

TWO-WAY STOP CONTROL SUMMARY						
<b>General Information</b>				<b>Site Information</b>		
Analyst	EPB			Intersection	03_CPA NB & SOUTH DRIVE	
Agency/Co.	JMC			Jurisdiction		
Date Performed	4/12/2005			Analysis Year	2004 EXISTING	
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		
<b>Vehicle Volumes and Adjustments</b>						
<b>Major Street</b>	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		616	1188			
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	684	1320	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	
<b>Minor Street</b>	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume						906
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	1006
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)					1006			
C (m) (vph)					700			
v/c					1.44			
95% queue length					46.38			
Control Delay					222.5			
LOS					F			
Approach Delay	--	--	222.5					
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	2004 EXISTING
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	184	373			534	36
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	204	414	0	0	593	40
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				24		417
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	26	0	463
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>204</i>						<i>489</i>	
C (m) (vph)	<i>946</i>						<i>558</i>	
v/c	<i>0.22</i>						<i>0.88</i>	
95% queue length	<i>0.82</i>						<i>9.90</i>	
Control Delay	<i>9.8</i>						<i>41.2</i>	
LOS	<i>A</i>						<i>E</i>	
Approach Delay	--	--				<i>41.2</i>		
Approach LOS	--	--				<i>E</i>		

SHORT REPORT												
General Information						Site Information						
Analyst	EPB					Intersection	11_VREDENBURGH & XAVIER					
Agency or Co.	JMC					Area Type	All other areas					
Date Performed	4/12/2005					Jurisdiction						
Time Period	HOLIDAY PEAK SATURDAY HOUR					Analysis Year	2004 EXISTING					
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)	239	158			213	266				208		357
% 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 =	G =	G =	G =	G =
	Y = 4	Y = 4	Y =	Y =	Y = 4	Y =	Y =	Y =	Y =	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	266	176			533			0			628	
		1921										

Lane group cap.	597			911					582	
v/c ratio	0.45	0.09		0.59					1.08	
Green ratio	0.53	0.53		0.27			0.00		0.36	
Unif. delay $d_1$	16.1	8.6		23.9					24.0	
Delay factor k	0.11	0.11		0.18					0.50	
Increm. delay $d_2$	0.5	0.0		1.0					60.4	
PF factor	1.000	1.000		1.000					1.000	
Control delay	16.6	8.6		24.9					84.4	
Lane group LOS	B	A		C					F	
Apprch. delay	13.4			24.9			84.4			
Approach LOS	B			C			F			
Intersec. delay	45.0			Intersection LOS			D			

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 HOUR					Jurisdiction						
						Analysis Year	2004 EXISTING					
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)	111		132				88	371			387	137
% 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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adj. flow rate		270			0			510			582	
								1228			1462	

Lane group cap.	360									
v/c ratio	0.75					0.42			0.40	
Green ratio	0.19		0.00			0.72			0.72	
Unif. delay $d_1$	32.6					4.8			4.7	
Delay factor k	0.31					0.11			0.11	
Increm. delay $d_2$	8.5					0.2			0.2	
PF factor	1.000					1.000			1.000	
Control delay	41.1					5.1			4.9	
Lane group LOS	D					A			A	
Apprch. delay	41.1					5.1			4.9	
Approach LOS	D					A			A	
Intersec. delay	12.1					Intersection LOS				B

SHORT REPORT													
General Information							Site Information						
Analyst	EPB						Intersection	14_KIMBALL & NORTH DRIVE					
Agency or Co.	JMC						Area Type	All other areas					
Date Performed	4/15/2005						Jurisdiction						
Time Period	HOLIDAY PEAK SATURDAY HOUR						Analysis Year	2004 EXISTING					
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)	518		58				16		466		466 1301		
% 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	576	0	64			0		536				1964	

Lane group cap.	726		649				1563			1824	
v/c ratio	0.79		0.10				0.34			1.08	
Green ratio	0.41	0.00	0.41		0.00		0.51			0.51	
Unif. delay $d_1$	25.8		18.1				14.5			24.5	
Delay factor k	0.34		0.11				0.11			0.50	
Increm. delay $d_2$	6.1		0.1				0.1			45.1	
PF factor	1.000		1.000				1.000			1.000	
Control delay	31.9		18.2				14.7			69.6	
Lane group LOS	C		B				B			E	
Apprch. delay	30.5						14.7	69.6			
Approach LOS	C						B	E			
Intersec. delay	52.3			Intersection LOS						D	