



HCS Reports- Baseline Condition
HCS Reports- Towne Interchange Closed Condition

HCS Reports- Baseline Condition

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	scf					Intersection	SR 562 WB Ramps & Reading					
Agency or Co.	TranSystems Corp					Area Type	All other areas					
Date Performed	11/7/2006					Jurisdiction						
Time Period	AM DHV					Analysis Year	2030					
						Project ID	MCE Baseline					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N _i				1	1	2	1	2			3	
Lane Group				L	LT	R	L	T			T	
Volume, V (vph)				160	0	130	260	390			670	
% Heavy Vehicles, %HV				5	5	5	5	5			5	
Peak-Hour Factor, PHF				0.90	0.90	0.90	0.90	0.90			0.90	
Pretimed (P) or Actuated (A)				A	A	A	A	A			A	
Start-up Lost Time, l _i				2.0	2.0	2.0	2.0	2.0			2.0	
Extension of Effective Green, e				2.0	2.0	2.0	2.0	2.0			2.0	
Arrival Type, AT				3	3	3	3	3			3	
Unit Extension, UE				3.0	3.0	3.0	3.0	3.0			3.0	
Filtering/Metering, I				1.000	1.000	1.000	1.000	1.000			1.000	
Initial Unmet Demand, Q _b				0.0	0.0	0.0	0.0	0.0			0.0	
Ped / Bike / RTOR Volumes				0	0	0	0	0		0	0	
Lane Width				12.0	12.0	12.0	12.0	12.0			12.0	
Parking / Grade / Parking				N	0	N	N	0	N	N	0	N
Parking Maneuvers, N _m												
Buses Stopping, N _b				0	0	0	0	0			0	
Min. Time for Pedestrians, G _p				3.2			3.2			3.2		
Phasing	WB Only	02	03	04	NS Perm	NB Only	07	08				
Timing	G = 25.0	G =	G =	G =	G = 26.0	G = 9.0	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y =	Y =				
Duration of Analysis, T = 0.25						Cycle Length, C = 75.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v				178	0	144	289	433			744	
Lane Group Capacity, c				573	603	907	581	1837			1709	
v/c Ratio, X				0.31	0.00	0.16	0.50	0.24			0.44	
Total Green Ratio, g/C				0.33	0.33	0.33	0.57	0.53			0.35	
Uniform Delay, d ₁				18.6	16.7	17.6	15.2	9.3			18.9	
Progression Factor, PF				1.000	1.000	1.000	1.000	1.000			1.000	
Delay Calibration, k				0.11	0.11	0.11	0.11	0.11			0.11	
Incremental Delay, d ₂				0.3	0.0	0.1	0.7	0.1			0.2	
Initial Queue Delay, d ₃				0.0	0.0	0.0	0.0	0.0			0.0	
Control Delay				18.9	16.7	17.7	15.8	9.4			19.0	
Lane Group LOS				B	B	B	B	A			B	
Approach Delay				18.4			12.0			19.0		
Approach LOS				B			B			B		
Intersection Delay	16.1			X _c = 0.58			Intersection LOS			B		

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	scf					Intersection	SR 562 WB Ramps & Reading					
Agency or Co.	TranSystems Corp					Area Type	All other areas					
Date Performed	11/7/2006					Jurisdiction						
Time Period	PM DHV					Analysis Year	2030					
						Project ID	MCE Baseline					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N _i				1	1	2	1	2			3	
Lane Group				L	LT	R	L	T			T	
Volume, V (vph)				130	0	170	350	940			720	
% Heavy Vehicles, %HV				5	5	5	5	5			5	
Peak-Hour Factor, PHF				0.90	0.90	0.90	0.90	0.90			0.90	
Pretimed (P) or Actuated (A)				A	A	A	A	A			A	
Start-up Lost Time, I ₁				2.0	2.0	2.0	2.0	2.0			2.0	
Extension of Effective Green, e				2.0	2.0	2.0	2.0	2.0			2.0	
Arrival Type, AT				3	3	3	3	3			3	
Unit Extension, UE				3.0	3.0	3.0	3.0	3.0			3.0	
Filtering/Metering, I				1.000	1.000	1.000	1.000	1.000			1.000	
Initial Unmet Demand, Q _b				0.0	0.0	0.0	0.0	0.0			0.0	
Ped / Bike / RTOR Volumes				0	0	0	0	0		0	0	
Lane Width				12.0	12.0	12.0	12.0	12.0			12.0	
Parking / Grade / Parking				N	0	N	N	0	N	N	0	N
Parking Maneuvers, N _m												
Buses Stopping, N _b				0	0	0	0	0			0	
Min. Time for Pedestrians, G _p				3.2			3.2			3.2		
Phasing	WB Only	02	03	04	NS Perm	NB Only	07	08				
Timing	G = 24.5	G =	G =	G =	G = 26.5	G = 9.0	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y =	Y =				
Duration of Analysis, T = 0.25						Cycle Length, C = 75.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v				144	0	189	389	1044			800	
Lane Group Capacity, c				562	591	889	569	1860			1742	
v/c Ratio, X				0.26	0.00	0.21	0.68	0.56			0.46	
Total Green Ratio, g/C				0.33	0.33	0.33	0.58	0.54			0.35	
Uniform Delay, d ₁				18.6	17.0	18.3	18.4	11.4			18.7	
Progression Factor, PF				1.000	1.000	1.000	1.000	1.000			1.000	
Delay Calibration, k				0.11	0.11	0.11	0.25	0.16			0.11	
Incremental Delay, d ₂				0.2	0.0	0.1	3.4	0.4			0.2	
Initial Queue Delay, d ₃				0.0	0.0	0.0	0.0	0.0			0.0	
Control Delay				18.8	17.0	18.4	21.8	11.8			18.9	
Lane Group LOS				B	B	B	C	B			B	
Approach Delay				18.6			14.5			18.9		
Approach LOS				B			B			B		
Intersection Delay	16.4			X _c = 0.64			Intersection LOS			B		

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	scf					Intersection	SR 562 EB Ramps & Reading					
Agency or Co.	TranSystems Corp					Area Type	All other areas					
Date Performed	11/7/2006					Jurisdiction						
Time Period	AM DHV					Analysis Year	2030					
						Project ID	MCE Baseline					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N ₁	1	1	2					3	0	1	2	
Lane Group	L	LT	R					TR		L	T	
Volume, V (vph)	60	0	400					590	180	130	700	
% Heavy Vehicles, %HV	5	5	5					5	5	5	5	
Peak-Hour Factor, PHF	0.90	0.90	0.90					0.90	0.90	0.90	0.90	
Pretimed (P) or Actuated (A)	A	A	A					A	A	A	A	
Start-up Lost Time, l ₁	2.0	2.0	2.0					2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0	2.0					2.0		2.0	2.0	
Arrival Type, AT	3	3	3					3		3	3	
Unit Extension, UE	3.0	3.0	3.0					3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000	1.000					1.000		1.000	1.000	
Initial Unmet Demand, Q _b	0.0	0.0	0.0					0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	0				0	0	0	0	0	
Lane Width	12.0	12.0	12.0					12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N				N	0	N	N	0	N
Parking Maneuvers, N _m												
Buses Stopping, N _b	0	0	0					0		0	0	
Min. Time for Pedestrians, G _p	3.2						3.2			3.2		
Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08				
Timing	G = 22.0	G =	G =	G =	G = 10.0	G = 23.0	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y =	Y =				
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	67	0	444					856		144	778	
Lane Group Capacity, c	540	569	855					1563		394	1870	
v/c Ratio, X	0.12	0.00	0.52					0.55		0.37	0.42	
Total Green Ratio, g/C	0.31	0.31	0.31					0.33		0.54	0.54	
Uniform Delay, d ₁	17.1	16.5	19.7					19.2		8.9	9.4	
Progression Factor, PF	1.000	1.000	1.000					1.000		1.000	1.000	
Delay Calibration, k	0.11	0.11	0.13					0.15		0.11	0.11	
Incremental Delay, d ₂	0.1	0.0	0.6					0.4		0.6	0.2	
Initial Queue Delay, d ₃	0.0	0.0	0.0					0.0		0.0	0.0	
Control Delay	17.2	16.5	20.2					19.7		9.5	9.6	
Lane Group LOS	B	B	C					B		A	A	
Approach Delay	19.8						19.7			9.6		
Approach LOS	B						B			A		
Intersection Delay	15.6			X _c = 0.54			Intersection LOS			B		

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	scf					Intersection	SR 562 EB Ramps & Reading					
Agency or Co.	TranSystems Corp					Area Type	All other areas					
Date Performed	11/7/2006					Jurisdiction						
Time Period	PM DHV					Analysis Year	2030					
						Project ID	MCE Baseline					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N _i	1	1	2					3	0	1	2	
Lane Group	L	LT	R					TR		L	T	
Volume, V (vph)	100	0	270					1190	310	150	700	
% Heavy Vehicles, %HV	5	5	5					5	5	5	5	
Peak-Hour Factor, PHF	0.90	0.90	0.90					0.90	0.90	0.90	0.90	
Pretimed (P) or Actuated (A)	A	A	A					A	A	A	A	
Start-up Lost Time, l _i	2.0	2.0	2.0					2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0	2.0					2.0		2.0	2.0	
Arrival Type, AT	3	3	3					3		3	3	
Unit Extension, UE	3.0	3.0	3.0					3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000	1.000					1.000		1.000	1.000	
Initial Unmet Demand, Q _b	0.0	0.0	0.0					0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	0				0	0	0	0	0	
Lane Width	12.0	12.0	12.0					12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N				N	0	N	N	0	N
Parking Maneuvers, N _m												
Buses Stopping, N _b	0	0	0					0		0	0	
Min. Time for Pedestrians, G _p	3.2						3.2			3.2		
Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08				
Timing	G = 16.5	G =	G =	G =	G = 10.0	G = 28.5	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y =	Y =				
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	111	0	300					1666		167	778	
Lane Group Capacity, c	405	427	642					1945		349	2141	
v/c Ratio, X	0.27	0.00	0.47					0.86		0.48	0.36	
Total Green Ratio, g/C	0.24	0.24	0.24					0.41		0.62	0.62	
Uniform Delay, d ₁	21.9	20.4	23.0					18.9		10.1	6.5	
Progression Factor, PF	1.000	1.000	1.000					1.000		1.000	1.000	
Delay Calibration, k	0.11	0.11	0.11					0.39		0.11	0.11	
Incremental Delay, d ₂	0.4	0.0	0.5					4.0		1.0	0.1	
Initial Queue Delay, d ₃	0.0	0.0	0.0					0.0		0.0	0.0	
Control Delay	22.2	20.4	23.5					22.9		11.1	6.6	
Lane Group LOS	C	C	C					C		B	A	
Approach Delay	23.2						22.9			7.4		
Approach LOS	C						C			A		
Intersection Delay	18.1			X _c = 0.71			Intersection LOS			B		

HCS+™ DETAILED REPORT													
General Information						Site Information							
Analyst	scf					Intersection	SR 562 WB ramps & Paddock						
Agency or Co.	TranSystems					Area Type	All other areas						
Date Performed	4/21/2006					Jurisdiction							
Time Period	AM DHV					Analysis Year	2030						
						Project ID	MCE Baseline						
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Number of Lanes, N _i				0	1	1	1	2			2	1	
Lane Group					LT	R	L	T			T	R	
Volume, V (vph)				200	10	495	190	430			740	88	
% Heavy Vehicles, %HV				9	0	4	11	5			5	8	
Peak-Hour Factor, PHF				0.90	0.90	0.90	0.90	0.90			0.90	0.90	
Pretimed (P) or Actuated (A)				A	A	A	A	A			A	A	
Start-up Lost Time, l ₁					2.0	2.0	2.0	2.0			2.0	2.0	
Extension of Effective Green, e					2.0	2.0	2.0	2.0			2.0	2.0	
Arrival Type, AT					3	3	3	3			3	3	
Unit Extension, UE					3.0	3.0	3.0	3.0			3.0	3.0	
Filtering/Metering, I					1.000	1.000	1.000	1.000			1.000	1.000	
Initial Unmet Demand, Q _b					0.0	0.0	0.0	0.0			0.0	0.0	
Ped / Bike / RTOR Volumes				0	0	0	0	0		0	0	0	
Lane Width					13.0	13.0	11.0	11.0			12.0	12.0	
Parking / Grade / Parking				N	0	N	N	0	N	N	0	N	
Parking Maneuvers, N _m													
Buses Stopping, N _b					0	0	0	0			0	0	
Min. Time for Pedestrians, G _p					3.2			3.2			3.2		
Phasing	WB Only	02	03	04	NS Perm	NB Only	07	08					
Timing	G = 30.0	G =	G =	G =	G = 24.5	G = 3.5	G =	G =					
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =					
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0							
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Adjusted Flow Rate, v					233	550	211	478			822	98	
Lane Group Capacity, c					740	688	327	1522			1206	523	
v/c Ratio, X					0.31	0.80	0.65	0.31			0.68	0.19	
Total Green Ratio, g/C					0.43	0.43	0.49	0.46			0.35	0.35	
Uniform Delay, d ₁					13.2	17.4	22.9	12.0			19.4	15.8	
Progression Factor, PF					1.000	1.000	1.000	1.000			1.000	1.000	
Delay Calibration, k					0.11	0.34	0.22	0.11			0.25	0.11	
Incremental Delay, d ₂					0.2	6.7	4.4	0.1			1.6	0.2	
Initial Queue Delay, d ₃					0.0	0.0	0.0	0.0			0.0	0.0	
Control Delay					13.5	24.1	27.2	12.2			21.0	16.0	
Lane Group LOS					B	C	C	B			C	B	
Approach Delay				20.9			16.8			20.5			
Approach LOS				C			B			C			
Intersection Delay	19.5			X _c = 0.85			Intersection LOS			B			