

TWO-WAY STOP CONTROL SUMMARY						
General Information				Site Information		
Analyst		Intersection	03_CPA NB & SOUTH DRIVE			
Agency/Co.		Jurisdiction				
Date Performed	4/12/2005	Analysis Year	2009 NO BUILD			
Analysis Time Period	HOLIDAY PEAK SATURDAY HOUR					
Project Description JMC JOB 2157 CROSS COUNTY SHOPPING CENTER						
East/West Street: SOUTH DRIVE			North/South Street: CENTRAL PARK AVENUE NB			
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		1016	1304			
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1128	1448	0	0	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	1	0	0	0
Configuration		T	R			
Upstream Signal		0			0	
Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume						1047
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	0	0	1163
Percent Heavy Vehicles	0	0	0	0	0	2
Percent Grade (%)	0			4		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (vph)					1163			
C (m) (vph)					525			
v/c					2.22			
95% queue length					84.89			
Control Delay					570.9			
LOS					F			
Approach Delay	--	--	570.9					
Approach LOS	--	--	F					

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information		
Analyst	EPB			Intersection	10_VREDENBURGH & EAST DRIVE	
Agency/Co.	JMC			Jurisdiction		
Date Performed	4/15/2005			Analysis Year	2009 NO BUILD	
Analysis Time Period	HOLIDAY PEAK SATURDAY HOUR					
Project Description JMC JOB 2157 CROSS COUNTY SHOPPING CENTER						
East/West Street: VREDENBURGH AVE				North/South Street: EAST DRIVE		
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	213	498			705	41
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	236	553	0	0	783	45
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT	T			T	TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				28		485
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	31	0	538
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	<i>LT</i>						<i>LR</i>	
v (vph)	<i>236</i>						<i>569</i>	
C (m) (vph)	<i>799</i>						<i>424</i>	
v/c	<i>0.30</i>						<i>1.34</i>	
95% queue length	<i>1.24</i>						<i>26.25</i>	
Control Delay	<i>11.4</i>						<i>195.5</i>	
LOS	<i>B</i>						<i>F</i>	
Approach Delay	--	--				<i>195.5</i>		
Approach LOS	--	--				<i>F</i>		

SHORT REPORT												
General Information						Site Information						
Analyst	EPB					Intersection	11_VREDENBURGH &					
Agency or Co.	JMC						XAVIER					
Date Performed	4/12/2005					Area Type	All other areas					
Time Period	HOLIDAY PEAK SATURDAY					Jurisdiction						
	HOUR					Analysis Year	2009 NO BUILD					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	2	0	0	2	0	0	0	0	0	0	0
Lane Group	L	T			TR						LR	
Volume (vph)	263	263			348	314				245		398
% Heavy veh	2	2	0	0	2	2	0	0	0	2	0	2
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (P/A)	A	A			A	A				A		A
Startup lost time	2.0	2.0			2.0			2.0			2.0	
Ext. eff. green	2.0	2.0			2.0			2.0			2.0	
Arrival type	3	3			3			3			3	
Unit Extension	3.0	3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0	3	0	0	0	0	0	0	0	0	0
Lane Width	10.0	11.0			12.0			11.0			11.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	1	N	N	0	N
Parking/hr												
Bus stops/hr	0	0			0			0			0	
Unit Extension	3.0	3.0			3.0			3.0			3.0	
Phasing	EW Perm	EB Only	03	04	SB Only	06	07	08				
Timing	G = 20.0	G = 16.0	G =	G =	G = 27.0	G =	G =	G =				
	Y = 4	Y = 4	Y =	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25							Cycle Length C = 75.0					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adj. flow rate	292	292			736			0			714	
		1921										

Lane group cap.	537			923					583	
v/c ratio	0.54	0.15		0.80					1.22	
Green ratio	0.53	0.53		0.27			0.00		0.36	
Unif. delay d_1	20.0	8.9		25.6					24.0	
Delay factor k	0.14	0.11		0.34					0.50	
Increm. delay d_2	1.1	0.0		5.0					115.8	
PF factor	1.000	1.000		1.000					1.000	
Control delay	21.1	8.9		30.6					139.8	
Lane group LOS	C	A		C					F	
Apprch. delay	15.0			30.6			139.8			
Approach LOS	B			C			F			
Intersec. delay	64.5			Intersection LOS			E			

SHORT REPORT												
General Information						Site Information						
Analyst	EPB					Intersection	13_KIMBALL & SITE					
Agency or Co.	JMC						DRIVEWAY					
Date Performed	4/12/2005					Area Type	All other areas					
Time Period	HOLIDAY PEAK SATURDAY					Jurisdiction						
	HOUR					Analysis Year	2009 NO BUILD					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	0	0	0	1	0	0	1	0
Lane Group		LR						LT			TR	
Volume (vph)	141		154				113	491			537	160
% Heavy veh	2	0	2	0	0	0	2	2	0	0	2	2
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (P/A)	A		A				A	A			A	A
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width		16.0			12.0			16.0			16.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	1	N	N	0	N
Parking/hr												
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	
Phasing	EB Only	02	03	04	NS Perm	06	07	08				
Timing	G = 16.0	G =	G =	G =	G = 61.0	G =	G =	G =				
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25							Cycle Length C = 85.0					
Lane Group Capacity, Control Delay, and LOS Determination												
Adj. flow rate	EB			WB			NB			SB		
		328			0			672			775	
							1129			1468		

Lane group cap.		361									
v/c ratio		0.91					0.60			0.53	
Green ratio		0.19			0.00		0.72			0.72	
Unif. delay d_1		33.8					5.9			5.5	
Delay factor k		0.43					0.18			0.13	
Increm. delay d_2		26.0					0.9			0.4	
PF factor		1.000					1.000			1.000	
Control delay		59.8					6.8			5.8	
Lane group LOS		E					A			A	
Apprch. delay		59.8					6.8			5.8	
Approach LOS		E					A			A	
Intersec. delay		16.2					Intersection LOS			B	

SHORT REPORT												
General Information						Site Information						
Analyst	EPB					Intersection	14_KIMBALL & NORTH					
Agency or Co.	JMC						DRIVE					
Date Performed	4/15/2005					Area Type	All other areas					
Time Period	HOLIDAY PEAK SATURDAY					Jurisdiction						
	HOUR					Analysis Year	2009 NO BUILD					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	0	1	0	0	0	0	2	0	0	2	0
Lane Group	L		R					LT			TR	
Volume (vph)	596		66				16	616			631	1490
% Heavy veh	2	0	2	0	0	0	2	2	0	0	2	2
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (P/A)	A		A				A	A			A	A
Startup lost time	2.0	2.0	2.0		2.0			2.0			2.0	
Ext. eff. green	2.0	2.0	2.0		2.0			2.0			2.0	
Arrival type	3	3	3		3			3			3	
Unit Extension	3.0	3.0	3.0		3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	16.0	12.0		12.0			16.0			16.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	1	N	N	0	N
Parking/hr												
Bus stops/hr	0	0	0		0			0			0	
Unit Extension	3.0	3.0	3.0		3.0			3.0			3.0	
Phasing	EB Only	02	03	04	NS Perm	06	07	08				
Timing	G = 41.0	G =	G =	G =	G = 51.0	G =	G =	G =				
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis (hrs) = 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
Adj. flow rate	662	0	73		0			702			2357	

Lane group cap.	726		649				1560			1834	
v/c ratio	0.91		0.11				0.45			1.29	
Green ratio	0.41	0.00	0.41		0.00		0.51			0.51	
Unif. delay d_1	27.8		18.2				15.6			24.5	
Delay factor k	0.43		0.11				0.11			0.50	
Increm. delay d_2	15.8		0.1				0.2			132.6	
PF factor	1.000		1.000				1.000			1.000	
Control delay	43.6		18.3				15.8			157.1	
Lane group LOS	D		B				B			F	
Apprch. delay	41.1						15.8	157.1			
Approach LOS	D						B	F			
Intersec. delay	108.5			Intersection LOS						F	