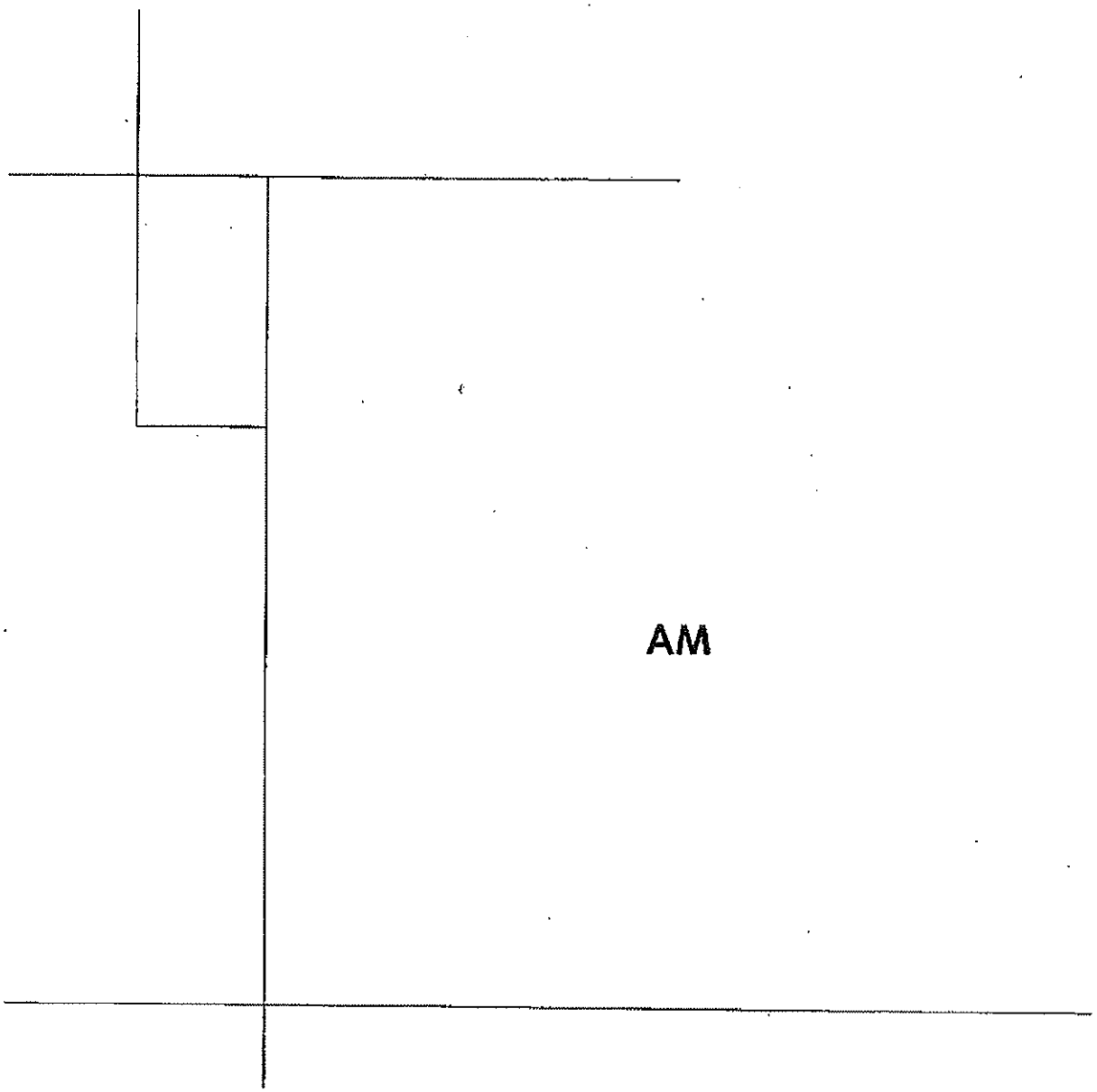
E. 2008 WITHOUT DEVELOPMENT CAPACITY ANALYSIS


AM

SHORT REPORT

General Information		Site Information	
Analyst	KRS	Intersection	1-SR 0209 / River Rd / SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	AM Peak Hour	Analysis Year	2008 Without Development

✓ EJD 6/20/08

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	113	313	19	43	417	16	10	9	46	25	24	244
% Heavy Vehicles	16	11	9	8	4	27	9	24	12	24	19	5
PHF	0.87	0.87	0.87	0.93	0.93	0.93	0.66	0.66	0.66	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	5	0	0	4	0	0	15	0	0	100
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 4.0	G = 26.0	G =	G =	G = 12.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	130	376		46	461		15	61		27	183	
Lane Group Capacity	389	756		474	783		229	320		214	302	

v/c Ratio	0.33	0.50		0.10	0.59		0.07	0.19		0.13	0.61	
Green Ratio	0.60	0.43		0.60	0.43		0.20	0.20		0.20	0.20	
Uniform Delay d_1	6.6	12.3		5.6	12.9		19.5	20.0		19.7	21.8	
Delay Factor k	0.11	0.11		0.11	0.18		0.11	0.11		0.11	0.19	
Incremental Delay d_2	0.5	0.5		0.1	1.2		0.1	0.3		0.3	3.5	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	7.1	12.8		5.7	14.1		19.6	20.3		20.0	25.3	
Lane Group LOS	A	B		A	B		B	C		B	C	
Approach Delay	11.3			13.3			20.1			24.6		
Approach LOS	B			B			C			C		
Intersection Delay	14.8			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS JETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	18	362			460	2
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	21	441	0	0	505	2
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3		10
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.65	0.65	0.65
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	15
Percent Heavy Vehicles	0	0	0	20	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	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	21						19	
C (m) (veh/h)	1028						448	
v/c	0.02						0.04	
95% queue length	0.06						0.13	
Control Delay (s/veh)	8.6						13.4	

LOS	A			B	
Approach Delay (s/veh)	--	--		13.4	
Approach LOS	--	--		B	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	JEB
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	27	344			472	4
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	29	369	0	0	536	4
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	29							
C (m) (veh/h)	1039							
v/c	0.03							
95% queue length	0.09							
Control Delay (s/veh)	8.6							

LOS	A					
Approach Delay (s/veh)	--	--				
Approach LOS	--	--				

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ET-D
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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)	6	274	8	1	386	4
Peak-Hour Factor, PHF	0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	7	351	10	1	410	4
Percent Heavy Vehicles	25	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	1	5	1	30
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	8	4	4	10	2	60
Percent Heavy Vehicles	50	0	0	29	100	17
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	7	1		16			72	
C (m) (veh/h)	1032	1209		294			501	
v/c	0.01	0.00		0.05			0.14	
95% queue length	0.02	0.00		0.17			0.50	
Control Delay (s/veh)	8.5	8.0		17.9			13.4	

LOS	A	A	C	B
Approach Delay (s/veh)	–	–	17.9	13.4
Approach LOS	–	–	C	B

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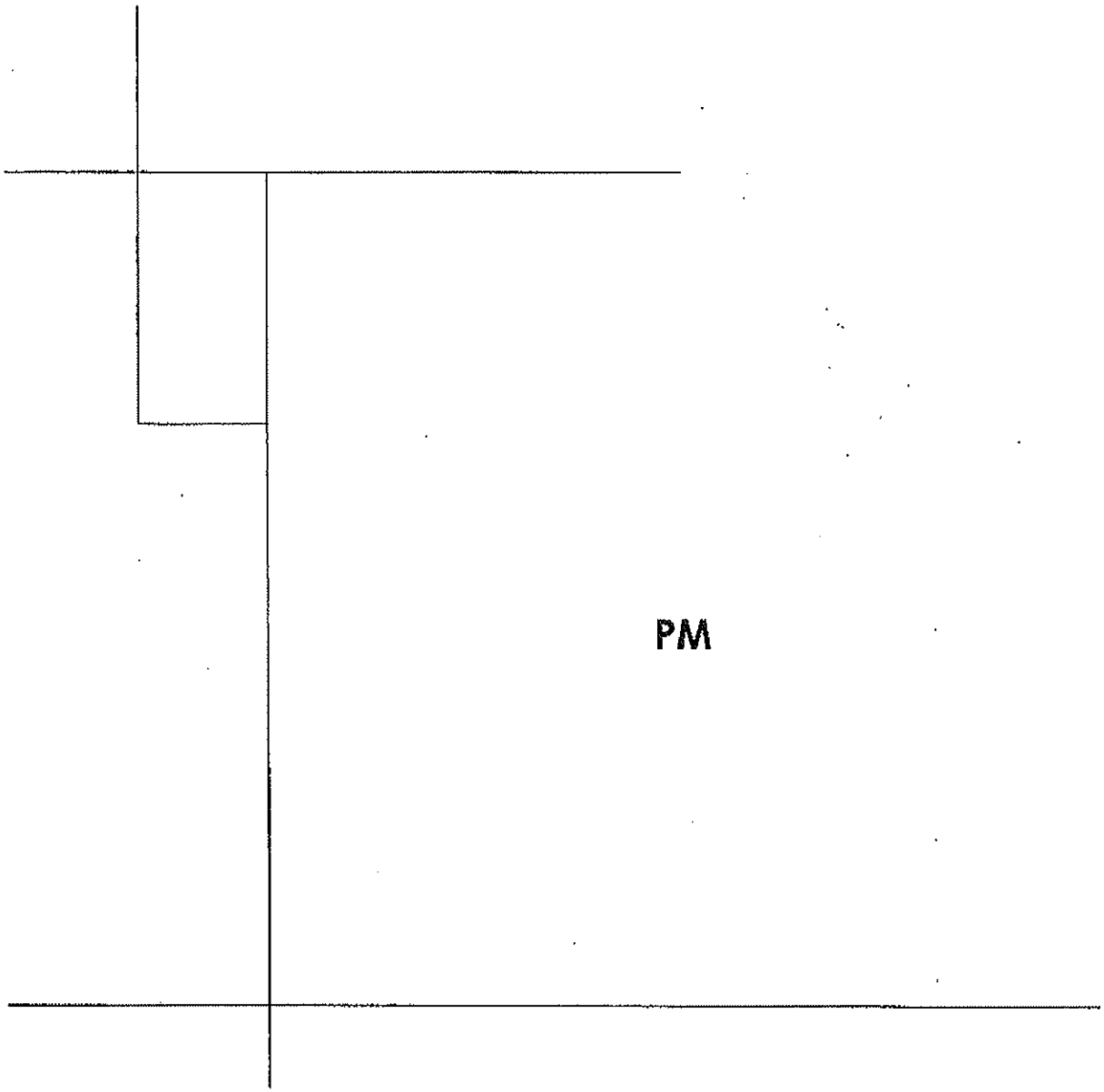
PM

SHORT REPORT

General Information		Site Information	
Analyst	KRS ✓ EJD 6/20/08	Intersection	1-SR 0209 / River Rd/ SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	PM Peak Hour	Analysis Year	2008 Without Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	309	502	38	66	436	28	36	36	76	19	11	155
% Heavy Vehicles	2	2	3	8	6	7	0	5	5	22	5	6
PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.81	0.81	0.81	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	10	0	0	8	0	0	25	0	0	58
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 40.0	G =	G =	G = 13.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 76.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	340	583		72	496		44	107		20	114	
Lane Group Capacity	510	996		406	937		228	309		179	259	

v/c Ratio	0.67	0.59		0.18	0.53		0.19	0.35		0.11	0.44	
Green Ratio	0.67	0.53		0.67	0.53		0.17	0.17		0.17	0.17	
Uniform Delay d_1	11.6	12.3		6.5	11.8		27.0	27.8		26.6	28.2	
Delay Factor k	0.24	0.18		0.11	0.13		0.11	0.11		0.11	0.11	
Incremental Delay d_2	3.3	0.9		0.2	0.6		0.4	0.7		0.3	1.2	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	14.9	13.2		6.7	12.4		27.4	28.4		26.9	29.4	
Lane Group LOS	B	B		A	B		C	C		C	C	
Approach Delay	13.8			11.7			28.1			29.1		
Approach LOS	B			B			C			C		
Intersection Delay	15.5			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	9	576			510	3
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	10	647	0	0	560	3
Percent Heavy Vehicles	5	–	–	0	–	–
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				5		18
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.48	0.48	0.48
Hourly Flow Rate, HFR (veh/h)	0	0	0	10	0	37
Percent Heavy Vehicles	0	0	0	14	0	7
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	LT						LR	
v (veh/h)	10						47	
C (m) (veh/h)	994						373	
v/c	0.01						0.13	
95% queue length	0.03						0.43	
Control Delay (s/veh)	8.7						16.0	

LOS	A									C		
Approach Delay (s/veh)	--	--								16.0		
Approach LOS	--	--								C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	37	514			495	7
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	40	558	0	0	556	7
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	40							
C (m) (veh/h)	1008							
v/c	0.04							
95% queue length	0.12							
Control Delay (s/veh)	8.7							

LOS	A							
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS VETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 In 12/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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)	7	491	17	2	460	4
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	7	516	17	2	484	4
Percent Heavy Vehicles	18	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	7	1	3	4	5	51
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	15	2	6	5	7	73
Percent Heavy Vehicles	0	0	0	0	0	10
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	7	2		23			85	
C (m) (veh/h)	997	1045		214			463	
v/c	0.01	0.00		0.11			0.18	
95% queue length	0.02	0.01		0.36			0.67	
Control Delay (s/veh)	8.6	8.5		23.8			14.5	

LOS	A	A	C	B
Approach Delay (s/veh)	--	--	23.8	14.5
Approach LOS	--	--	C	B

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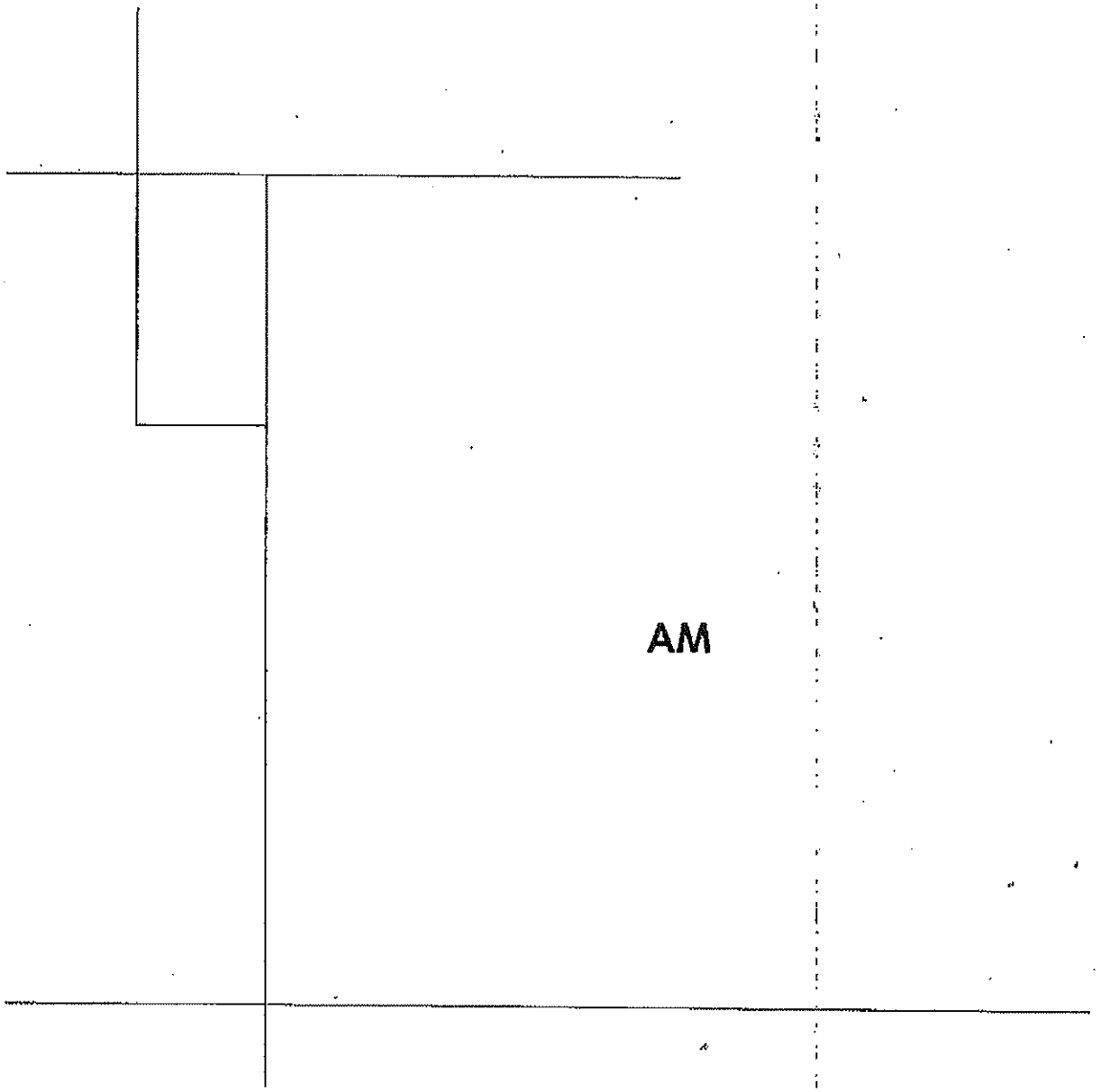
F. 2008 WITH DEVELOPMENT CAPACITY ANALYSIS


AM

SHORT REPORT

General Information		Site Information	
Analyst	KRS ✓EJD 6/20/08	Intersection	1-SR 0209 / River Rd / SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	AM Peak Hour	Analysis Year	2008 With Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	113	337	19	44	430	17	10	9	49	26	24	244
% Heavy Vehicles	16	11	9	8	4	27	9	24	12	24	19	5
PHF	0.87	0.87	0.87	0.93	0.93	0.93	0.66	0.66	0.66	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	5	0	0	4	0	0	15	0	0	100
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 4.0	G = 28.0	G =	G =	G = 15.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 65.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	130	403		47	476		15	66		28	183	
Lane Group Capacity	361	752		435	778		265	369		246	348	

v/c Ratio	0.36	0.54		0.11	0.61		0.06	0.18		0.11	0.53	
Green Ratio	0.58	0.43		0.58	0.43		0.23	0.23		0.23	0.23	
Uniform Delay d_1	7.7	13.7		6.7	14.3		19.5	20.1		19.7	21.9	
Delay Factor k	0.11	0.14		0.11	0.20		0.11	0.11		0.11	0.13	
Incremental Delay d_2	0.6	0.8		0.1	1.4		0.1	0.2		0.2	1.5	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	8.3	14.5		6.8	15.7		19.6	20.3		20.0	23.4	
Lane Group LOS	A	B		A	B		B	C		B	C	
Approach Delay	13.0			14.9			20.2			22.9		
Approach LOS	B			B			C			C		
Intersection Delay	15.7			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	18	390			475	2
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	21	475	0	0	521	2
Percent Heavy Vehicles	8	–	–	0	–	–
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3		10
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.65	0.65	0.65
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	15
Percent Heavy Vehicles	0	0	0	20	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	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	21						19	
C (m) (veh/h)	1014						430	
v/c	0.02						0.04	
95% queue length	0.06						0.14	
Control Delay (s/veh)	8.6						13.8	
LOS	A						B	

Approach Delay (s/veh)	--	--		13.8
Approach LOS	--	--		B

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	46	353			487	9
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	49	379	0	0	553	10
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	49							
C (m) (veh/h)	1019							
v/c	0.05							
95% queue length	0.15							
Control Delay (s/veh)	8.7							
LOS	A							

Approach Delay (s/veh)	--	--		
Approach LOS	--	--		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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)	15	274	8	1	391	6
Peak-Hour Factor, PHF	0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	19	351	10	1	415	6
Percent Heavy Vehicles	25	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	1	9	1	45
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	8	4	4	18	2	90
Percent Heavy Vehicles	50	0	0	29	100	17
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	19	1		16			110	
C (m) (veh/h)	1025	1209		264			482	
v/c	0.02	0.00		0.06			0.23	
95% queue length	0.06	0.00		0.19			0.87	
Control Delay (s/veh)	8.6	8.0		19.5			14.7	
LOS	A	A		C			B	

Approach Delay (s/veh)	--	--	19.5	14.7
Approach LOS	--	--	C	B

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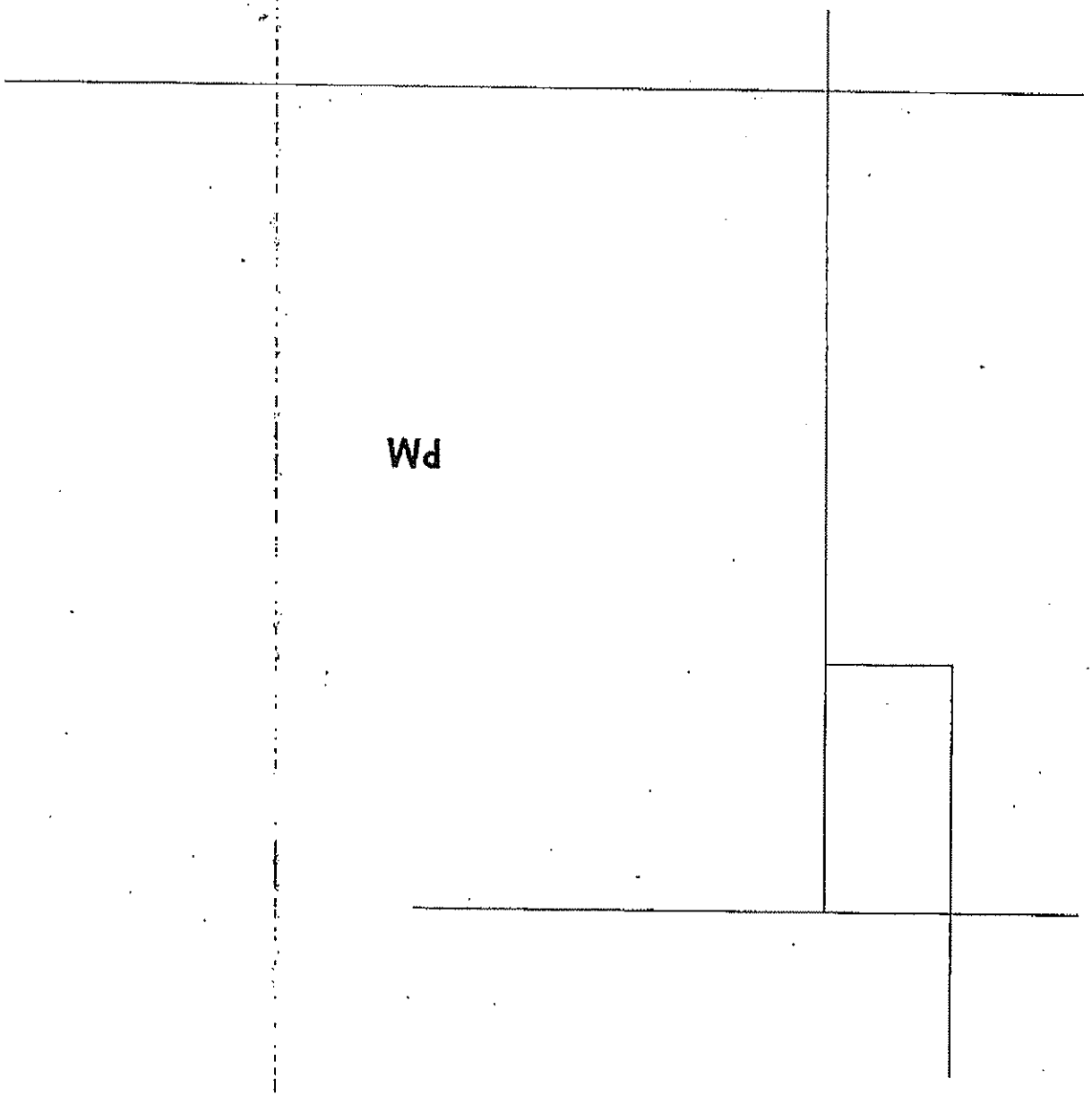
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SHORT REPORT

General Information		Site Information	
Analyst	KRS VED 6/20/08	Intersection	1-SR 0209 / River Rd/ SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	PM Peak Hour	Analysis Year	2008 With Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	309	534	38	69	465	29	36	36	80	20	11	155
% Heavy Vehicles	2	2	3	8	6	7	0	5	5	22	5	6
PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.81	0.81	0.81	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	10	0	0	8	0	0	25	0	0	58
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 6.0	G = 40.0	G =	G =	G = 11.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	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		
Adjusted Flow Rate	340	618		75	528		44	112		21	114	
		1010										

Lane Group Capacity	520			414	949		195	264		153	222	
v/c Ratio	0.65	0.61		0.18	0.56		0.23	0.42		0.14	0.51	
Green Ratio	0.69	0.53		0.69	0.53		0.15	0.15		0.15	0.15	
Uniform Delay d_1	6.6	12.1		6.2	11.6		28.2	29.1		27.9	29.5	
Delay Factor k	0.23	0.20		0.11	0.15		0.11	0.11		0.11	0.12	
Incremental Delay d_2	3.0	1.1		0.2	0.7		0.6	1.1		0.4	2.0	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	9.6	13.2		6.4	12.3		28.8	30.2		28.3	31.6	
Lane Group LOS	A	B		A	B		C	C		C	C	
Approach Delay	11.9			11.6			29.8			31.1		
Approach LOS	B			B			C			C		
Intersection Delay	14.7			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	9	613			543	3
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	10	688	0	0	596	3
Percent Heavy Vehicles	5	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				5		18
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.48	0.48	0.48
Hourly Flow Rate, HFR (veh/h)	0	0	0	10	0	37
Percent Heavy Vehicles	0	0	0	14	0	7
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	LT						LR	
v (veh/h)	10						47	
C (m) (veh/h)	963						346	
v/c	0.01						0.14	
95% queue length	0.03						0.47	
Control Delay (s/veh)	8.8						17.0	
LOS	A						C	

Approach Delay (s/veh)	--	--		17.0
Approach LOS	--	--		C

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/26/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209

North/South Street: Fernwood Main Driveway

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)	62	526			528	13
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	67	571	0	0	593	14
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	67							
C (m) (veh/h)	971							
v/c	0.07							
95% queue length	0.22							
Control Delay (s/veh)	9.0							
LOS	A							

Approach Delay (s/veh)	--	--		
Approach LOS	--	--		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS JETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2008 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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	491	17	2	466	7
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	20	516	17	2	490	7
Percent Heavy Vehicles	18	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	7	1	3	12	5	84
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	15	2	6	17	7	121
Percent Heavy Vehicles	0	0	0	0	0	10
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	20	2		23			145	
C (m) (veh/h)	989	1045		179			432	
v/c	0.02	0.00		0.13			0.34	
95% queue length	0.06	0.01		0.43			1.46	
Control Delay (s/veh)	8.7	8.5		28.1			17.5	
LOS	A	A		D			C	

Approach Delay (s/veh)	--	--	28.1	17.5
Approach LOS	--	--	D	C

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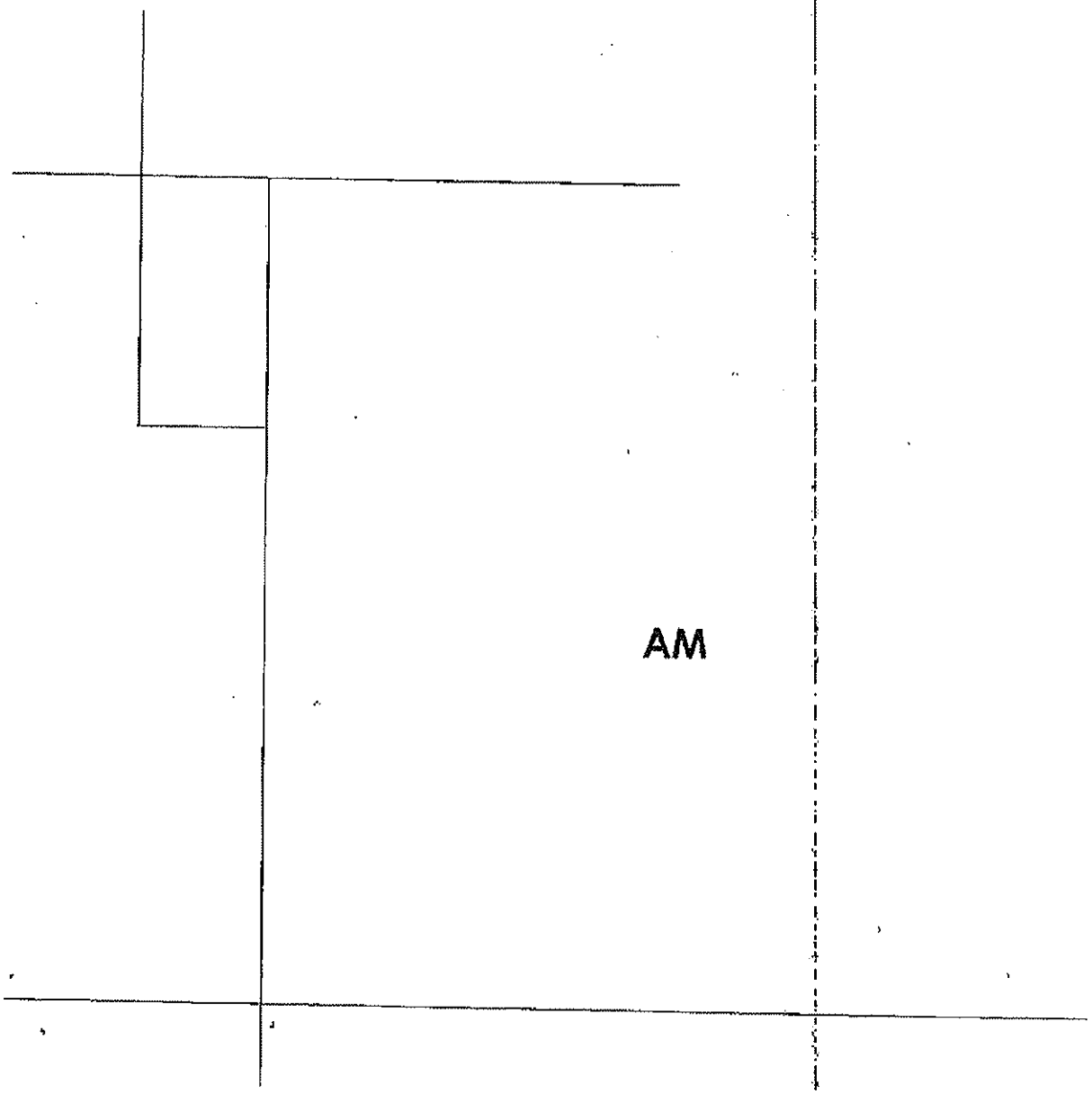
G. 2018 WITHOUT DEVELOPMENT CAPACITY ANALYSIS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SHORT REPORT

General Information		Site Information	
Analyst	KRS ✓EJD 6/20/08	Intersection	1-SR 0209 / River Rd / SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	AM Peak Hour	Analysis Year	2018 Without Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	128	352	22	48	470	18	11	10	51	29	27	275
% Heavy Vehicles	16	11	9	8	4	27	9	24	12	24	19	5
PHF	0.87	0.87	0.87	0.93	0.93	0.93	0.66	0.66	0.66	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	5	0	0	4	0	0	15	0	0	100
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 4.0	G = 29.0	G =	G =	G = 14.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 65.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	147	425		52	520		17	70		32	219	
Lane Group Capacity	346	778		435	806		221	344		229	325	

v/c Ratio	0.42	0.55		0.12	0.65		0.08	0.20		0.14	0.67	
Green Ratio	0.60	0.45		0.60	0.45		0.22	0.22		0.22	0.22	
Uniform Delay d_1	7.7	13.2		6.4	14.0		20.3	20.9		20.6	23.4	
Delay Factor k	0.11	0.15		0.11	0.22		0.11	0.11		0.11	0.25	
Incremental Delay d_2	0.8	0.8		0.1	1.8		0.1	0.3		0.3	5.4	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	8.6	14.0		6.5	15.8		20.5	21.2		20.9	28.8	
Lane Group LOS	A	B		A	B		C	C		C	C	
Approach Delay	12.6			14.9			21.1			27.8		
Approach LOS	B			B			C			C		
Intersection Delay	16.6			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /GTD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	21	408			519	2
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	25	497	0	0	570	2
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3		11
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.65	0.65	0.65
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	16
Percent Heavy Vehicles	0	0	0	20	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	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	25						20	
C (m) (veh/h)	972						400	
v/c	0.03						0.05	
95% queue length	0.08						0.16	
Control Delay (s/veh)	8.8						14.5	

LOS	A				B	
Approach Delay (s/veh)	--	--			14.5	
Approach LOS	--	--			B	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /CJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	31	388			531	5
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	33	417	0	0	603	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	33							
C (m) (veh/h)	980							
v/c	0.03							
95% queue length	0.10							
Control Delay (s/veh)	8.8							

LOS	A					
Approach Delay (s/veh)	--	--				
Approach LOS	--	--				

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /ECTD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description	2773.065 - Fernwood Hotel and Casino
East/West Street:	SR 0209
North/South Street:	Fernwood East Driveway
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)	7	309	9	1	434	5
Peak-Hour Factor, PHF	0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	8	396	11	1	461	5
Percent Heavy Vehicles	25	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	1	6	1	34
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	8	4	4	12	2	68
Percent Heavy Vehicles	50	0	0	29	100	17
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	8	1		16			82	
C (m) (veh/h)	985	1163		247			451	
v/c	0.01	0.00		0.06			0.18	
95% queue length	0.02	0.00		0.21			0.66	
Control Delay (s/veh)	8.7	8.1		20.6			14.7	

LOS	A	A	C	B
Approach Delay (s/veh)	--	--	20.6	14.7
Approach LOS	--	--	C	B

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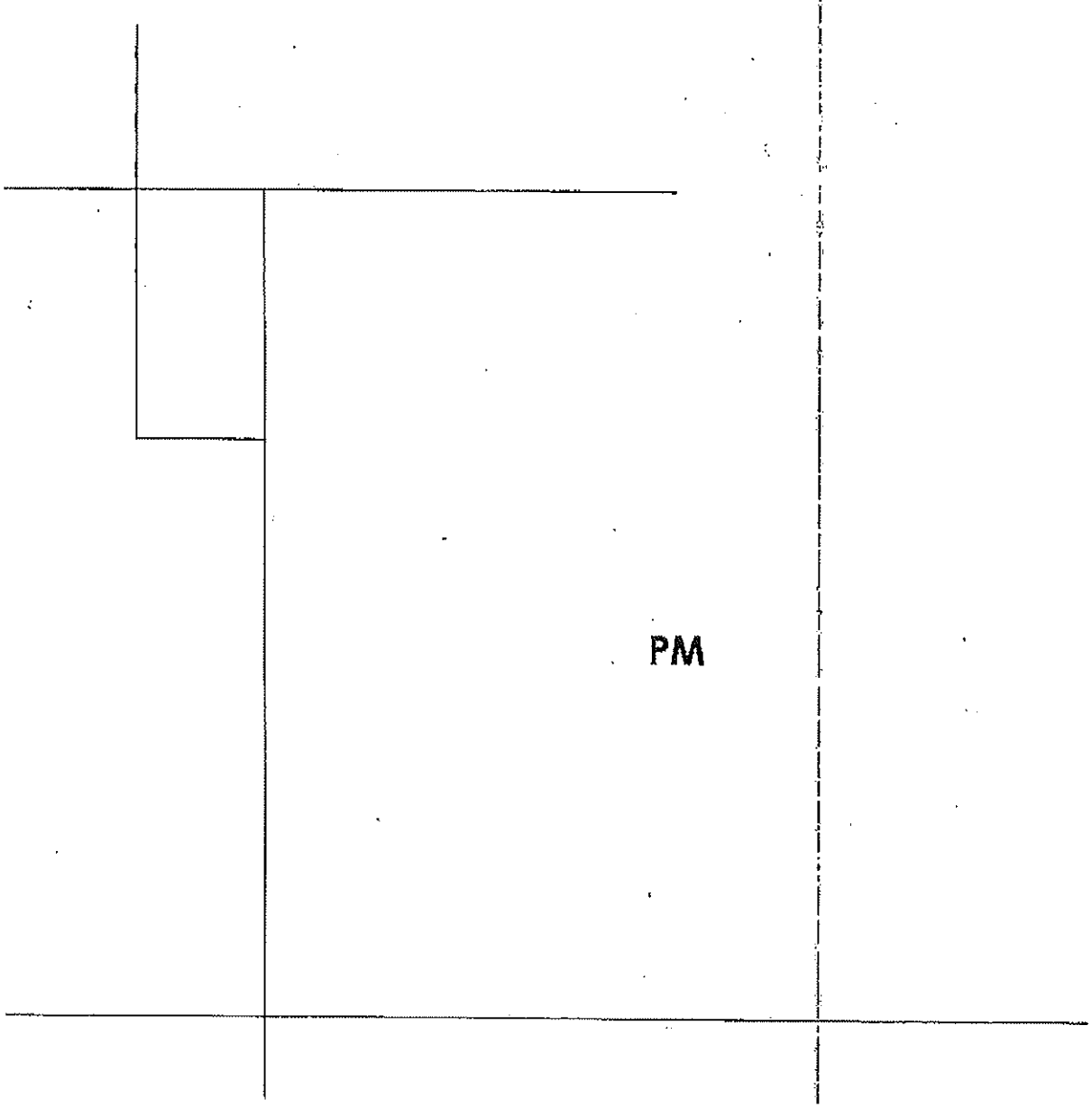
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SHORT REPORT

General Information		Site Information	
Analyst	KRS √EJD 6/20/08	Intersection	1-SR 0209 / River Rd/ SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	PM Peak Hour	Analysis Year	2018 Without Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	348	566	43	74	491	32	41	41	86	22	13	174
% Heavy Vehicles	2	2	3	8	6	7	0	5	5	22	5	6
PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.81	0.81	0.81	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	10	0	0	8	0	0	25	0	0	58
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 8.0	G = 64.0	G =	G =	G = 15.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 105.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	382	658		80	560		51	126		23	136	
		1154			1084							

Lane Group Capacity	563			449			170	257		139	216	
v/c Ratio	0.68	0.57		0.18	0.52		0.30	0.49		0.17	0.63	
Green Ratio	0.74	0.61		0.74	0.61		0.14	0.14		0.14	0.14	
Uniform Delay d_1	7.3	12.3		6.6	11.7		40.3	41.5		39.5	42.4	
Delay Factor k	0.25	0.16		0.11	0.12		0.11	0.11		0.11	0.21	
Incremental Delay d_2	3.3	0.7		0.2	0.4		1.0	1.5		0.6	5.8	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	10.6	12.9		6.6	12.1		41.3	42.9		40.1	48.2	
Lane Group LOS	B	B		A	B		D	D		D	D	
Approach Delay	12.1			11.5			42.5			47.0		
Approach LOS	B			B			D			D		
Intersection Delay	17.3			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS JETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	10	649			575	3
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	11	729	0	0	631	3
Percent Heavy Vehicles	5	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				6		21
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.48	0.48	0.48
Hourly Flow Rate, HFR (veh/h)	0	0	0	12	0	43
Percent Heavy Vehicles	0	0	0	14	0	7
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	LT						LR	
v (veh/h)	11						55	
C (m) (veh/h)	935						318	
v/c	0.01						0.17	
95% queue length	0.04						0.62	
Control Delay (s/veh)	8.9						18.7	

LOS	A					C	
Approach Delay (s/veh)	--	--				18.7	
Approach LOS	--	--				C	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS / EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 to 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	42	579			558	8
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	45	629	0	0	626	8
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	45							
C (m) (veh/h)	949							
v/c	0.05							
95% queue length	0.15							
Control Delay (s/veh)	9.0							

LOS	A			
Approach Delay (s/veh)	--	--		
Approach LOS	--	--		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 Without Development

Project Description	2773.065 - Fernwood Hotel and Casino
East/West Street:	SR 0209
North/South Street:	Fernwood East Driveway
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)	8	553	19	2	519	5
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	8	582	20	2	546	5
Percent Heavy Vehicles	18	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	8	1	3	5	6	57
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	17	2	6	7	8	82
Percent Heavy Vehicles	0	0	0	0	0	10
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	8	2		25			97	
C (m) (veh/h)	943	985		165			403	
v/c	0.01	0.00		0.15			0.24	
95% queue length	0.03	0.01		0.52			0.93	
Control Delay (s/veh)	8.9	8.7		30.7			16.7	

LOS	A	A	D	C
Approach Delay (s/veh)	--	--	30.7	16.7
Approach LOS	--	--	D	C

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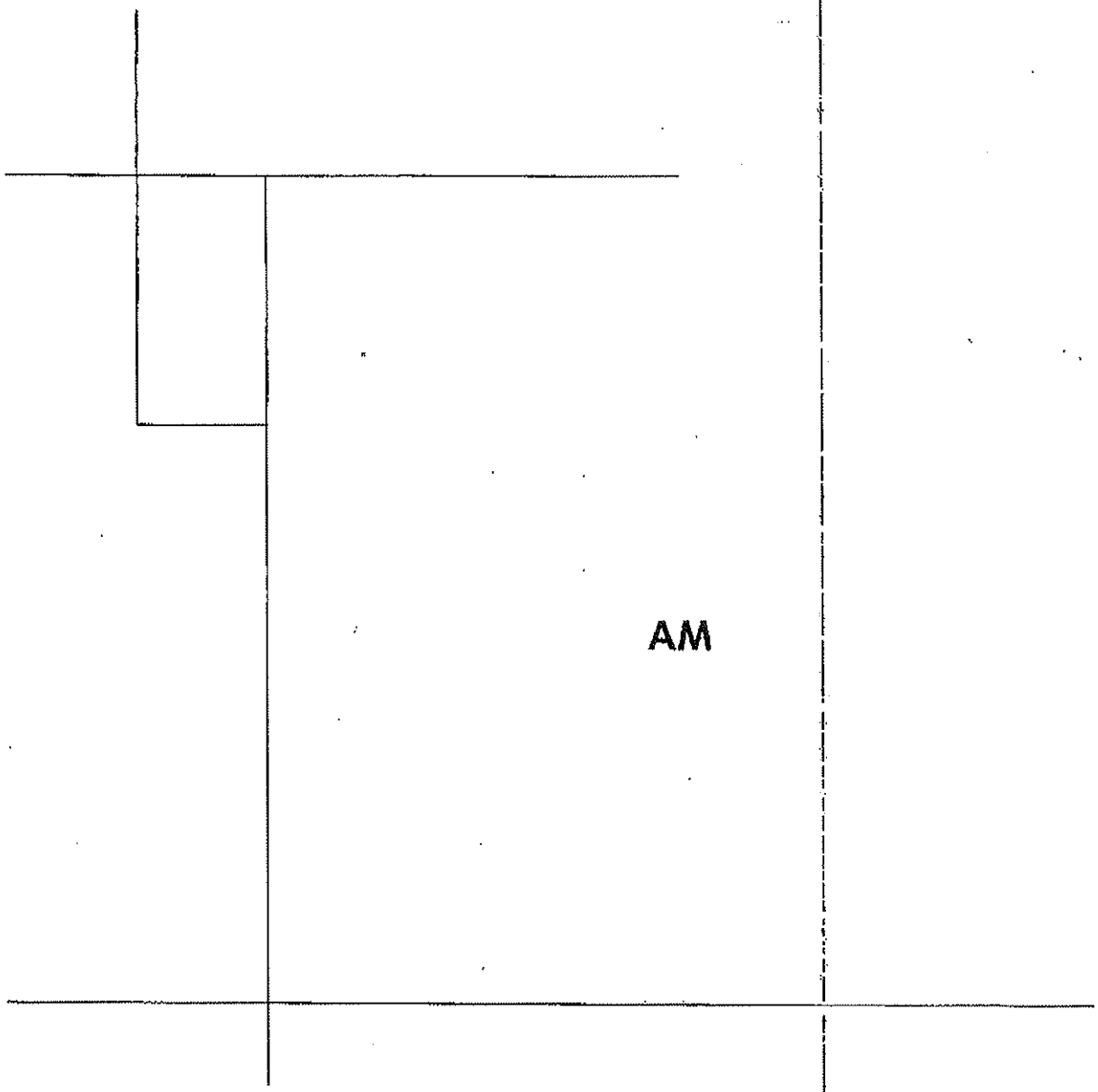
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SHORT REPORT

General Information		Site Information	
Analyst	KRS √EJD 6/20/08	Intersection	1-SR 0209 / River Rd / SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	AM Peak Hour	Analysis Year	2018 With Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	128	376	22	49	483	19	11	10	54	30	27	275
% Heavy Vehicles	16	11	9	8	4	27	9	24	12	24	19	5
PHF	0.87	0.87	0.87	0.93	0.93	0.93	0.66	0.66	0.66	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	5	0	0	4	0	0	15	0	0	100
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 4.0	G = 33.0	G =	G =	G = 15.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	147	452		53	535		17	74		33	219	
Lane Group Capacity	351	822		430	852		212	342		227	323	

v/c Ratio	0.42	0.55		0.12	0.63		0.08	0.22		0.15	0.68	
Green Ratio	0.61	0.47		0.61	0.47		0.21	0.21		0.21	0.21	
Uniform Delay d_1	7.9	13.2		6.5	13.9		22.0	22.7		22.3	25.3	
Delay Factor k	0.11	0.15		0.11	0.21		0.11	0.11		0.11	0.25	
Incremental Delay d_2	0.8	0.8		0.1	1.5		0.2	0.3		0.3	5.6	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	8.7	14.0		6.7	15.4		22.1	23.0		22.6	30.9	
Lane Group LOS	A	B		A	B		C	C		C	C	
Approach Delay	12.7			14.6			22.8			29.8		
Approach LOS	B			B			C			C		
Intersection Delay	16.8			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	21	436			534	2
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	25	531	0	0	586	2
Percent Heavy Vehicles	8	–	–	0	–	–
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3		11
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.65	0.65	0.65
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	16
Percent Heavy Vehicles	0	0	0	20	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	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	25						20	
C (m) (veh/h)	958						384	
v/c	0.03						0.05	
95% queue length	0.08						0.16	
Control Delay (s/veh)	8.9						14.9	
LOS	A						B	

Approach Delay (s/veh)	--	--		14.9
Approach LOS	--	--		B

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓ EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	50	397			546	10
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	53	426	0	0	620	11
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	53							
C (m) (veh/h)	961							
v/c	0.06							
95% queue length	0.17							
Control Delay (s/veh)	9.0							
LOS	A							

Approach Delay (s/veh)	--	--		
Approach LOS	--	--		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS /EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	AM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.066 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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	309	9	1	439	7
Peak-Hour Factor, PHF	0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	20	396	11	1	467	7
Percent Heavy Vehicles	25	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	1	10	1	49
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	8	4	4	20	2	98
Percent Heavy Vehicles	50	0	0	29	100	17
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	20	1		16			120	
C (m) (veh/h)	978	1163		221			434	
v/c	0.02	0.00		0.07			0.28	
95% queue length	0.06	0.00		0.23			1.11	
Control Delay (s/veh)	8.8	8.1		22.6			16.4	
LOS	A	A		C			C	

Approach Delay (s/veh)	--	--	22.6	16.4
Approach LOS	--	--	C	C

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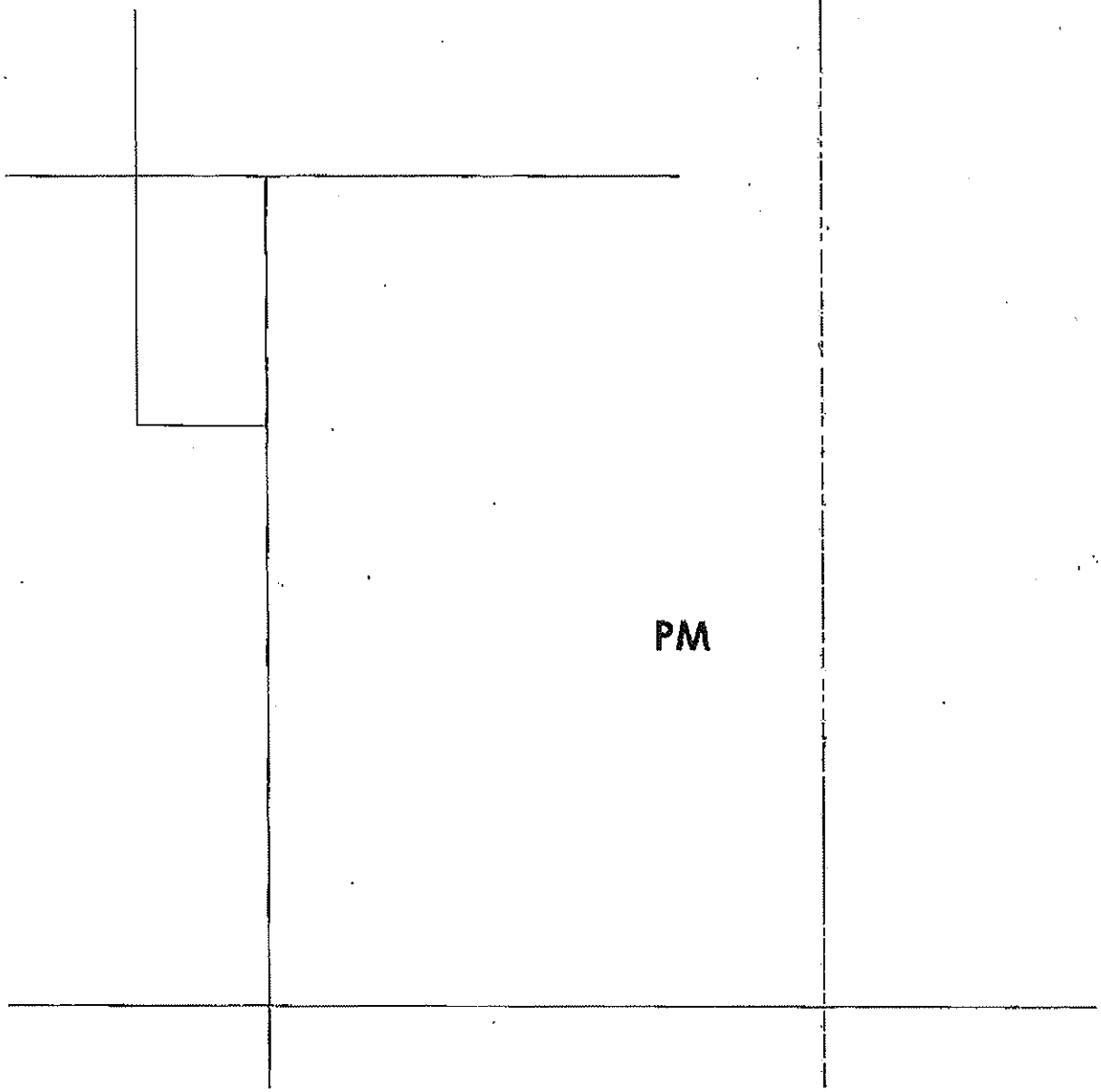
PM

SHORT REPORT

General Information		Site Information	
Analyst	KRS ✓ ETD 6/20/08	Intersection	1-SR 0209 / River Rd/ SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	6/16/2008	Jurisdiction	Middle Smithfield Twp
Time Period	PM Peak Hour	Analysis Year	2018 With Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	348	598	43	77	520	33	41	41	90	23	13	174
% Heavy Vehicles	2	2	3	8	6	7	0	5	5	22	5	6
PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.81	0.81	0.81	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	10	0	0	8	0	0	25	0	0	58
Lane Width	12.0	12.0		12.0	12.0		12.0	14.0		12.0	12.0	
Parking/Grade/Parking	N	-5	N	N	0	N	N	-5	N	N	5	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 9.0	G = 67.0	G =	G =	G = 16.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	382	693		84	592		51	131		24	136	
		1153			1084							

Lane Group Capacity	546			433			170	261		136	220	
v/c Ratio	0.70	0.60		0.19	0.55		0.30	0.50		0.18	0.62	
Green Ratio	0.75	0.61		0.75	0.61		0.15	0.15		0.15	0.15	
Uniform Delay d_1	8.2	13.3		7.5	12.6		42.0	43.3		41.2	44.1	
Delay Factor k	0.27	0.19		0.11	0.15		0.11	0.11		0.11	0.20	
Incremental Delay d_2	4.0	0.9		0.2	0.6		1.0	1.5		0.6	5.2	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	12.2	14.1		7.7	13.2		43.0	44.9		41.8	49.3	
Lane Group LOS	B	B		A	B		D	D		D	D	
Approach Delay	13.4			12.5			44.3			48.2		
Approach LOS	B			B			D			D		
Intersection Delay	18.5			Intersection LOS						B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS ✓EJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	2-SR 0209 / Service Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Service Driveway

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)	10	686			608	3
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	11	770	0	0	668	3
Percent Heavy Vehicles	5	–	–	0	–	–
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				6		21
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.48	0.48	0.48
Hourly Flow Rate, HFR (veh/h)	0	0	0	12	0	43
Percent Heavy Vehicles	0	0	0	14	0	7
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	LT						LR	
v (veh/h)	11						55	
C (m) (veh/h)	905						293	
v/c	0.01						0.19	
95% queue length	0.04						0.68	
Control Delay (s/veh)	9.0						20.1	
LOS	A						C	

Approach Delay (s/veh)	--	--		20.1
Approach LOS	--	--		C

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS JETD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	3-SR 0209 / Main Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood Main Driveway

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)	67	591			591	14
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	72	642	0	0	664	15
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	0.25	0.25	0.25	0.25	0.25	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	0
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						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	72							
C (m) (veh/h)	913							
v/c	0.08							
95% queue length	0.26							
Control Delay (s/veh)	9.3							
LOS	A							

Approach Delay (s/veh)	--	--		
Approach LOS	--	--		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	KRS JEJD
Agency/Co.	HRG, Inc.
Date Performed	6/16/2008 6/20/08
Analysis Time Period	PM Peak Hour

Site Information

Intersection	4-SR 0209 / East Driveway
Jurisdiction	Middle Smithfield Township
Analysis Year	2018 With Development

Project Description: 2773.065 - Fernwood Hotel and Casino

East/West Street: SR 0209 | North/South Street: Fernwood East Driveway

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	553	19	2	525	8
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	21	582	20	2	552	8
Percent Heavy Vehicles	18	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	8	1	3	13	6	90
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	17	2	6	18	8	130
Percent Heavy Vehicles	0	0	0	0	0	10
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	21	2		25			156	
C (m) (veh/h)	936	985		135			380	
v/c	0.02	0.00		0.19			0.41	
95% queue length	0.07	0.01		0.65			1.95	
Control Delay (s/veh)	8.9	8.7		37.6			20.9	
LOS	A	A		E			C	

Approach Delay (s/veh)	--	--	37.6	20.9
Approach LOS	--	--	E	C

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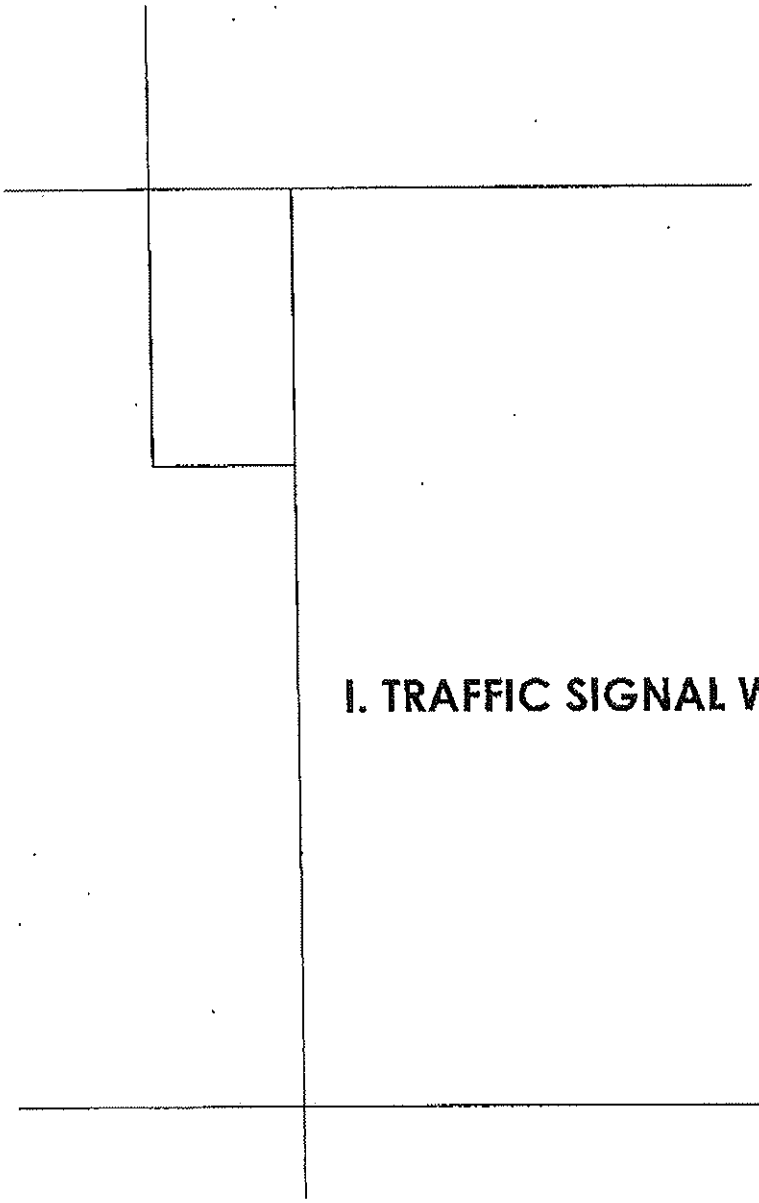
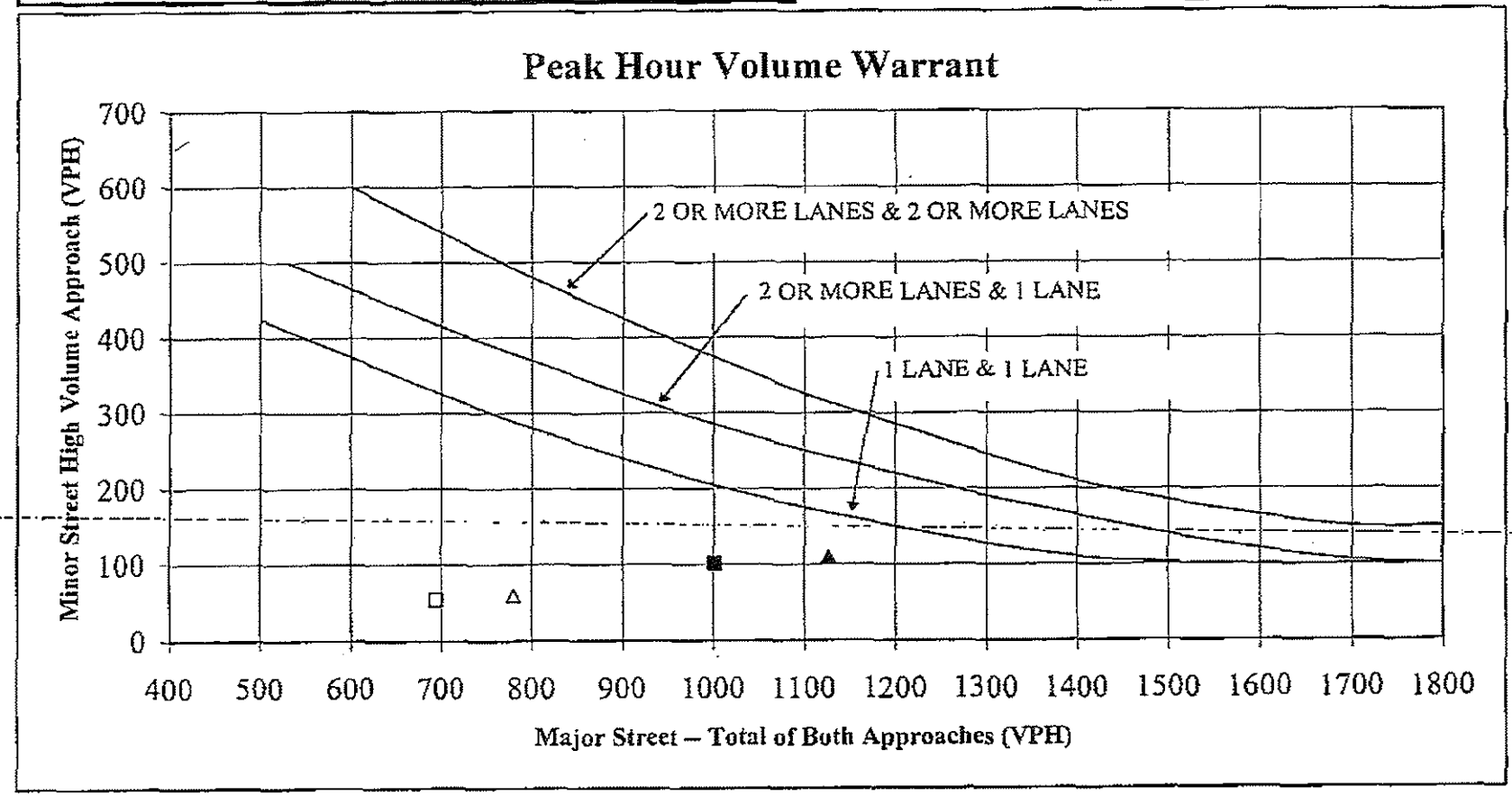


I. TRAFFIC SIGNAL WARRANT ANALYSIS

INPUT VOLUMES

Condition	major street (total of both approaches)	minor street (high volume approach)	Yes/No 1 LANE & 1 LANE
□ 2008 AM W DEV.	694	54	NO
■ 2008 PM W DEV.	1002	101	NO
△ 2018 AM W DEV.	780	59	NO
▲ 2018 PM W DEV.	1127	109	NO

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

JOB NUMBER: 2773.065
CALCULATED BY: KRS
DATE: 6/23/2008
CHECKED BY: EJD
DATE: 6/23/2008
INTERSECTION: SR 0209 and Fernwood East Driveway