881		1035		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1127	1132	1847	2234	983	2234
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.28	0.56	0.04	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative No Project Conditions
 PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	370	174	1641	380	652	1065
v/c Ratio	0.53	0.27	0.72	0.24	0.29	0.68
Control Delay	26.2	14.2	8.9	0.4	4.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	14.2	8.9	0.4	4.8	2.4
Queue Length 50th (ft)	58	14	155	0	40	0
Queue Length 95th (ft)	131	50	293	0	80	0
Internal Link Dist (ft)			617		618	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1098	950	3308	1568	3308	1568
Starvation Cap Reductn	0	0	52	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.18	0.50	0.24	0.20	0.68

Intersection Summary

Queues
10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative No Project Conditions
PM Peak Hour



Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	1163	196	859	446	837	185
v/c Ratio	0.78	0.15	0.68	0.28	0.66	0.12
Control Delay	14.8	4.4	14.5	0.5	14.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	4.4	14.5	0.5	14.2	0.2
Queue Length 50th (ft)	120	7	91	0	88	0
Queue Length 95th (ft)	182	21	140	0	135	0
Internal Link Dist (ft)			339		617	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1687	1419	1478	1568	1478	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.14	0.58	0.28	0.57	0.12
Intersection Summary						

APPENDIX X.9:

Cumulative Plus Project

Freeway Off-Ramp Queues

Queues

1: Prairie City Rd & US 50 Westbound Ramps

Cumulative Plus Project Conditions

AM Peak Hour



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	31	677	2061	823
v/c Ratio	0.04	0.92	0.95	0.38
Control Delay	21.3	46.1	23.6	5.5
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	21.3	46.1	23.8	5.5
Queue Length 50th (ft)	5	163	391	62
Queue Length 95th (ft)	15	#278	#634	91
Internal Link Dist (ft)			568	452
Turn Bay Length (ft)	605	605		
Base Capacity (vph)	899	763	2281	2279
Starvation Cap Reductn	0	0	19	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.89	0.91	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	355	352	315	1455	130	641
v/c Ratio	0.65	0.64	0.30	0.81	0.16	0.36
Control Delay	20.9	20.6	3.7	17.9	6.8	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	20.6	3.7	17.9	6.8	9.6
Queue Length 50th (ft)	98	97	6	174	11	54
Queue Length 95th (ft)	168	166	27	#439	48	128
Internal Link Dist (ft)		881		1035		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	944	947	1644	1886	855	1886
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.37	0.19	0.77	0.15	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	554	174	1266	359	582	1196
v/c Ratio	0.54	0.20	0.74	0.23	0.34	0.76
Control Delay	13.8	8.4	12.1	0.3	7.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	8.4	12.1	0.3	7.2	3.8
Queue Length 50th (ft)	54	11	99	0	34	0
Queue Length 95th (ft)	87	28	197	0	73	0
Internal Link Dist (ft)			617		398	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1417	1179	1899	1568	1899	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.15	0.67	0.23	0.31	0.76
Intersection Summary						

Queues
10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
AM Peak Hour



Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	859	207	766	152	984	152
v/c Ratio	0.66	0.19	0.55	0.10	0.71	0.10
Control Delay	12.6	5.9	10.7	0.1	13.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	5.9	10.7	0.1	13.1	0.1
Queue Length 50th (ft)	74	10	64	0	90	0
Queue Length 95th (ft)	117	25	103	0	141	0
Internal Link Dist (ft)			339		617	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1501	1257	1532	1568	1532	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.16	0.50	0.10	0.64	0.10
Intersection Summary						

Queues

Cumulative Plus Project Conditions

1: Prairie City Rd & US 50 Westbound Ramps

PM Peak Hour



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	42	521	1693	1658
v/c Ratio	0.05	0.75	0.85	0.77
Control Delay	17.5	23.3	12.8	7.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.5	23.3	12.8	7.8
Queue Length 50th (ft)	5	65	173	99
Queue Length 95th (ft)	17	#137	282	184
Internal Link Dist (ft)			568	292
Turn Bay Length (ft)	605	605		
Base Capacity (vph)	1010	890	2585	2628
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.59	0.65	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: Prairie City Rd & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	NBR	SBT
Lane Group Flow (vph)	261	261	511	1255	43	1067
v/c Ratio	0.48	0.48	0.55	0.77	0.06	0.66
Control Delay	16.1	16.1	13.9	15.9	6.6	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	16.1	13.9	15.9	6.6	12.8
Queue Length 50th (ft)	58	58	55	123	3	96
Queue Length 95th (ft)	121	121	102	#356	22	248
Internal Link Dist (ft)		881		1035		568
Turn Bay Length (ft)	565		565		50	
Base Capacity (vph)	1111	1116	1821	2160	969	2160
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.28	0.58	0.04	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
 9: Oak Avenue Pkwy & US 50 Westbound Ramps

Cumulative Plus Project Conditions
 PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	370	174	1643	380	653	1065
v/c Ratio	0.53	0.28	0.73	0.24	0.29	0.68
Control Delay	26.9	14.6	9.1	0.4	4.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	14.6	9.1	0.4	4.8	2.4
Queue Length 50th (ft)	59	14	158	0	40	0
Queue Length 95th (ft)	135	52	300	0	80	0
Internal Link Dist (ft)			617		618	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1081	936	3220	1568	3220	1568
Starvation Cap Reductn	0	0	53	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.19	0.52	0.24	0.20	0.68
Intersection Summary						

Queues
10: Oak Avenue Pkwy & US 50 Eastbound Ramps

Cumulative Plus Project Conditions
PM Peak Hour



Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	1163	196	861	446	838	185
v/c Ratio	0.78	0.15	0.69	0.28	0.67	0.12
Control Delay	14.8	4.5	14.9	0.5	14.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	4.5	14.9	0.5	14.5	0.2
Queue Length 50th (ft)	120	7	92	0	89	0
Queue Length 95th (ft)	182	22	142	0	136	0
Internal Link Dist (ft)			339		617	
Turn Bay Length (ft)	250	250		350		350
Base Capacity (vph)	1681	1414	1445	1568	1445	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.14	0.60	0.28	0.58	0.12
Intersection Summary						