APPENDIX I

Level of Service Calculations

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*80*	*260*	*238*	*96*					*253*	*1*	*291*
% Heavy Vehicles, %HV		*8*	*8*	*5*	*5*					*5*	*5*	*5*
Peak-Hour Factor, PHF		*0.94*	*0.94*	*0.78*	*0.78*					*0.71*	*0.71*	*0.71*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *38.0*	G = *5.0*	G =	G =	G = *42.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*85*	*277*	*305*	*123*					*356*	*411*	
Lane Group Capacity, c		*668*	*587*	*655*	*869*					*680*	*630*	
v/c Ratio, X		*0.13*	*0.47*	*0.47*	*0.14*					*0.52*	*0.65*	
Total Green Ratio, g/C		*0.38*	*0.38*	*0.48*	*0.48*					*0.42*	*0.42*	
Uniform Delay, d_1		*20.2*	*23.4*	*17.8*	*14.5*					*21.6*	*23.2*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.385*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.11*					*0.13*	*0.23*	
Incremental Delay, d_2		*0.1*	*0.6*	*0.5*	*0.1*					*0.7*	*2.4*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*20.3*	*24.0*	*17.0*	*5.7*					*22.3*	*25.6*	
Lane Group LOS		*C*	*C*	*B*	*A*					*C*	*C*	
Approach Delay	*23.1*			*13.7*						*24.1*		
Approach LOS	*C*			*B*						*C*		
Intersection Delay	*21.0*			X_C = *0.57*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Existing Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*60*	*314*			*307*	*317*	*97*	*1*	*83*			
% Heavy Vehicles, %HV	*5*	*5*			*2*	*2*	*8*	*8*	*8*			
Peak-Hour Factor, PHF	*0.91*	*0.91*			*0.94*	*0.94*	*0.77*	*0.77*	*0.77*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* — Cycle Length, C = *100.0*

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	*66*	*345*			*327*	*337*		*127*	*108*			
Lane Group Capacity, c	*619*	*1086*			*874*	*794*		*490*	*452*			
v/c Ratio, X	*0.11*	*0.32*			*0.37*	*0.42*		*0.26*	*0.24*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*11.4*	*9.9*			*15.4*	*15.9*		*26.6*	*26.4*			
Progression Factor, PF	*0.935*	*0.125*			*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	*0.1*	*0.2*			*0.3*	*0.4*		*0.3*	*0.3*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*10.7*	*1.4*			*15.6*	*16.2*		*26.8*	*26.7*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*2.9*			*15.9*			*26.8*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*13.8*			X_C = *0.32*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*LT*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*78*	*83*	*170*	*38*	*153*	*57*	*273*	*232*	*8*	*36*	*172*	*175*
% Heavy Vehicles, %HV	*13*	*13*	*13*	*6*	*6*	*6*	*6*	*6*	*6*	*7*	*7*	*7*
Peak-Hour Factor, PHF	*0.83*	*0.83*	*0.83*	*0.86*	*0.86*	*0.86*	*0.92*	*0.92*	*0.92*	*0.86*	*0.86*	*0.86*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	WB Only	EB Only	03	04	Thru & RT	NB Only	SB Only	08
Timing	G = *20.0*	G = *19.0*	G =	G =	G = *14.0*	G = *15.0*	G = *12.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*94*	*100*	*205*	*44*	*244*		*297*	*261*		*42*	*403*	
Lane Group Capacity, c	*311*	*327*	*278*	*346*	*349*		*475*	*563*		*184*	*792*	
v/c Ratio, X	*0.30*	*0.31*	*0.74*	*0.13*	*0.70*		*0.63*	*0.46*		*0.23*	*0.51*	
Total Green Ratio, g/C	*0.19*	*0.19*	*0.19*	*0.20*	*0.20*		*0.15*	*0.33*		*0.12*	*0.26*	
Uniform Delay, d_1	*34.8*	*34.8*	*38.2*	*32.8*	*37.2*		*39.9*	*26.5*		*39.8*	*31.6*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.11*	*0.11*	*0.30*	*0.11*	*0.27*		*0.21*	*0.11*		*0.11*	*0.12*	
Incremental Delay, d_2	*0.6*	*0.5*	*9.9*	*0.2*	*6.1*		*2.6*	*0.6*		*0.6*	*0.5*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*35.4*	*35.4*	*48.1*	*33.0*	*43.3*		*42.5*	*27.1*		*40.4*	*32.1*	
Lane Group LOS	*D*	*D*	*D*	*C*	*D*		*D*	*C*		*D*	*C*	
Approach Delay	*41.9*			*41.7*			*35.3*			*32.9*		
Approach LOS	*D*			*D*			*D*			*C*		
Intersection Delay	*37.3*			X_C = *0.60*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Hambleonian and High*
Jurisdiction	*Chester*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *Hambletonian Avenue* | North/South Street: *High Street*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*103*	*174*			*309*	*116*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.89*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*108*	*183*	*0*	*0*	*347*	*130*
Percent Heavy Vehicles	*10*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*54*		*99*			
Peak-Hour Factor, PHF	*0.60*	*1.00*	*0.60*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*89*	*0*	*164*	*0*	*0*	*0*
Percent Heavy Vehicles	*12*	*0*	*12*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*108*						*253*	
C (m) (veh/h)	*1045*						*451*	
v/c	*0.10*						*0.56*	
95% queue length	*0.34*						*3.37*	
Control Delay (s/veh)	*8.8*						*22.7*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*22.7*		
Approach LOS	--	--				*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*192*	*3*	*24*	*192*	
Peak-Hour Factor, PHF	*1.00*	*0.87*	*0.87*	*0.92*	*0.92*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*220*	*3*	*26*	*208*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*3*		*65*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.89*	*1.00*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*73*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*26*		*76*				
C (m) (veh/h)		*1352*		*803*				
v/c		*0.02*		*0.09*				
95% queue length		*0.06*		*0.31*				
Control Delay (s/veh)		*7.7*		*10.0*				
LOS		*A*		*A*				
Approach Delay (s/veh)	--	--	*10.0*					
Approach LOS	--	--	*A*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*272*			*439*	*75*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*1.00*	*1.00*	*0.85*	*0.85*
Hourly Flow Rate, HFR (veh/h)	*5*	*289*	*0*	*0*	*516*	*88*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*97*		*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.91*	*1.00*	*0.91*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*106*	*0*	*13*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*5*						*119*	
C (m) (veh/h)	*950*						*506*	
v/c	*0.01*						*0.24*	
95% queue length	*0.02*						*0.91*	
Control Delay (s/veh)	*8.8*						*14.3*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--					*14.3*	
Approach LOS	--	--					*B*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*AM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*48*		*47*				*23*	*229*			*188*	*25*
% Heavy Vehicles, %HV	*1*		*1*				*1*	*1*			*3*	*3*
Peak-Hour Factor, PHF	*0.74*		*0.74*				*0.95*	*0.95*			*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25*	Cycle Length, C = *60.0*

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		*129*						*265*			*231*	
Lane Group Capacity, c		*647*						*908*			*908*	
v/c Ratio, X		*0.20*						*0.29*			*0.25*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.3*						*8.8*			*8.6*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.7*						*0.8*			*0.7*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*15.0*						*9.6*			*9.3*	
Lane Group LOS		*B*						*A*			*A*	
Approach Delay	*15.0*						*9.6*			*9.3*		
Approach LOS	*B*						*A*			*A*		
Intersection Delay	*10.6*			X_C = *0.26*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*49*	*32*	*127*	*80*	*24*	*16*	*71*	*83*	*111*	*47*	*136*	*13*
% Heavy Vehicles, %HV	*2*	*2*	*2*	*0*	*0*	*0*	*1*	*1*	*1*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.76*	*0.76*	*0.76*	*0.81*	*0.81*	*0.81*	*0.85*	*0.85*	*0.85*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *55.0*		

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		*88*	*138*	*105*	*53*		*88*	*102*	*137*	*55*	*175*	
Lane Group Capacity, c		*429*	*461*	*413*	*520*		*620*	*959*	*927*	*694*	*992*	
v/c Ratio, X		*0.21*	*0.30*	*0.25*	*0.10*		*0.14*	*0.11*	*0.15*	*0.08*	*0.18*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*14.7*	*15.1*	*14.9*	*14.2*		*6.6*	*6.5*	*6.7*	*6.4*	*6.8*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*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*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*0.2*	*0.4*	*0.3*	*0.1*		*0.1*	*0.0*	*0.1*	*0.0*	*0.1*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*14.9*	*15.5*	*15.3*	*14.3*		*6.7*	*6.6*	*6.7*	*6.5*	*6.9*	
Lane Group LOS		*B*	*B*	*B*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*15.3*			*14.9*			*6.7*			*6.8*		
Approach LOS	*B*			*B*			*A*			*A*		
Intersection Delay	*10.2*			X_C = *0.22*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*163*	*102*	*107*	*406*					*306*	*1*	*30*
% Heavy Vehicles, %HV		*7*	*7*	*4*	*4*					*4*	*4*	*4*
Peak-Hour Factor, PHF		*0.83*	*0.83*	*0.90*	*0.90*					*0.79*	*0.79*	*0.79*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*196*	*123*	*119*	*451*					*387*	*39*	
Lane Group Capacity, c		*710*	*624*	*611*	*914*					*654*	*608*	
v/c Ratio, X		*0.28*	*0.20*	*0.19*	*0.49*					*0.59*	*0.06*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*20.2*	*19.5*	*15.3*	*16.6*					*23.6*	*18.5*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.11*					*0.18*	*0.11*	
Incremental Delay, d_2		*0.2*	*0.2*	*0.2*	*0.4*					*1.4*	*0.0*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*20.4*	*19.7*	*14.3*	*6.0*					*25.0*	*18.5*	
Lane Group LOS		*C*	*B*	*B*	*A*					*C*	*B*	
Approach Delay	*20.2*			*7.7*						*24.4*		
Approach LOS	*C*			*A*						*C*		
Intersection Delay	*16.1*			X_C = *0.54*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Existing Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*138*	*313*			*275*	*331*	*245*	*1*	*189*			
% Heavy Vehicles, %HV	*4*	*4*			*2*	*2*	*5*	*5*	*5*			
Peak-Hour Factor, PHF	*0.88*	*0.88*			*0.96*	*0.96*	*0.83*	*0.83*	*0.83*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*157*	*356*			*286*	*345*		*296*	*228*			
Lane Group Capacity, c	*661*	*1096*			*874*	*794*		*504*	*465*			
v/c Ratio, X	*0.24*	*0.32*			*0.33*	*0.43*		*0.59*	*0.49*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*11.6*	*9.9*			*14.9*	*16.0*		*29.7*	*28.7*			
Progression Factor, PF	*0.935*	*0.125*			*1.000*	*1.000*		*1.000*	*1.000*			
Delay Calibration, k	*0.11*	*0.11*			*0.11*	*0.11*		*0.18*	*0.11*			
Incremental Delay, d_2	*0.2*	*0.2*			*0.2*	*0.4*		*1.8*	*0.8*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*11.0*	*1.4*			*15.2*	*16.4*		*31.5*	*29.5*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*4.4*			*15.8*			*30.7*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*17.0*			X_C = *0.44*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*LT*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*201*	*189*	*162*	*47*	*172*	*85*	*277*	*328*	*12*	*86*	*390*	*266*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*5*	*5*	*5*	*6*	*6*	*6*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*	*0.94*	*0.94*	*0.94*	*0.91*	*0.91*	*0.91*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	WB Only	EB Only	03	04	Thru & RT	NB Only	SB Only	08
Timing	G = *20.0*	G = *19.0*	G =	G =	G = *14.0*	G = *15.0*	G = *12.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*212*	*199*	*171*	*51*	*279*		*295*	*362*		*95*	*721*	
Lane Group Capacity, c	*341*	*359*	*305*	*349*	*349*		*475*	*563*		*191*	*836*	
v/c Ratio, X	*0.62*	*0.55*	*0.56*	*0.15*	*0.80*		*0.62*	*0.64*		*0.50*	*0.86*	
Total Green Ratio, g/C	*0.19*	*0.19*	*0.19*	*0.20*	*0.20*		*0.15*	*0.33*		*0.12*	*0.26*	
Uniform Delay, d_1	*37.2*	*36.7*	*36.7*	*33.0*	*38.1*		*39.8*	*28.5*		*41.2*	*35.3*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.20*	*0.15*	*0.16*	*0.11*	*0.34*		*0.20*	*0.22*		*0.11*	*0.39*	
Incremental Delay, d_2	*3.5*	*1.9*	*2.3*	*0.2*	*12.4*		*2.5*	*2.5*		*2.0*	*9.2*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*40.7*	*38.5*	*39.1*	*33.2*	*50.5*		*42.3*	*31.0*		*43.2*	*44.5*	
Lane Group LOS	*D*	*D*	*D*	*C*	*D*		*D*	*C*		*D*	*D*	
Approach Delay	*39.5*			*47.8*			*36.1*			*44.4*		
Approach LOS	*D*			*D*			*D*			*D*		
Intersection Delay	*41.4*			X_C = *0.71*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*Existing Condition*
Analysis Time Period	*PM Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*15*	*268*			*173*	*15*
Peak-Hour Factor, PHF	*0.93*	*0.93*	*1.00*	*1.00*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*16*	*288*	*0*	*0*	*192*	*16*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*36*		*15*			
Peak-Hour Factor, PHF	*0.64*	*1.00*	*0.64*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*56*	*0*	*23*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*16*						*79*	
C (m) (veh/h)	*1369*						*573*	
v/c	*0.01*						*0.14*	
95% queue length	*0.04*						*0.48*	
Control Delay (s/veh)	*7.7*						*12.3*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*12.3*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*373*	*14*	*54*	*252*	
Peak-Hour Factor, PHF	*1.00*	*0.93*	*0.93*	*0.84*	*0.84*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*401*	*15*	*64*	*300*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*47*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.81*	*1.00*	*0.81*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*58*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*64*		*64*				
C (m) (veh/h)		*1154*		*592*				
v/c		*0.06*		*0.11*				
95% queue length		*0.18*		*0.36*				
Control Delay (s/veh)		*8.3*		*11.8*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*11.8*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*19*	*539*			*530*	*122*
Peak-Hour Factor, PHF	*0.84*	*0.84*	*1.00*	*1.00*	*0.95*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*22*	*641*	*0*	*0*	*557*	*128*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*103*		*15*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.60*	*1.00*	*0.60*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*171*	*0*	*24*
Percent Heavy Vehicles	*0*	*0*	*0*	*3*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*22*						*195*	
C (m) (veh/h)	*904*						*387*	
v/c	*0.02*						*0.50*	
95% queue length	*0.07*						*2.74*	
Control Delay (s/veh)	*9.1*						*23.4*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*23.4*	
Approach LOS	--	--					*C*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*PM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*46*		*63*				*63*	*355*			*270*	*54*
% Heavy Vehicles, %HV	*0*		*0*				*1*	*1*			*0*	*0*
Peak-Hour Factor, PHF	*0.91*		*0.91*				*0.88*	*0.88*			*0.79*	*0.79*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25*	Cycle Length, C = *60.0*

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		*120*						*475*			*410*	
Lane Group Capacity, c		*648*						*835*			*929*	
v/c Ratio, X		*0.19*						*0.57*			*0.44*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.2*						*10.5*			*9.6*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.6*						*2.8*			*1.5*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*14.8*						*13.3*			*11.1*	
Lane Group LOS		*B*						*B*			*B*	
Approach Delay	*14.8*						*13.3*			*11.1*		
Approach LOS	*B*						*B*			*B*		
Intersection Delay	*12.6*			X_C = *0.42*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*79*	*67*	*117*	*233*	*84*	*39*	*112*	*218*	*235*	*74*	*215*	*21*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.88*	*0.88*	*0.88*	*0.94*	*0.94*	*0.94*	*0.98*	*0.98*	*0.98*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*181*	*144*	*265*	*139*		*119*	*232*	*250*	*76*	*240*	
Lane Group Capacity, c		*392*	*456*	*376*	*521*		*591*	*969*	*937*	*636*	*1022*	
v/c Ratio, X		*0.46*	*0.32*	*0.70*	*0.27*		*0.20*	*0.24*	*0.27*	*0.12*	*0.23*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*16.0*	*15.2*	*17.4*	*15.0*		*6.9*	*7.0*	*7.2*	*6.6*	*7.0*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.27*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*0.9*	*0.4*	*5.9*	*0.3*		*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*16.8*	*15.6*	*23.3*	*15.3*		*7.0*	*7.2*	*7.3*	*6.6*	*7.1*	
Lane Group LOS		*B*	*B*	*C*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*16.3*			*20.5*			*7.2*			*7.0*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*12.2*			X_C = *0.42*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*124*	*89*	*138*	*195*					*266*	*1*	*42*
% Heavy Vehicles, %HV		*2*	*2*	*1*	*1*					*2*	*2*	*2*
Peak-Hour Factor, PHF		*0.86*	*0.86*	*0.91*	*0.91*					*0.89*	*0.89*	*0.89*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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*	*103*	*152*	*214*					*299*	*48*	
Lane Group Capacity, c		*745*	*654*	*677*	*941*					*667*	*620*	
v/c Ratio, X		*0.19*	*0.16*	*0.22*	*0.23*					*0.45*	*0.08*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*19.5*	*19.2*	*14.4*	*14.1*					*21.9*	*18.6*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.11*					*0.11*	*0.11*	
Incremental Delay, d_2		*0.1*	*0.1*	*0.2*	*0.1*					*0.5*	*0.1*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*19.6*	*19.3*	*13.5*	*4.8*					*22.4*	*18.6*	
Lane Group LOS		*B*	*B*	*B*	*A*					*C*	*B*	
Approach Delay	*19.5*			*8.4*						*21.9*		
Approach LOS	*B*			*A*						*C*		
Intersection Delay	*16.1*			X_C = *0.33*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Existing Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*34*	*351*			*239*	*321*	*100*	*0*	*152*			
% Heavy Vehicles, %HV	*1*	*1*			*1*	*1*	*2*	*2*	*2*			
Peak-Hour Factor, PHF	*0.97*	*0.97*			*0.85*	*0.85*	*0.94*	*0.94*	*0.94*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*35*	*362*			*281*	*378*		*106*	*162*			
Lane Group Capacity, c	*685*	*1129*			*882*	*802*		*519*	*479*			
v/c Ratio, X	*0.05*	*0.32*			*0.32*	*0.47*		*0.20*	*0.34*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*10.1*	*9.9*			*14.9*	*16.4*		*26.1*	*27.3*			
Progression Factor, PF	*0.935*	*0.125*			*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	*0.0*	*0.2*			*0.2*	*0.4*		*0.2*	*0.4*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*9.5*	*1.4*			*15.1*	*16.8*		*26.3*	*27.7*			
Lane Group LOS	*A*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*2.1*			*16.1*			*27.1*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*14.1*			X_C = *0.37*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*LT*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*245*	*148*	*252*	*61*	*155*	*110*	*293*	*308*	*26*	*117*	*256*	*175*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.87*	*0.87*	*0.87*	*0.86*	*0.86*	*0.86*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	WB Only	EB Only	03	04	Thru & RT	NB Only	SB Only	08
Timing	G = *21.0*	G = *23.0*	G =	G =	G = *12.0*	G = *12.0*	G = *12.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*282*	*170*	*290*	*71*	*308*		*312*	*356*		*124*	*458*	
Lane Group Capacity, c	*413*	*435*	*370*	*374*	*369*		*398*	*498*		*193*	*779*	
v/c Ratio, X	*0.68*	*0.39*	*0.78*	*0.19*	*0.83*		*0.78*	*0.71*		*0.64*	*0.59*	
Total Green Ratio, g/C	*0.23*	*0.23*	*0.23*	*0.21*	*0.21*		*0.12*	*0.28*		*0.12*	*0.24*	
Uniform Delay, d_1	*35.2*	*32.6*	*36.2*	*32.5*	*37.8*		*42.7*	*32.4*		*42.0*	*33.6*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.25*	*0.11*	*0.33*	*0.11*	*0.37*		*0.33*	*0.28*		*0.22*	*0.18*	
Incremental Delay, d_2	*4.6*	*0.6*	*10.5*	*0.2*	*15.2*		*9.9*	*4.8*		*7.1*	*1.2*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*39.8*	*33.2*	*46.7*	*32.7*	*53.0*		*52.6*	*37.3*		*49.1*	*34.8*	
Lane Group LOS	*D*	*C*	*D*	*C*	*D*		*D*	*D*		*D*	*C*	
Approach Delay	*41.0*			*49.2*			*44.4*			*37.8*		
Approach LOS	*D*			*D*			*D*			*D*		
Intersection Delay	*42.5*			X_C = *0.75*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*Existing Condition*
Analysis Time Period	*Saturday Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*17*	*244*			*265*	*28*
Peak-Hour Factor, PHF	*0.91*	*0.91*	*1.00*	*1.00*	*0.88*	*0.88*
Hourly Flow Rate, HFR (veh/h)	*18*	*268*	*0*	*0*	*301*	*31*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*40*		*22*			
Peak-Hour Factor, PHF	*0.70*	*1.00*	*0.70*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*57*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*18*						*88*	
C (m) (veh/h)	*1233*						*511*	
v/c	*0.01*						*0.17*	
95% queue length	*0.04*						*0.62*	
Control Delay (s/veh)	*8.0*						*13.5*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*13.5*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*292*	*7*	*28*	*217*	
Peak-Hour Factor, PHF	*1.00*	*0.91*	*0.91*	*0.86*	*0.86*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*320*	*7*	*32*	*252*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*2*		*13*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.63*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*20*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*32*		*23*				
C (m) (veh/h)		*1244*		*664*				
v/c		*0.03*		*0.03*				
95% queue length		*0.08*		*0.11*				
Control Delay (s/veh)		*8.0*		*10.6*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*10.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Existing Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*16*	*377*			*514*	*88*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.98*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*16*	*396*	*0*	*0*	*524*	*89*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*56*		*34*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.98*	*1.00*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*57*	*0*	*34*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*2*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*16*						*91*	
C (m) (veh/h)	*961*						*484*	
v/c	*0.02*						*0.19*	
95% queue length	*0.05*						*0.69*	
Control Delay (s/veh)	*8.8*						*14.2*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--					*14.2*	
Approach LOS	--	--					*B*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*Saturday Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*39*		*40*				*46*	*249*			*189*	*47*
% Heavy Vehicles, %HV	*0*		*0*				*0*	*0*			*0*	*0*
Peak-Hour Factor, PHF	*0.94*		*0.94*				*0.96*	*0.96*			*0.80*	*0.80*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *60.0*

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		*84*						*307*			*295*	
Lane Group Capacity, c		*652*						*871*			*925*	
v/c Ratio, X		*0.13*						*0.35*			*0.32*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*13.9*						*9.1*			*8.9*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.4*						*1.1*			*0.9*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*14.3*						*10.2*			*9.8*	
Lane Group LOS		*B*						*B*			*A*	
Approach Delay	*14.3*						*10.2*			*9.8*		
Approach LOS	*B*						*B*			*A*		
Intersection Delay	*10.6*			X_C = *0.26*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Existing Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*36*	*118*	*87*	*257*	*111*	*27*	*74*	*217*	*358*	*90*	*146*	*33*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*190*	*107*	*271*	*145*		*78*	*228*	*377*	*98*	*195*	
Lane Group Capacity, c		*468*	*456*	*372*	*531*		*603*	*950*	*919*	*625*	*987*	
v/c Ratio, X		*0.41*	*0.23*	*0.73*	*0.27*		*0.13*	*0.24*	*0.41*	*0.16*	*0.20*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*15.7*	*14.8*	*17.5*	*15.0*		*6.6*	*7.0*	*7.8*	*6.7*	*6.9*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.29*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*0.6*	*0.3*	*7.1*	*0.3*		*0.1*	*0.1*	*0.3*	*0.1*	*0.1*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*16.3*	*15.1*	*24.6*	*15.3*		*6.7*	*7.2*	*8.1*	*6.8*	*7.0*	
Lane Group LOS		*B*	*B*	*C*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*15.8*			*21.4*			*7.7*			*6.9*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*12.3*			X_C = *0.52*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*171*	*288*	*269*	*216*					*269*	*1*	*406*
% Heavy Vehicles, %HV		*8*	*8*	*5*	*5*					*5*	*5*	*5*
Peak-Hour Factor, PHF		*0.94*	*0.94*	*0.78*	*0.78*					*0.71*	*0.71*	*0.71*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *38.0*	G = *5.0*	G =	G =	G = *42.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*182*	*306*	*345*	*277*					*379*	*573*	
Lane Group Capacity, c		*668*	*587*	*591*	*869*					*680*	*630*	
v/c Ratio, X		*0.27*	*0.52*	*0.58*	*0.32*					*0.56*	*0.91*	
Total Green Ratio, g/C		*0.38*	*0.38*	*0.48*	*0.48*					*0.42*	*0.42*	
Uniform Delay, d_1		*21.4*	*24.0*	*20.7*	*16.0*					*22.0*	*27.2*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.385*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.13*	*0.18*	*0.11*					*0.15*	*0.43*	
Incremental Delay, d_2		*0.2*	*0.8*	*1.5*	*0.2*					*1.0*	*17.3*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*21.7*	*24.8*	*20.7*	*6.4*					*23.0*	*44.5*	
Lane Group LOS		*C*	*C*	*C*	*A*					*C*	*D*	
Approach Delay	*23.6*			*14.3*						*36.0*		
Approach LOS	*C*			*B*						*D*		
Intersection Delay	*26.5*			X_C = *0.77*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*No Build Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*112*	*371*			*386*	*341*	*163*	*1*	*94*			
% Heavy Vehicles, %HV	*5*	*5*			*2*	*2*	*8*	*8*	*8*			
Peak-Hour Factor, PHF	*0.91*	*0.91*			*0.94*	*0.94*	*0.77*	*0.77*	*0.77*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*123*	*408*			*411*	*363*		*213*	*122*			
Lane Group Capacity, c	*551*	*1086*			*874*	*794*		*490*	*452*			
v/c Ratio, X	*0.22*	*0.38*			*0.47*	*0.46*		*0.43*	*0.27*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*14.3*	*10.3*			*16.3*	*16.2*		*28.2*	*26.7*			
Progression Factor, PF	*0.935*	*0.125*			*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	*0.2*	*0.2*			*0.4*	*0.4*		*0.6*	*0.3*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*13.5*	*1.5*			*16.7*	*16.6*		*28.8*	*27.0*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*4.3*			*16.7*			*28.1*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*15.0*			X_C = *0.41*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*91*	*108*	*196*	*40*	*183*	*65*	*307*	*248*	*8*	*42*	*186*	*212*
% Heavy Vehicles, %HV	*13*	*13*	*13*	*6*	*6*	*6*	*6*	*6*	*6*	*7*	*7*	*7*
Peak-Hour Factor, PHF	*0.83*	*0.83*	*0.83*	*0.86*	*0.86*	*0.86*	*0.92*	*0.92*	*0.92*	*0.86*	*0.86*	*0.86*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NS Perm	NB Only	SB Only	08
Timing	G = *27.0*	G = *12.0*	G =	G =	G = *16.0*	G = *14.0*	G = *11.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*110*	*130*	*236*	*47*	*289*		*334*	*279*		*49*	*463*	
Lane Group Capacity, c	*433*	*741*	*630*	*326*	*472*		*443*	*580*		*244*	*819*	
v/c Ratio, X	*0.25*	*0.18*	*0.37*	*0.14*	*0.61*		*0.75*	*0.48*		*0.20*	*0.57*	
Total Green Ratio, g/C	*0.43*	*0.43*	*0.43*	*0.27*	*0.27*		*0.14*	*0.34*		*0.27*	*0.27*	
Uniform Delay, d_1	*25.2*	*17.6*	*19.4*	*27.7*	*31.9*		*41.3*	*26.0*		*34.7*	*31.4*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.11*	*0.11*	*0.11*	*0.11*	*0.20*		*0.31*	*0.11*		*0.11*	*0.16*	
Incremental Delay, d_2	*0.3*	*0.1*	*0.4*	*0.2*	*2.3*		*7.2*	*0.6*		*0.4*	*0.9*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*25.5*	*17.7*	*19.7*	*27.9*	*34.3*		*48.5*	*26.7*		*35.1*	*32.4*	
Lane Group LOS	*C*	*B*	*B*	*C*	*C*		*D*	*C*		*D*	*C*	
Approach Delay	*20.5*			*33.4*			*38.6*			*32.6*		
Approach LOS	*C*			*C*			*D*			*C*		
Intersection Delay	*31.7*			X_C = *0.49*			Intersection LOS			*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Hambleonian and High*
Jurisdiction	*Chester*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *Hambletonian Avenue* | North/South Street: *High Street*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*111*	*198*			*345*	*123*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.89*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*116*	*208*	*0*	*0*	*387*	*138*
Percent Heavy Vehicles	*10*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*68*		*106*			
Peak-Hour Factor, PHF	*0.60*	*1.00*	*0.60*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*113*	*0*	*176*	*0*	*0*	*0*
Percent Heavy Vehicles	*12*	*0*	*12*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*116*						*289*	
C (m) (veh/h)	*1002*						*396*	
v/c	*0.12*						*0.73*	
95% queue length	*0.39*						*5.69*	
Control Delay (s/veh)	*9.1*						*35.0*	
LOS	*A*						*E*	
Approach Delay (s/veh)	--	--				*35.0*		
Approach LOS	--	--				*E*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Ward and Rt 17M*
Agency/Co.	*TMA*	Jurisdiction	*Goshen*
Date Performed	*2/17/2009*	Analysis Year	*No Build Condition*
Analysis Time Period	*AM Peak Hour*		

Project Description

East/West Street: *Ward Road*	North/South Street: *NYS Route 17M*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*234*	*3*	*25*	*244*	
Peak-Hour Factor, PHF	*1.00*	*0.87*	*0.87*	*0.92*	*0.92*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*268*	*3*	*27*	*265*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*3*		*69*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.89*	*1.00*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*77*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*27*		*80*				
C (m) (veh/h)		*1298*		*752*				
v/c		*0.02*		*0.11*				
95% queue length		*0.06*		*0.36*				
Control Delay (s/veh)		*7.8*		*10.4*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*10.4*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*308*			*485*	*82*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*1.00*	*1.00*	*0.85*	*0.85*
Hourly Flow Rate, HFR (veh/h)	*5*	*327*	*0*	*0*	*570*	*96*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*105*		*13*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.91*	*1.00*	*0.91*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*115*	*0*	*14*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*5*						*129*	
C (m) (veh/h)	*900*						*472*	
v/c	*0.01*						*0.27*	
95% queue length	*0.02*						*1.10*	
Control Delay (s/veh)	*9.0*						*15.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*15.5*	
Approach LOS	--	--					*C*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*AM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*56*		*61*				*29*	*268*			*229*	*29*
% Heavy Vehicles, %HV	*1*		*1*				*1*	*1*			*3*	*3*
Peak-Hour Factor, PHF	*0.74*		*0.74*				*0.95*	*0.95*			*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *60.0*

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		*158*						*313*			*281*	
Lane Group Capacity, c		*645*						*897*			*908*	
v/c Ratio, X		*0.24*						*0.35*			*0.31*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.5*						*9.1*			*8.9*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.9*						*1.1*			*0.9*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*15.4*						*10.2*			*9.8*	
Lane Group LOS		*B*						*B*			*A*	
Approach Delay	*15.4*						*10.2*			*9.8*		
Approach LOS	*B*						*B*			*A*		
Intersection Delay	*11.1*			X_C = *0.31*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*60*	*101*	*105*	*228*	*91*	*38*	*81*	*224*	*252*	*103*	*168*	*57*
% Heavy Vehicles, %HV	*2*	*2*	*2*	*0*	*0*	*0*	*1*	*1*	*1*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.76*	*0.76*	*0.76*	*0.81*	*0.81*	*0.81*	*0.85*	*0.85*	*0.85*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*175*	*114*	*300*	*170*		*100*	*277*	*311*	*121*	*265*	
Lane Group Capacity, c		*433*	*461*	*381*	*528*		*571*	*959*	*927*	*592*	*967*	
v/c Ratio, X		*0.40*	*0.25*	*0.79*	*0.32*		*0.18*	*0.29*	*0.34*	*0.20*	*0.27*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*15.7*	*14.9*	*17.9*	*15.3*		*6.8*	*7.2*	*7.5*	*6.9*	*7.2*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.33*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*0.6*	*0.3*	*10.5*	*0.4*		*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*16.3*	*15.2*	*28.5*	*15.6*		*6.9*	*7.4*	*7.7*	*7.1*	*7.3*	
Lane Group LOS		*B*	*B*	*C*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*15.9*			*23.8*			*7.5*			*7.3*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*12.9*			X_C = *0.50*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*293*	*197*	*124*	*554*					*325*	*1*	*94*
% Heavy Vehicles, %HV		*7*	*7*	*4*	*4*					*4*	*4*	*4*
Peak-Hour Factor, PHF		*0.83*	*0.83*	*0.90*	*0.90*					*0.79*	*0.79*	*0.79*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*353*	*237*	*138*	*616*					*411*	*120*	
Lane Group Capacity, c		*710*	*624*	*479*	*914*					*654*	*606*	
v/c Ratio, X		*0.50*	*0.38*	*0.29*	*0.67*					*0.63*	*0.20*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*22.5*	*21.2*	*20.6*	*18.9*					*24.0*	*19.5*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.25*					*0.21*	*0.11*	
Incremental Delay, d_2		*0.6*	*0.4*	*0.3*	*2.0*					*1.9*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*23.0*	*21.6*	*19.4*	*8.3*					*26.0*	*19.7*	
Lane Group LOS		*C*	*C*	*B*	*A*					*C*	*B*	
Approach Delay	*22.5*			*10.3*						*24.6*		
Approach LOS	*C*			*B*						*C*		
Intersection Delay	*18.2*			X_C = *0.65*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*No Build Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*220*	*378*			*348*	*353*	*343*	*1*	*210*			
% Heavy Vehicles, %HV	*4*	*4*			*2*	*2*	*5*	*5*	*5*			
Peak-Hour Factor, PHF	*0.88*	*0.88*			*0.96*	*0.96*	*0.83*	*0.83*	*0.83*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*250*	*430*			*363*	*368*		*414*	*253*			
Lane Group Capacity, c	*596*	*1096*			*874*	*794*		*504*	*465*			
v/c Ratio, X	*0.42*	*0.39*			*0.42*	*0.46*		*0.82*	*0.54*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*15.2*	*10.5*			*15.8*	*16.3*		*32.5*	*29.3*			
Progression Factor, PF	*0.935*	*0.125*			*1.000*	*1.000*		*1.000*	*1.000*			
Delay Calibration, k	*0.11*	*0.11*			*0.11*	*0.11*		*0.36*	*0.14*			
Incremental Delay, d_2	*0.5*	*0.2*			*0.3*	*0.4*		*10.5*	*1.3*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*14.6*	*1.5*			*16.1*	*16.7*		*43.0*	*30.6*			
Lane Group LOS	*B*	*A*			*B*	*B*		*D*	*C*			
Approach Delay	*6.4*			*16.4*			*38.3*					
Approach LOS	*A*			*B*			*D*					
Intersection Delay	*20.1*			X_C = *0.60*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*227*	*225*	*189*	*50*	*207*	*94*	*312*	*350*	*13*	*95*	*417*	*298*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*5*	*5*	*5*	*6*	*6*	*6*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*	*0.94*	*0.94*	*0.94*	*0.91*	*0.91*	*0.91*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*105*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	Thru & RT	NB Only	SB Only	08
Timing	G = *27.0*	G = *12.0*	G =	G =	G = *16.0*	G = *14.0*	G = *11.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*239*	*237*	*199*	*54*	*327*		*332*	*386*		*104*	*670*	
Lane Group Capacity, c	*444*	*813*	*691*	*251*	*473*		*443*	*580*		*175*	*881*	
v/c Ratio, X	*0.54*	*0.29*	*0.29*	*0.22*	*0.69*		*0.75*	*0.67*		*0.59*	*0.76*	
Total Green Ratio, g/C	*0.43*	*0.43*	*0.43*	*0.27*	*0.27*		*0.14*	*0.34*		*0.11*	*0.27*	
Uniform Delay, d_1	*30.7*	*18.6*	*18.5*	*28.3*	*32.8*		*41.3*	*28.1*		*42.4*	*33.5*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.14*	*0.11*	*0.11*	*0.11*	*0.26*		*0.30*	*0.24*		*0.18*	*0.31*	
Incremental Delay, d_2	*1.3*	*0.2*	*0.2*	*0.4*	*4.3*		*7.0*	*2.9*		*5.4*	*3.9*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*32.0*	*18.8*	*18.8*	*28.7*	*37.0*		*48.3*	*31.0*		*47.7*	*37.5*	
Lane Group LOS	*C*	*B*	*B*	*C*	*D*		*D*	*C*		*D*	*D*	
Approach Delay	*23.4*			*35.9*			*39.0*			*38.8*		
Approach LOS	*C*			*D*			*D*			*D*		
Intersection Delay	*34.4*			X_C = *0.71*			Intersection LOS			*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*No Build Condition*
Analysis Time Period	*PM Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*16*	*303*			*202*	*16*
Peak-Hour Factor, PHF	*0.93*	*0.93*	*1.00*	*1.00*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*17*	*325*	*0*	*0*	*224*	*17*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*38*		*16*			
Peak-Hour Factor, PHF	*0.64*	*1.00*	*0.64*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*59*	*0*	*25*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*17*						*84*	
C (m) (veh/h)	*1331*						*527*	
v/c	*0.01*						*0.16*	
95% queue length	*0.04*						*0.56*	
Control Delay (s/veh)	*7.7*						*13.1*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*13.1*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*436*	*15*	*57*	*303*	
Peak-Hour Factor, PHF	*1.00*	*0.93*	*0.93*	*0.84*	*0.84*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*468*	*16*	*67*	*360*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*50*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.81*	*1.00*	*0.81*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*61*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*67*		*67*				
C (m) (veh/h)		*1089*		*534*				
v/c		*0.06*		*0.13*				
95% queue length		*0.20*		*0.43*				
Control Delay (s/veh)		*8.5*		*12.7*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*12.7*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*20*	*582*			*583*	*134*
Peak-Hour Factor, PHF	*0.84*	*0.84*	*1.00*	*1.00*	*0.95*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*23*	*692*	*0*	*0*	*613*	*141*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*115*		*16*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.60*	*1.00*	*0.60*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*191*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*3*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*23*						*217*	
C (m) (veh/h)	*852*						*357*	
v/c	*0.03*						*0.61*	
95% queue length	*0.08*						*3.82*	
Control Delay (s/veh)	*9.3*						*29.5*	
LOS	*A*						*D*	
Approach Delay (s/veh)	--	--				*29.5*		
Approach LOS	--	--				*D*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*PM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*51*		*72*				*74*	*410*			*317*	*61*
% Heavy Vehicles, %HV	*0*		*0*				*1*	*1*			*0*	*0*
Peak-Hour Factor, PHF	*0.91*		*0.91*				*0.88*	*0.88*			*0.79*	*0.79*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25*		Cycle Length, C = *60.0*

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		*135*						*550*			*478*	
Lane Group Capacity, c		*648*						*787*			*930*	
v/c Ratio, X		*0.21*						*0.70*			*0.51*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.3*						*11.5*			*10.1*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.7*						*5.1*			*2.0*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*15.1*						*16.6*			*12.1*	
Lane Group LOS		*B*						*B*			*B*	
Approach Delay	*15.1*						*16.6*			*12.1*		
Approach LOS	*B*						*B*			*B*		
Intersection Delay	*14.6*			X_C = *0.50*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*107*	*76*	*132*	*247*	*108*	*47*	*119*	*251*	*249*	*83*	*243*	*45*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.88*	*0.88*	*0.88*	*0.94*	*0.94*	*0.94*	*0.98*	*0.98*	*0.98*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*226*	*163*	*281*	*176*		*127*	*267*	*265*	*85*	*294*	
Lane Group Capacity, c		*375*	*456*	*347*	*522*		*560*	*969*	*937*	*616*	*1011*	
v/c Ratio, X		*0.60*	*0.36*	*0.81*	*0.34*		*0.23*	*0.28*	*0.28*	*0.14*	*0.29*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*16.8*	*15.4*	*18.1*	*15.3*		*7.0*	*7.2*	*7.2*	*6.6*	*7.3*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.19*	*0.11*	*0.35*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*2.7*	*0.5*	*13.4*	*0.4*		*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*19.5*	*15.9*	*31.5*	*15.7*		*7.2*	*7.3*	*7.4*	*6.7*	*7.4*	
Lane Group LOS		*B*	*B*	*C*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*18.0*			*25.4*			*7.3*			*7.3*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*13.9*			X_C = *0.48*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*235*	*157*	*159*	*345*					*282*	*1*	*106*
% Heavy Vehicles, %HV		*2*	*2*	*1*	*1*					*2*	*2*	*2*
Peak-Hour Factor, PHF		*0.86*	*0.86*	*0.91*	*0.91*					*0.89*	*0.89*	*0.89*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*273*	*183*	*175*	*379*					*317*	*120*	
Lane Group Capacity, c		*745*	*654*	*560*	*941*					*667*	*618*	
v/c Ratio, X		*0.37*	*0.28*	*0.31*	*0.40*					*0.48*	*0.19*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*21.1*	*20.3*	*18.4*	*15.7*					*22.2*	*19.5*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*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*	*0.2*	*0.3*	*0.3*					*0.5*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*21.4*	*20.5*	*17.4*	*5.5*					*22.8*	*19.7*	
Lane Group LOS		*C*	*C*	*B*	*A*					*C*	*B*	
Approach Delay	*21.0*			*9.3*						*21.9*		
Approach LOS	*C*			*A*						*C*		
Intersection Delay	*16.8*			X_C = *0.44*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*No Build Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*84*	*428*			*329*	*343*	*182*	*0*	*170*			
% Heavy Vehicles, %HV	*1*	*1*			*1*	*1*	*2*	*2*	*2*			
Peak-Hour Factor, PHF	*0.97*	*0.97*			*0.85*	*0.85*	*0.94*	*0.94*	*0.94*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*87*	*441*			*387*	*404*		*194*	*181*			
Lane Group Capacity, c	*593*	*1129*			*882*	*802*		*519*	*479*			
v/c Ratio, X	*0.15*	*0.39*			*0.44*	*0.50*		*0.37*	*0.38*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*13.0*	*10.4*			*16.0*	*16.7*		*27.6*	*27.6*			
Progression Factor, PF	*0.935*	*0.125*			*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	*0.1*	*0.2*			*0.4*	*0.5*		*0.5*	*0.5*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*12.3*	*1.5*			*16.4*	*17.2*		*28.0*	*28.1*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*3.3*			*16.8*			*28.1*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*15.1*			X_C = *0.41*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*276*	*182*	*291*	*65*	*193*	*122*	*335*	*330*	*28*	*128*	*275*	*211*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.87*	*0.87*	*0.87*	*0.86*	*0.86*	*0.86*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*70*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NS Perm	NB Only	SB Only	08
Timing	G = *25.0*	G = *19.0*	G =	G =	G = *12.0*	G = *14.0*	G = *10.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*317*	*209*	*334*	*76*	*366*		*356*	*381*		*136*	*443*	
Lane Group Capacity, c	*514*	*908*	*771*	*260*	*441*		*465*	*533*		*233*	*722*	
v/c Ratio, X	*0.62*	*0.23*	*0.43*	*0.29*	*0.83*		*0.77*	*0.71*		*0.58*	*0.61*	
Total Green Ratio, g/C	*0.48*	*0.48*	*0.48*	*0.25*	*0.25*		*0.14*	*0.30*		*0.22*	*0.22*	
Uniform Delay, d_1	*30.2*	*15.2*	*17.1*	*30.3*	*35.5*		*41.4*	*31.2*		*40.2*	*35.2*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.20*	*0.11*	*0.11*	*0.11*	*0.37*		*0.32*	*0.28*		*0.18*	*0.20*	
Incremental Delay, d_2	*2.2*	*0.1*	*0.4*	*0.6*	*12.6*		*7.5*	*4.5*		*3.7*	*1.6*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*32.5*	*15.3*	*17.5*	*31.0*	*48.1*		*48.9*	*35.7*		*44.0*	*36.7*	
Lane Group LOS	*C*	*B*	*B*	*C*	*D*		*D*	*D*		*D*	*D*	
Approach Delay	*22.5*			*45.1*			*42.1*			*38.4*		
Approach LOS	*C*			*D*			*D*			*D*		
Intersection Delay	*35.4*			X_C = *0.73*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*No Build Condition*
Analysis Time Period	*Saturday Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*19*	*276*			*299*	*30*
Peak-Hour Factor, PHF	*0.91*	*0.91*	*1.00*	*1.00*	*0.88*	*0.88*
Hourly Flow Rate, HFR (veh/h)	*20*	*303*	*0*	*0*	*339*	*34*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*42*		*24*			
Peak-Hour Factor, PHF	*0.70*	*1.00*	*0.70*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*60*	*0*	*34*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*20*						*94*	
C (m) (veh/h)	*1191*						*467*	
v/c	*0.02*						*0.20*	
95% queue length	*0.05*						*0.74*	
Control Delay (s/veh)	*8.1*						*14.6*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.6*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*356*	*7*	*30*	*278*	
Peak-Hour Factor, PHF	*1.00*	*0.91*	*0.91*	*0.86*	*0.86*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*391*	*7*	*34*	*323*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*2*		*14*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.63*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*22*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*34*		*25*				
C (m) (veh/h)		*1172*		*597*				
v/c		*0.03*		*0.04*				
95% queue length		*0.09*		*0.13*				
Control Delay (s/veh)		*8.2*		*11.3*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*11.3*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*No Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*17*	*426*			*573*	*99*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.98*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*17*	*448*	*0*	*0*	*584*	*101*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*65*		*36*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.98*	*1.00*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*66*	*0*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*2*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*17*						*102*	
C (m) (veh/h)	*904*						*445*	
v/c	*0.02*						*0.23*	
95% queue length	*0.06*						*0.87*	
Control Delay (s/veh)	*9.1*						*15.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*15.5*	
Approach LOS	--	--					*C*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*Saturday Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*45*		*50*				*57*	*302*			*241*	*54*
% Heavy Vehicles, %HV	*0*		*0*				*0*	*0*			*0*	*0*
Peak-Hour Factor, PHF	*0.94*		*0.94*				*0.96*	*0.96*			*0.80*	*0.80*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *60.0*

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		*101*						*374*			*368*	
Lane Group Capacity, c		*651*						*853*			*927*	
v/c Ratio, X		*0.16*						*0.44*			*0.40*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.1*						*9.6*			*9.4*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.5*						*1.6*			*1.3*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*14.6*						*11.2*			*10.6*	
Lane Group LOS		*B*						*B*			*B*	
Approach Delay	*14.6*						*11.2*			*10.6*		
Approach LOS	*B*						*B*			*B*		
Intersection Delay	*11.4*			X_C = *0.33*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*No Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*61*	*126*	*103*	*273*	*119*	*34*	*81*	*252*	*380*	*100*	*176*	*64*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*231*	*127*	*287*	*161*		*85*	*265*	*400*	*109*	*261*	
Lane Group Capacity, c		*436*	*456*	*342*	*529*		*568*	*950*	*919*	*605*	*974*	
v/c Ratio, X		*0.53*	*0.28*	*0.84*	*0.30*		*0.15*	*0.28*	*0.44*	*0.18*	*0.27*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*16.3*	*15.0*	*18.3*	*15.2*		*6.7*	*7.2*	*8.0*	*6.8*	*7.2*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.13*	*0.11*	*0.37*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*1.2*	*0.3*	*16.7*	*0.3*		*0.1*	*0.2*	*0.3*	*0.1*	*0.1*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*17.6*	*15.4*	*35.0*	*15.5*		*6.8*	*7.4*	*8.3*	*6.9*	*7.3*	
Lane Group LOS		*B*	*B*	*D*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*16.8*			*28.0*			*7.8*			*7.2*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*14.1*			X_C = *0.58*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*171*	*288*	*307*	*216*					*279*	*1*	*406*
% Heavy Vehicles, %HV		*8*	*8*	*5*	*5*					*5*	*5*	*5*
Peak-Hour Factor, PHF		*0.94*	*0.94*	*0.78*	*0.78*					*0.71*	*0.71*	*0.71*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *38.0*	G = *5.0*	G =	G =	G = *42.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*182*	*306*	*394*	*277*					*393*	*573*	
Lane Group Capacity, c		*668*	*587*	*591*	*869*					*680*	*630*	
v/c Ratio, X		*0.27*	*0.52*	*0.67*	*0.32*					*0.58*	*0.91*	
Total Green Ratio, g/C		*0.38*	*0.38*	*0.48*	*0.48*					*0.42*	*0.42*	
Uniform Delay, d_1		*21.4*	*24.0*	*22.0*	*16.0*					*22.2*	*27.2*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.385*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.13*	*0.24*	*0.11*					*0.17*	*0.43*	
Incremental Delay, d_2		*0.2*	*0.8*	*2.9*	*0.2*					*1.2*	*17.3*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*21.7*	*24.8*	*23.3*	*6.4*					*23.4*	*44.5*	
Lane Group LOS		*C*	*C*	*C*	*A*					*C*	*D*	
Approach Delay	*23.6*			*16.3*						*35.9*		
Approach LOS	*C*			*B*						*D*		
Intersection Delay	*26.9*			X_C = *0.82*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Build Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*112*	*381*			*424*	*375*	*163*	*1*	*98*			
% Heavy Vehicles, %HV	*5*	*5*			*2*	*2*	*8*	*8*	*8*			
Peak-Hour Factor, PHF	*0.91*	*0.91*			*0.94*	*0.94*	*0.77*	*0.77*	*0.77*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* — Cycle Length, C = *100.0*

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	*123*	*419*			*451*	*399*		*213*	*127*			
Lane Group Capacity, c	*520*	*1086*			*874*	*794*		*490*	*452*			
v/c Ratio, X	*0.24*	*0.39*			*0.52*	*0.50*		*0.43*	*0.28*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*15.5*	*10.4*			*16.8*	*16.7*		*28.2*	*26.8*			
Progression Factor, PF	*0.935*	*0.125*			*1.000*	*1.000*		*1.000*	*1.000*			
Delay Calibration, k	*0.11*	*0.11*			*0.12*	*0.11*		*0.11*	*0.11*			
Incremental Delay, d_2	*0.2*	*0.2*			*0.5*	*0.5*		*0.6*	*0.3*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*14.7*	*1.5*			*17.4*	*17.2*		*28.8*	*27.1*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*4.5*			*17.3*			*28.2*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*15.4*			X_C = *0.43*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*105*	*108*	*196*	*40*	*183*	*67*	*307*	*266*	*8*	*45*	*216*	*284*
% Heavy Vehicles, %HV	*13*	*13*	*13*	*6*	*6*	*6*	*6*	*6*	*6*	*7*	*7*	*7*
Peak-Hour Factor, PHF	*0.83*	*0.83*	*0.83*	*0.86*	*0.86*	*0.86*	*0.92*	*0.92*	*0.92*	*0.86*	*0.86*	*0.86*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NS Perm	NB Only	SB Only	08
Timing	G = *27.0*	G = *12.0*	G =	G =	G = *16.0*	G = *14.0*	G = *11.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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	*127*	*130*	*236*	*47*	*291*		*334*	*298*		*52*	*581*	
Lane Group Capacity, c	*432*	*741*	*630*	*326*	*471*		*443*	*580*		*241*	*814*	
v/c Ratio, X	*0.29*	*0.18*	*0.37*	*0.14*	*0.62*		*0.75*	*0.51*		*0.22*	*0.71*	
Total Green Ratio, g/C	*0.43*	*0.43*	*0.43*	*0.27*	*0.27*		*0.14*	*0.34*		*0.27*	*0.27*	
Uniform Delay, d_1	*25.8*	*17.6*	*19.4*	*27.7*	*32.0*		*41.3*	*26.4*		*35.7*	*33.0*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.11*	*0.11*	*0.11*	*0.11*	*0.20*		*0.31*	*0.12*		*0.11*	*0.28*	
Incremental Delay, d_2	*0.4*	*0.1*	*0.4*	*0.2*	*2.5*		*7.2*	*0.8*		*0.5*	*3.0*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*26.1*	*17.7*	*19.7*	*27.9*	*34.4*		*48.5*	*27.2*		*36.1*	*36.0*	
Lane Group LOS	*C*	*B*	*B*	*C*	*C*		*D*	*C*		*D*	*D*	
Approach Delay	*20.8*			*33.5*			*38.5*			*36.0*		
Approach LOS	*C*			*C*			*D*			*D*		
Intersection Delay	*32.8*			X_C = *0.57*			Intersection LOS			*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*AM Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*112*	*200*			*346*	*123*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.89*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*117*	*210*	*0*	*0*	*388*	*138*
Percent Heavy Vehicles	*10*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*68*		*106*			
Peak-Hour Factor, PHF	*0.60*	*1.00*	*0.60*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*113*	*0*	*176*	*0*	*0*	*0*
Percent Heavy Vehicles	*12*	*0*	*12*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*117*						*289*	
C (m) (veh/h)	*1001*						*393*	
v/c	*0.12*						*0.74*	
95% queue length	*0.40*						*5.77*	
Control Delay (s/veh)	*9.1*						*35.7*	
LOS	*A*						*E*	
Approach Delay (s/veh)	--	--				*35.7*		
Approach LOS	--	--				*E*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Ward and Rt 17M*
Agency/Co.	*TMA*	Jurisdiction	*Goshen*
Date Performed	*2/17/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*AM Peak Hour*		

Project Description

East/West Street: *Ward Road*	North/South Street: *NYS Route 17M*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*263*	*3*	*25*	*254*	
Peak-Hour Factor, PHF	*1.00*	*0.87*	*0.87*	*0.92*	*0.92*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*302*	*3*	*27*	*276*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*3*		*69*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.89*	*1.00*	*0.89*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*77*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*27*		*80*				
C (m) (veh/h)		*1262*		*719*				
v/c		*0.02*		*0.11*				
95% queue length		*0.07*		*0.37*				
Control Delay (s/veh)		*7.9*		*10.6*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*10.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*338*			*503*	*82*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*1.00*	*1.00*	*0.85*	*0.85*
Hourly Flow Rate, HFR (veh/h)	*5*	*359*	*0*	*0*	*591*	*96*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*105*		*13*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.91*	*1.00*	*0.91*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*115*	*0*	*14*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*5*						*129*	
C (m) (veh/h)	*884*						*457*	
v/c	*0.01*						*0.28*	
95% queue length	*0.02*						*1.15*	
Control Delay (s/veh)	*9.1*						*15.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*15.9*	
Approach LOS	--	--					*C*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*AM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*56*		*63*				*32*	*294*			*237*	*29*
% Heavy Vehicles, %HV	*1*		*1*				*1*	*1*			*3*	*3*
Peak-Hour Factor, PHF	*0.74*		*0.74*				*0.95*	*0.95*			*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *60.0*			

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		*161*						*343*			*290*	
Lane Group Capacity, c		*645*						*895*			*909*	
v/c Ratio, X		*0.25*						*0.38*			*0.32*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.5*						*9.3*			*8.9*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.9*						*1.2*			*0.9*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*15.5*						*10.5*			*9.8*	
Lane Group LOS		*B*						*B*			*A*	
Approach Delay	*15.5*						*10.5*			*9.8*		
Approach LOS	*B*						*B*			*A*		
Intersection Delay	*11.3*			X_C = *0.33*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*AM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*66*	*101*	*105*	*228*	*91*	*39*	*81*	*258*	*252*	*113*	*273*	*77*
% Heavy Vehicles, %HV	*2*	*2*	*2*	*0*	*0*	*0*	*1*	*1*	*1*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.76*	*0.76*	*0.76*	*0.81*	*0.81*	*0.81*	*0.85*	*0.85*	*0.85*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*182*	*114*	*300*	*171*		*100*	*319*	*311*	*133*	*412*	
Lane Group Capacity, c		*425*	*461*	*379*	*528*		*452*	*959*	*927*	*558*	*972*	
v/c Ratio, X		*0.43*	*0.25*	*0.79*	*0.32*		*0.22*	*0.33*	*0.34*	*0.24*	*0.42*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*15.8*	*14.9*	*18.0*	*15.3*		*7.0*	*7.5*	*7.5*	*7.0*	*7.9*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.34*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*0.7*	*0.3*	*10.9*	*0.4*		*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*16.5*	*15.2*	*28.9*	*15.6*		*7.2*	*7.7*	*7.7*	*7.3*	*8.2*	
Lane Group LOS		*B*	*B*	*C*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*16.0*			*24.1*			*7.6*			*8.0*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*12.7*			X_C = *0.55*			Intersection LOS			*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Site and Rte 17M*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/25/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*AM Peak Hour*		

Project Description

East/West Street: *Site Access*	North/South Street: *NYS Route 17M*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*245*	*41*	*10*	*255*	
Peak-Hour Factor, PHF	*1.00*	*0.83*	*0.83*	*0.89*	*0.89*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*295*	*49*	*11*	*286*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*135*		*29*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*150*	*0*	*32*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*11*		*182*				
C (m) (veh/h)		*1226*		*478*				
v/c		*0.01*		*0.38*				
95% queue length		*0.03*		*1.76*				
Control Delay (s/veh)		*8.0*		*17.1*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*17.1*					
Approach LOS	--	--	*C*					

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*293*	*197*	*129*	*554*					*353*	*1*	*94*
% Heavy Vehicles, %HV		*7*	*7*	*4*	*4*					*4*	*4*	*4*
Peak-Hour Factor, PHF		*0.83*	*0.83*	*0.90*	*0.90*					*0.79*	*0.79*	*0.79*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *100.0*			

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		*353*	*237*	*143*	*616*					*447*	*120*	
Lane Group Capacity, c		*710*	*624*	*479*	*914*					*654*	*606*	
v/c Ratio, X		*0.50*	*0.38*	*0.30*	*0.67*					*0.68*	*0.20*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*22.5*	*21.2*	*20.7*	*18.9*					*24.8*	*19.5*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.25*					*0.25*	*0.11*	
Incremental Delay, d_2		*0.6*	*0.4*	*0.4*	*2.0*					*2.9*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*23.0*	*21.6*	*19.6*	*8.3*					*27.7*	*19.7*	
Lane Group LOS		*C*	*C*	*B*	*A*					*C*	*B*	
Approach Delay	*22.5*			*10.4*						*26.0*		
Approach LOS	*C*			*B*						*C*		
Intersection Delay	*18.7*			X_C = *0.68*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Build Conndtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*220*	*406*			*353*	*367*	*343*	*1*	*227*			
% Heavy Vehicles, %HV	*4*	*4*			*2*	*2*	*5*	*5*	*5*			
Peak-Hour Factor, PHF	*0.88*	*0.88*			*0.96*	*0.96*	*0.83*	*0.83*	*0.83*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* — Cycle Length, C = *100.0*

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	*250*	*461*			*368*	*382*		*414*	*273*			
Lane Group Capacity, c	*592*	*1096*			*874*	*794*		*504*	*465*			
v/c Ratio, X	*0.42*	*0.42*			*0.42*	*0.48*		*0.82*	*0.59*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*15.3*	*10.7*			*15.8*	*16.5*		*32.5*	*29.7*			
Progression Factor, PF	*0.935*	*0.125*			*1.000*	*1.000*		*1.000*	*1.000*			
Delay Calibration, k	*0.11*	*0.11*			*0.11*	*0.11*		*0.36*	*0.18*			
Incremental Delay, d_2	*0.5*	*0.3*			*0.3*	*0.5*		*10.5*	*1.9*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*14.8*	*1.6*			*16.2*	*16.9*		*43.0*	*31.7*			
Lane Group LOS	*B*	*A*			*B*	*B*		*D*	*C*			
Approach Delay	*6.2*			*16.5*			*38.5*					
Approach LOS	*A*			*B*			*D*					
Intersection Delay	*20.2*			X_C = *0.61*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*272*	*225*	*189*	*50*	*207*	*102*	*312*	*397*	*13*	*99*	*440*	*317*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*5*	*5*	*5*	*6*	*6*	*6*	*3*	*3*	*3*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*	*0.94*	*0.94*	*0.94*	*0.91*	*0.91*	*0.91*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*105*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	Thru & RT	NB Only	SB Only	08
Timing	G = *27.0*	G = *12.0*	G =	G =	G = *16.0*	G = *14.0*	G = *11.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*286*	*237*	*199*	*54*	*336*		*332*	*436*		*109*	*717*	
Lane Group Capacity, c	*437*	*813*	*691*	*251*	*471*		*443*	*580*		*175*	*880*	
v/c Ratio, X	*0.65*	*0.29*	*0.29*	*0.22*	*0.71*		*0.75*	*0.75*		*0.62*	*0.81*	
Total Green Ratio, g/C	*0.43*	*0.43*	*0.43*	*0.27*	*0.27*		*0.14*	*0.34*		*0.11*	*0.27*	
Uniform Delay, d_1	*32.5*	*18.6*	*18.5*	*28.3*	*33.0*		*41.3*	*29.3*		*42.5*	*34.2*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.23*	*0.11*	*0.11*	*0.11*	*0.28*		*0.30*	*0.31*		*0.21*	*0.36*	
Incremental Delay, d_2	*3.5*	*0.2*	*0.2*	*0.4*	*5.1*		*7.0*	*5.5*		*6.7*	*6.0*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*36.0*	*18.8*	*18.8*	*28.7*	*38.1*		*48.3*	*34.7*		*49.2*	*40.1*	
Lane Group LOS	*D*	*B*	*B*	*C*	*D*		*D*	*C*		*D*	*D*	
Approach Delay	*25.6*			*36.8*			*40.6*			*41.3*		
Approach LOS	*C*			*D*			*D*			*D*		
Intersection Delay	*36.3*			X_C = *0.76*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*PM Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*16*	*307*			*210*	*16*
Peak-Hour Factor, PHF	*0.93*	*0.93*	*1.00*	*1.00*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*17*	*330*	*0*	*0*	*233*	*17*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*38*		*16*			
Peak-Hour Factor, PHF	*0.64*	*1.00*	*0.64*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*59*	*0*	*25*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*17*						*84*	
C (m) (veh/h)	*1321*						*517*	
v/c	*0.01*						*0.16*	
95% queue length	*0.04*						*0.58*	
Control Delay (s/veh)	*7.8*						*13.3*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*13.3*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Ward and Rt 17M*
Agency/Co.	*TMA*	Jurisdiction	*Goshen*
Date Performed	*2/17/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*PM Peak Hour*		

Project Description

East/West Street: *Ward Road*	North/South Street: *NYS Route 17M*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*454*	*15*	*57*	*333*	
Peak-Hour Factor, PHF	*1.00*	*0.93*	*0.93*	*0.84*	*0.84*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*488*	*16*	*67*	*396*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*50*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.81*	*1.00*	*0.81*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*61*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*67*		*67*				
C (m) (veh/h)		*1071*		*516*				
v/c		*0.06*		*0.13*				
95% queue length		*0.20*		*0.44*				
Control Delay (s/veh)		*8.6*		*13.0*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.0*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*20*	*615*			*630*	*134*
Peak-Hour Factor, PHF	*0.84*	*0.84*	*1.00*	*1.00*	*0.95*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*23*	*732*	*0*	*0*	*663*	*141*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*115*		*16*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.60*	*1.00*	*0.60*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*191*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*3*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*23*						*217*	
C (m) (veh/h)	*816*						*337*	
v/c	*0.03*						*0.64*	
95% queue length	*0.09*						*4.23*	
Control Delay (s/veh)	*9.5*						*33.1*	
LOS	*A*						*D*	
Approach Delay (s/veh)	--	--				*33.1*		
Approach LOS	--	--				*D*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*PM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*51*		*77*				*77*	*425*			*342*	*61*
% Heavy Vehicles, %HV	*0*		*0*				*1*	*1*			*0*	*0*
Peak-Hour Factor, PHF	*0.91*		*0.91*				*0.88*	*0.88*			*0.79*	*0.79*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *60.0*

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		*141*						*571*			*510*	
Lane Group Capacity, c		*647*						*755*			*931*	
v/c Ratio, X		*0.22*						*0.76*			*0.55*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.4*						*12.1*			*10.3*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.8*						*7.0*			*2.3*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*15.2*						*19.0*			*12.6*	
Lane Group LOS		*B*						*B*			*B*	
Approach Delay	*15.2*						*19.0*			*12.6*		
Approach LOS	*B*						*B*			*B*		
Intersection Delay	*15.9*			X_C = *0.54*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*PM Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*129*	*76*	*132*	*247*	*108*	*50*	*119*	*351*	*249*	*87*	*289*	*67*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.88*	*0.88*	*0.88*	*0.94*	*0.94*	*0.94*	*0.98*	*0.98*	*0.98*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *55.0*		

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		*253*	*163*	*281*	*180*		*127*	*373*	*265*	*89*	*363*	
Lane Group Capacity, c		*366*	*456*	*321*	*521*		*499*	*969*	*937*	*524*	*1006*	
v/c Ratio, X		*0.69*	*0.36*	*0.88*	*0.35*		*0.25*	*0.38*	*0.28*	*0.17*	*0.36*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*17.3*	*15.4*	*18.6*	*15.4*		*7.1*	*7.7*	*7.2*	*6.7*	*7.6*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.26*	*0.11*	*0.40*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*5.5*	*0.5*	*22.6*	*0.4*		*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*22.8*	*15.9*	*41.2*	*15.8*		*7.4*	*8.0*	*7.4*	*6.9*	*7.8*	
Lane Group LOS		*C*	*B*	*D*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*20.1*			*31.3*			*7.7*			*7.6*		
Approach LOS	*C*			*C*			*A*			*A*		
Intersection Delay	*15.3*			X_C = *0.56*			Intersection LOS			*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Site and Rte 17M*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/25/2009*	Analysis Year	*Build Condition*
Analysis Time Period			

Project Description

East/West Street: *Site Access*	North/South Street: *NYS Route 17M*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*488*	*125*	*30*	*330*	
Peak-Hour Factor, PHF	*1.00*	*0.94*	*0.94*	*0.86*	*0.86*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*519*	*132*	*34*	*383*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*72*		*18*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*80*	*0*	*20*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*34*		*100*				
C (m) (veh/h)		*945*		*279*				
v/c		*0.04*		*0.36*				
95% queue length		*0.11*		*1.57*				
Control Delay (s/veh)		*9.0*		*24.9*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*24.9*					
Approach LOS	--	--	*C*					

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Route 94/Rt 17 SB ramp*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*					*1*	*1*	*0*
Lane Group		*T*	*R*	*L*	*T*					*L*	*TR*	
Volume, V (vph)		*235*	*157*	*168*	*345*					*303*	*1*	*106*
% Heavy Vehicles, %HV		*2*	*2*	*1*	*1*					*2*	*2*	*2*
Peak-Hour Factor, PHF		*0.86*	*0.86*	*0.91*	*0.91*					*0.89*	*0.89*	*0.89*
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*	*5*	*5*					*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*	*0*	*0*
Lane Width		*12.0*	*13.0*	*12.0*	*12.0*					*11.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	WB Only	03	04	SB Only	06	07	08
Timing	G = *40.0*	G = *5.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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		*273*	*183*	*185*	*379*					*340*	*120*	
Lane Group Capacity, c		*745*	*654*	*560*	*941*					*667*	*618*	
v/c Ratio, X		*0.37*	*0.28*	*0.33*	*0.40*					*0.51*	*0.19*	
Total Green Ratio, g/C		*0.40*	*0.40*	*0.50*	*0.50*					*0.40*	*0.40*	
Uniform Delay, d_1		*21.1*	*20.3*	*18.6*	*15.7*					*22.6*	*19.5*	
Progression Factor, PF		*1.000*	*1.000*	*0.926*	*0.333*					*1.000*	*1.000*	
Delay Calibration, k		*0.11*	*0.11*	*0.11*	*0.11*					*0.12*	*0.11*	
Incremental Delay, d_2		*0.3*	*0.2*	*0.3*	*0.3*					*0.7*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*					*0.0*	*0.0*	
Control Delay		*21.4*	*20.5*	*17.6*	*5.5*					*23.3*	*19.7*	
Lane Group LOS		*C*	*C*	*B*	*A*					*C*	*B*	
Approach Delay	*21.0*			*9.5*						*22.3*		
Approach LOS	*C*			*A*						*C*		
Intersection Delay	*17.0*			X_C = *0.45*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Rt 94/Rt 17 NB ramps*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Build Condtion*
		Project ID	

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*			*1*	*1*	*0*	*1*	*1*			
Lane Group	*L*	*T*			*T*	*R*		*LT*	*R*			
Volume, V (vph)	*84*	*449*			*338*	*363*	*182*	*0*	*182*			
% Heavy Vehicles, %HV	*1*	*1*			*1*	*1*	*2*	*2*	*2*			
Peak-Hour Factor, PHF	*0.97*	*0.97*			*0.85*	*0.85*	*0.94*	*0.94*	*0.94*			
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	*5*	*5*			*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*	*0*	*0*	
Lane Width	*12.0*	*12.0*			*11.0*	*13.0*		*12.0*	*13.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*6*	*N*	*N*	*5*	*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*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NB Only	06	07	08
Timing	G = *50.0*	G = *5.0*	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* — Cycle Length, C = *100.0*

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	*87*	*463*			*398*	*427*		*194*	*194*			
Lane Group Capacity, c	*584*	*1129*			*882*	*802*		*519*	*479*			
v/c Ratio, X	*0.15*	*0.41*			*0.45*	*0.53*		*0.37*	*0.41*			
Total Green Ratio, g/C	*0.60*	*0.60*			*0.50*	*0.50*		*0.30*	*0.30*			
Uniform Delay, d_1	*13.3*	*10.6*			*16.1*	*17.0*		*27.6*	*27.9*			
Progression Factor, PF	*0.935*	*0.125*			*1.000*	*1.000*		*1.000*	*1.000*			
Delay Calibration, k	*0.11*	*0.11*			*0.11*	*0.14*		*0.11*	*0.11*			
Incremental Delay, d_2	*0.1*	*0.2*			*0.4*	*0.7*		*0.5*	*0.6*			
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*	*0.0*		*0.0*	*0.0*			
Control Delay	*12.5*	*1.6*			*16.5*	*17.7*		*28.0*	*28.5*			
Lane Group LOS	*B*	*A*			*B*	*B*		*C*	*C*			
Approach Delay	*3.3*			*17.1*			*28.2*					
Approach LOS	*A*			*B*			*C*					
Intersection Delay	*15.3*			X_C = *0.43*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*NYS Rt. 94/ NYS Rt. 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/20/09*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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*	*1*	*1*	*1*	*0*	*2*	*1*	*0*	*1*	*2*	*0*
Lane Group	*L*	*T*	*R*	*L*	*TR*		*L*	*TR*		*L*	*TR*	
Volume, V (vph)	*309*	*182*	*291*	*65*	*193*	*130*	*335*	*370*	*28*	*135*	*299*	*240*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.87*	*0.87*	*0.87*	*0.86*	*0.86*	*0.86*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*		*2.0*	*2.0*	
Extension of Effective Green, e	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	
Arrival Type, AT	*3*	*3*	*3*	*3*	*3*		*3*	*3*		*3*	*3*	
Unit Extension, UE	*3.0*	*3.0*	*3.0*	*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*	*1.000*		*1.000*	*1.000*	
Initial Unmet Demand, Q_b	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*80*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*10.0*	*10.0*		*10.0*	*12.0*	
Parking / Grade / Parking	*N*	*-5*	*N*	*N*	*-3*	*N*	*N*	*-5*	*N*	*N*	*5*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	EB Only	03	04	NS Perm	NB Only	SB Only	08
Timing	G = *25.0*	G = *19.0*	G =	G =	G = *12.0*	G = *14.0*	G = *10.0*	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y = *4*	Y = *4*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *100.0*		

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	*355*	*209*	*334*	*76*	*375*		*356*	*424*		*144*	*488*	
Lane Group Capacity, c	*507*	*908*	*771*	*260*	*440*		*465*	*534*		*233*	*721*	
v/c Ratio, X	*0.70*	*0.23*	*0.43*	*0.29*	*0.85*		*0.77*	*0.79*		*0.62*	*0.68*	
Total Green Ratio, g/C	*0.48*	*0.48*	*0.48*	*0.25*	*0.25*		*0.14*	*0.30*		*0.22*	*0.22*	
Uniform Delay, d_1	*31.6*	*15.2*	*17.1*	*30.3*	*35.7*		*41.4*	*32.2*		*40.5*	*35.7*	
Progression Factor, PF	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	
Delay Calibration, k	*0.27*	*0.11*	*0.11*	*0.11*	*0.38*		*0.32*	*0.34*		*0.20*	*0.25*	
Incremental Delay, d_2	*4.3*	*0.1*	*0.4*	*0.6*	*14.8*		*7.5*	*8.1*		*4.9*	*2.5*	
Initial Queue Delay, d_3	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	
Control Delay	*35.8*	*15.3*	*17.5*	*31.0*	*50.6*		*48.9*	*40.3*		*45.4*	*38.3*	
Lane Group LOS	*D*	*B*	*B*	*C*	*D*		*D*	*D*		*D*	*D*	
Approach Delay	*24.2*			*47.3*			*44.2*			*39.9*		
Approach LOS	*C*			*D*			*D*			*D*		
Intersection Delay	*37.2*			X_C = *0.74*			Intersection LOS			*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JAG*	Intersection	*Hambleonian and High*
Agency/Co.	*TMA*	Jurisdiction	*Chester*
Date Performed	*2/17/2009*	Analysis Year	*Build Condition*
Analysis Time Period	*Saturday Peak Hour*		

Project Description

East/West Street: *Hambletonian Avenue*	North/South Street: *High Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*19*	*283*			*307*	*30*
Peak-Hour Factor, PHF	*0.91*	*0.91*	*1.00*	*1.00*	*0.88*	*0.88*
Hourly Flow Rate, HFR (veh/h)	*20*	*310*	*0*	*0*	*348*	*34*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*42*		*24*			
Peak-Hour Factor, PHF	*0.70*	*1.00*	*0.70*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*60*	*0*	*34*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*4*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*20*						*94*	
C (m) (veh/h)	*1182*						*458*	
v/c	*0.02*						*0.21*	
95% queue length	*0.05*						*0.76*	
Control Delay (s/veh)	*8.1*						*14.9*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.9*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Ward and Rt 17M*
Jurisdiction	*Goshen*
Analysis Year	*Build Condition*

Project Description

East/West Street: *Ward Road* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*374*	*7*	*30*	*296*	
Peak-Hour Factor, PHF	*1.00*	*0.91*	*0.91*	*0.86*	*0.86*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*410*	*7*	*34*	*344*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*2*		*14*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.63*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*3*	*0*	*22*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*34*		*25*				
C (m) (veh/h)		*1153*		*579*				
v/c		*0.03*		*0.04*				
95% queue length		*0.09*		*0.14*				
Control Delay (s/veh)		*8.2*		*11.5*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*11.5*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/17/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Rt 17M and Main*
Jurisdiction	*Chester*
Analysis Year	*Build Condition*

Project Description

East/West Street: *NYS Route 17M* | North/South Street: *Main Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*17*	*450*			*613*	*99*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*1.00*	*1.00*	*0.98*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*17*	*473*	*0*	*0*	*625*	*101*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*65*		*36*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.98*	*1.00*	*0.98*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*66*	*0*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*2*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*17*						*102*	
C (m) (veh/h)	*872*						*423*	
v/c	*0.02*						*0.24*	
95% queue length	*0.06*						*0.93*	
Control Delay (s/veh)	*9.2*						*16.2*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*16.2*	
Approach LOS	--	--					*C*	

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*Arcadia and Rt 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/17/2009*	Jurisdiction	*Goshen*
Time Period	*Saturday Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*		*0*				*0*	*1*			*1*	*0*
Lane Group		*LR*						*LT*			*TR*	
Volume, V (vph)	*45*		*50*				*57*	*302*			*241*	*54*
% Heavy Vehicles, %HV	*0*		*0*				*0*	*0*			*0*	*0*
Peak-Hour Factor, PHF	*0.94*		*0.94*				*0.96*	*0.96*			*0.80*	*0.80*
Pretimed (P) or Actuated (A)	*P*		*P*				*P*	*P*			*P*	*P*
Start-up Lost Time, l_1		*2.0*						*2.0*			*2.0*	
Extension of Effective Green, e		*2.0*						*2.0*			*2.0*	
Arrival Type, AT		*3*						*3*			*3*	
Unit Extension, UE		*3.0*						*3.0*			*3.0*	
Filtering/Metering, I		*1.000*						*1.000*			*1.000*	
Initial Unmet Demand, Q_b		*0.0*						*0.0*			*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*
Lane Width		*16.0*						*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*						*0*			*0*	
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = *20.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *60.0*		

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		*101*						*374*			*368*	
Lane Group Capacity, c		*651*						*853*			*927*	
v/c Ratio, X		*0.16*						*0.44*			*0.40*	
Total Green Ratio, g/C		*0.33*						*0.50*			*0.50*	
Uniform Delay, d_1		*14.1*						*9.6*			*9.4*	
Progression Factor, PF		*1.000*						*1.000*			*1.000*	
Delay Calibration, k		*0.50*						*0.50*			*0.50*	
Incremental Delay, d_2		*0.5*						*1.6*			*1.3*	
Initial Queue Delay, d_3		*0.0*						*0.0*			*0.0*	
Control Delay		*14.6*						*11.2*			*10.6*	
Lane Group LOS		*B*						*B*			*B*	
Approach Delay	*14.6*						*11.2*			*10.6*		
Approach LOS	*B*						*B*			*B*		
Intersection Delay	*11.4*			X_C = *0.33*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JAG*	Intersection	*West Ave./ Route 17M*
Agency or Co.	*TMA*	Area Type	*All other areas*
Date Performed	*2/9/2009*	Jurisdiction	*Village of Chester*
Time Period	*Saturday Peak Hour*	Analysis Year	*Build Condition*
		Project ID	

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	*0*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*0*
Lane Group		*LT*	*R*	*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*77*	*126*	*103*	*273*	*119*	*36*	*81*	*333*	*380*	*106*	*236*	*81*
% Heavy Vehicles, %HV	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*
Peak-Hour Factor, PHF	*0.81*	*0.81*	*0.81*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.92*	*0.92*	*0.92*
Pretimed (P) or Actuated (A)	*A*	*A*	*A*	*A*	*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*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green, e		*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type, AT		*3*	*3*	*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit Extension, UE		*3.0*	*3.0*	*3.0*	*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*	*1.000*	*1.000*	*1.000*	
Initial Unmet Demand, Q_b		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR Volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*11.0*	*12.0*	*14.0*	*12.0*		*11.0*	*11.0*	*15.0*	*13.0*	*13.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*	*0*	*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. Time for Pedestrians, G_p	*12.4*			*16.2*			*15.4*			*14.9*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *16.0*	G =	G =	G =	G = *29.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *55.0*			

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		*251*	*127*	*287*	*163*		*85*	*351*	*400*	*115*	*345*	
Lane Group Capacity, c		*419*	*456*	*323*	*528*		*505*	*950*	*919*	*534*	*976*	
v/c Ratio, X		*0.60*	*0.28*	*0.89*	*0.31*		*0.17*	*0.37*	*0.44*	*0.22*	*0.35*	
Total Green Ratio, g/C		*0.29*	*0.29*	*0.29*	*0.29*		*0.53*	*0.53*	*0.53*	*0.53*	*0.53*	
Uniform Delay, d_1		*16.7*	*15.0*	*18.6*	*15.2*		*6.7*	*7.6*	*8.0*	*6.9*	*7.6*	
Progression Factor, PF		*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay Calibration, k		*0.19*	*0.11*	*0.41*	*0.11*		*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay, d_2		*2.4*	*0.3*	*24.6*	*0.3*		*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	
Initial Queue Delay, d_3		*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Control Delay		*19.1*	*15.4*	*43.3*	*15.5*		*6.9*	*7.9*	*8.3*	*7.1*	*7.8*	
Lane Group LOS		*B*	*B*	*D*	*B*		*A*	*A*	*A*	*A*	*A*	
Approach Delay	*17.9*			*33.2*			*8.0*			*7.6*		
Approach LOS	*B*			*C*			*A*			*A*		
Intersection Delay	*15.0*			X_C = *0.60*			Intersection LOS			*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JAG*
Agency/Co.	*TMA*
Date Performed	*2/25/2009*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*Site and Rte 17M*
Jurisdiction	*Chester*
Analysis Year	*Build Condition*

Project Description

East/West Street: *Site Access* | North/South Street: *NYS Route 17M*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*405*	*99*	*18*	*305*	
Peak-Hour Factor, PHF	*1.00*	*0.92*	*0.92*	*0.92*	*0.92*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*440*	*107*	*19*	*331*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*83*		*19*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*92*	*0*	*21*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*19*		*113*				
C (m) (veh/h)		*1033*		*351*				
v/c		*0.02*		*0.32*				
95% queue length		*0.06*		*1.36*				
Control Delay (s/veh)		*8.6*		*20.1*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*20.1*					
Approach LOS	--	--	*C*					