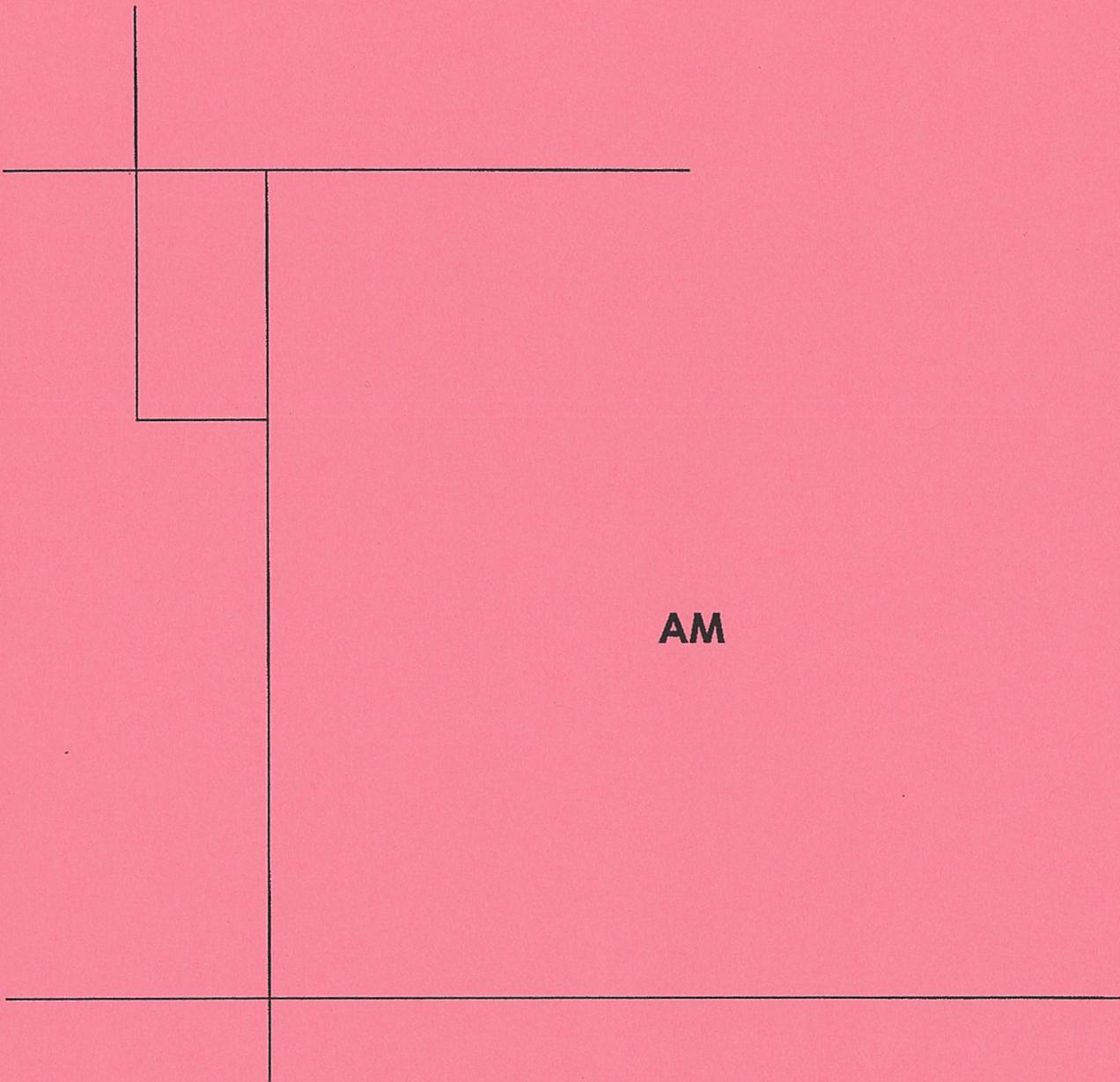


**G. 2018 WITHOUT DEVELOPMENT
CAPACITY ANALYSIS**



AM

SHORT REPORT

General Information

Analyst EJD
 Agency or Co. HRG, Inc.
 Date Performed 5/22/07
 Time Period AM Peak Hour

Site Information

Intersection 1-SR 0209 / River Rd / SR
 1016
 Area Type All other areas
 Jurisdiction Middle Smithfield Twp
 Analysis Year 2018 Without Development

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT									
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR										
Volume (vph)	135	372	24	50	494	20	12	11	54	30	29	289
% 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		
	LT	TH	RT									
Adjusted Flow Rate	155	450		54	548		18	76		33	237	
Lane Group Capacity	326	778		416	806		206	345		228	325	

v/c Ratio	0.48	0.58	0.13	0.68	0.09	0.22	0.14	0.73
Green Ratio	0.60	0.45	0.60	0.45	0.22	0.22	0.22	0.22
Uniform Delay d_1	8.2	13.4	6.6	14.3	20.4	21.0	20.7	23.7
Delay Factor k	0.11	0.17	0.11	0.25	0.11	0.11	0.11	0.29
Incremental Delay d_2	1.1	1.1	0.1	2.3	0.2	0.3	0.3	8.1
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Control Delay	9.2	14.5	6.7	16.6	20.6	21.3	20.9	31.8
Lane Group LOS	A	B	A	B	C	C	C	C
Approach Delay	13.2		15.8		21.2		30.5	
Approach LOS	B		B		C		C	
Intersection Delay	17.6				Intersection LOS		B	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	EJD	Intersection	2-SR 0209 / Service Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 Without Development
Analysis Time Period	AM Peak Hour		

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)	23	430			545	2	
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91	
Hourly Flow Rate, HFR (veh/h)	28	524	0	0	598	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)				4		12	
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	6	0	18	
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)	28						24		
C (m) (veh/h)	948						355		
v/c	0.03						0.07		
95% queue length	0.09						0.22		
Control Delay (s/veh)	8.9						15.9		

LOS	A				C
Approach Delay (s/veh)	--	--			15.9
Approach LOS	--	--			C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	EJD	Intersection	3-SR 0209 / Main Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 Without Development
Analysis Time Period	AM Peak Hour		

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
	L	T	R	L	T	R
Volume (veh/h)	32	408			560	5
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	34	438	0	0	636	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
	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		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L							
v (veh/h)	34							
C (m) (veh/h)	953							
v/c	0.04							
95% queue length	0.11							
Control Delay (s/veh)	8.9							

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

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	EJD	Intersection	4-SR 0209 / East Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 Without Development
Analysis Time Period	AM Peak Hour		

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

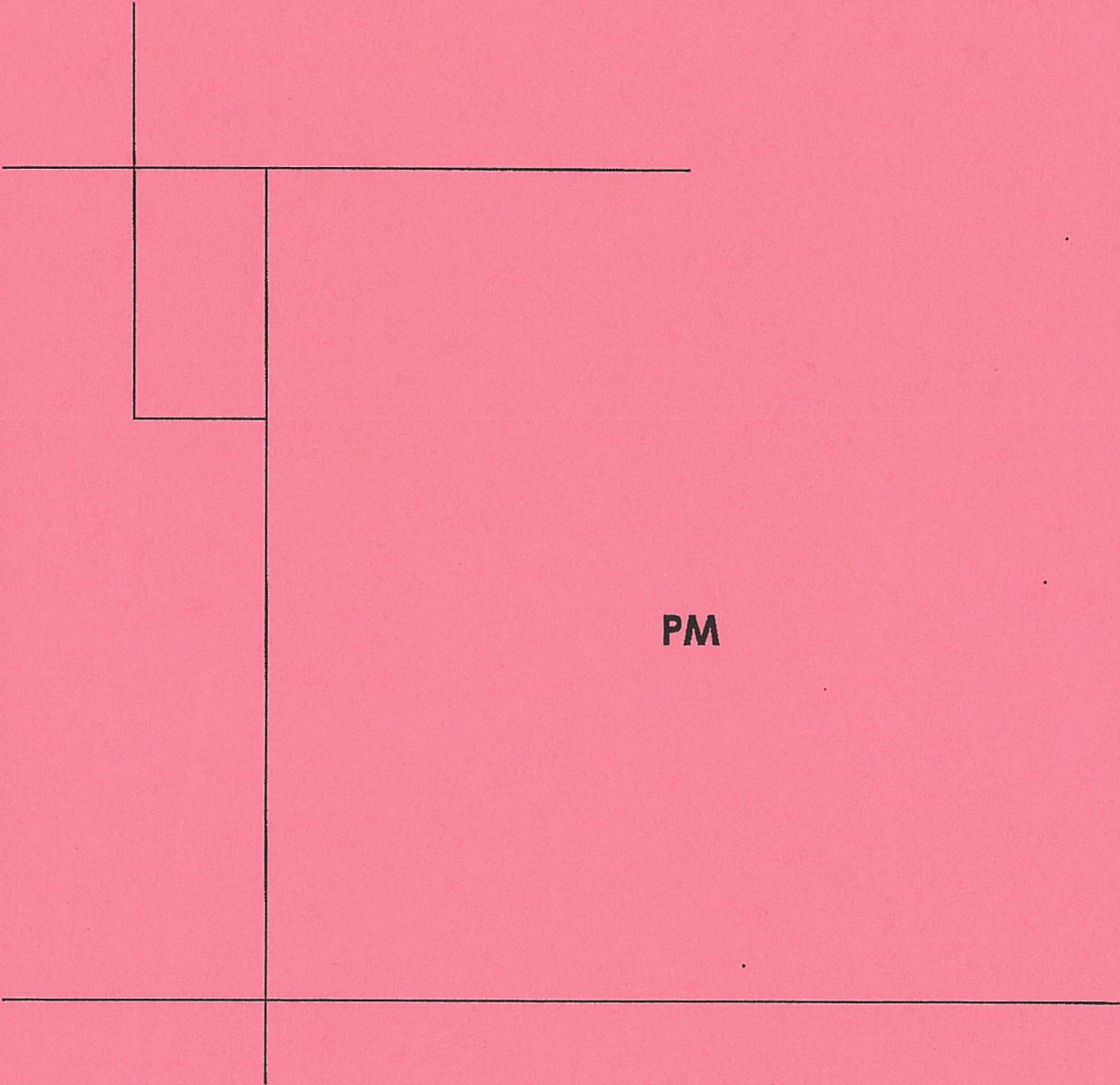
Major Street	Eastbound			Westbound		
	Movement	1	2	3	4	5
	L	T	R	L	T	R
Volume (veh/h)	7	326	10	1	457	5
Peak-Hour Factor, PHF	0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	8	417	12	1	486	5
Percent Heavy Vehicles	25	-	-	0	-	-
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
	Movement	7	8	9	10	11
	L	T	R	L	T	R
Volume (veh/h)	2	1	1	6	1	36
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	72
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		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	8	1		16			86	
C (m) (veh/h)	963	1141		228			436	
v/c	0.01	0.00		0.07			0.20	
95% queue length	0.03	0.00		0.22			0.73	
Control Delay (s/veh)	8.8	8.2		22.0			15.3	

LOS	A	A	C	C
Approach Delay (s/veh)	--	--	22.0	15.3
Approach LOS	--	--	C	C



PM

SHORT REPORT

General Information	Site Information
Analyst <i>EJD</i>	1-SR 0209 / River Rd/ SR
Agency or Co. <i>HRG, Inc.</i>	1016
Date Performed <i>5/22/2007</i>	Area Type <i>All other areas</i>
Time Period <i>PM Peak Hour</i>	Jurisdiction <i>Middle Smithfield Twp</i>
	Analysis Year <i>2018 Without Development</i>

	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)	367	595	45	77	518	33	43	43	89	24	13	183
% 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												

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	403	692	84	590	132	53	25	146				
		1154		1084								

Lane Group Capacity, Control Delay, and LOS Determination

LOS	A				C
Approach Delay (s/veh)	--	--			19.8
Approach LOS	--	--			C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	EJD	Intersection	3-SR 0209 / Main Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 Without Development
Analysis Time Period	PM Peak Hour		

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)	44	610			586	8
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	47	663	0	0	658	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)	47							
C (m) (veh/h)	923							
v/c	0.05							
95% queue length	0.16							
Control Delay (s/veh)	9.1							

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

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	EJD	Intersection	4-SR 0209 / East Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 Without Development
Analysis Time Period	PM Peak Hour		

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	582	21	2	545	5	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR (veh/h)	8	612	22	2	573	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	4	5	6	61	
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69	
Hourly Flow Rate, HFR (veh/h)	17	2	8	7	8	88	
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

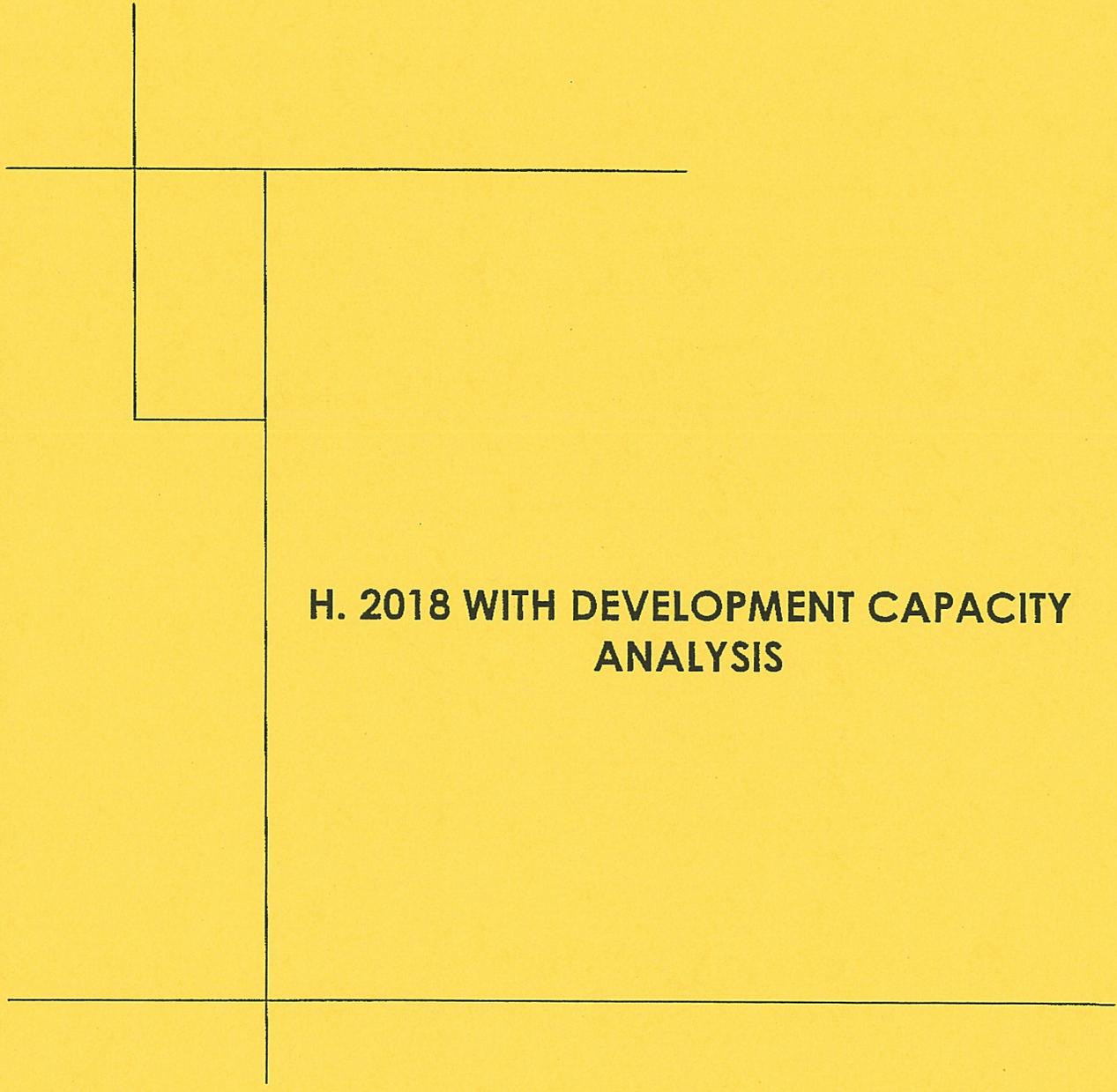
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	8	2	27			103		
C (m) (veh/h)	921	959	155			386		
v/c	0.01	0.00	0.17			0.27		
95% queue length	0.03	0.01	0.61			1.06		
Control Delay (s/veh)	8.9	8.8	33.1			17.7		

LOS	A	A	D	C
Approach Delay (s/veh)	--	--	33.1	17.7
Approach LOS	--	--	D	C

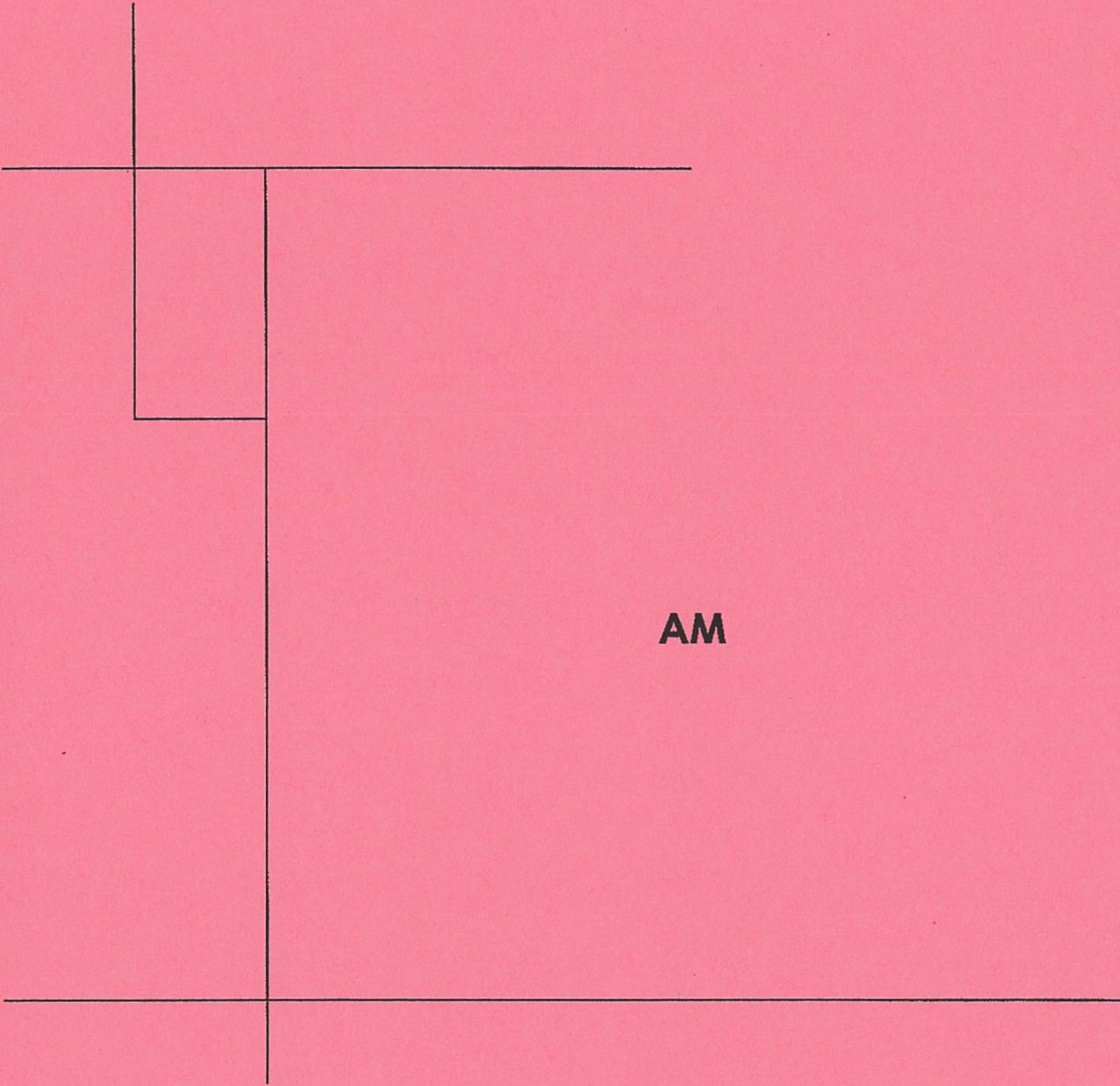
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**H. 2018 WITH DEVELOPMENT CAPACITY
ANALYSIS**



AM

SHORT REPORT

General Information		Site Information	
Analyst	EJD	Intersection	1-SR 0209 / River Rd / SR 1016
Agency or Co.	HRG, Inc.	Area Type	All other areas
Date Performed	5/22/07	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									
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR										
Volume (vph)	135	431	24	55	534	21	12	11	61	32	29	289
% 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
Prefimed/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	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 4.0	G =	G =	G = 15.0	G =	G =	G =
	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	155	517	59	592	18	87	35	237				
Lane Group Capacity	312	823	381	851	198	342	224	323				

v/c Ratio	0.50	0.63	0.15	0.70	0.09	0.25	0.16	0.73
Green Ratio	0.61	0.47	0.61	0.47	0.21	0.21	0.21	0.21
Uniform Delay d_1	8.7	13.9	7.1	14.6	22.0	22.9	22.4	25.6
Delay Factor k	0.11	0.21	0.11	0.26	0.11	0.11	0.11	0.29
Incremental Delay d_2	1.2	1.5	0.2	2.5	0.2	0.4	0.3	8.4
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Control Delay	10.0	15.4	7.3	17.0	22.2	23.2	22.7	34.0
Lane Group LOS	A	B	A	B	C	C	C	C
Approach Delay		14.2		16.2		23.1		32.6
Approach LOS		B		B		C		C
Intersection Delay		18.4			Intersection LOS			
								B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	DJT EJD	Intersection	2-SR 0209 / Service Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 With Development
Analysis Time Period	AM Peak Hour		

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)	23	498			591	2
Peak-Hour Factor, PHF	0.82	0.82	0.82	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	28	607	0	0	649	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)				4		12
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	6	0	18
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)	28						24	
C (m) (veh/h)	907						313	
v/c	0.03						0.08	
95% queue length	0.10						0.25	
Control Delay (s/veh)	9.1						17.5	
LOS	A						C	

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

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
DJT		Intersection	3-SR 0209 / Main Driveway
Analyst	EJD	Jurisdiction	Middle Smithfield Township
Agency/Co.	HRG, Inc.	Analysis Year	2018 With Development
Date Performed	5/22/2007		
Analysis Time Period	AM Peak Hour		

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 Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume (veh/h)	77	431			606	16
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	82	463	0	0	688	18
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 Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 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 Movement	Eastbound	Westbound	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Lane Configuration	L							
v (veh/h)	82							
C (m) (veh/h)	902							
v/c	0.09							
95% queue length	0.30							
Control Delay (s/veh)	9.4							
LOS	A							

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

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
DJT		Intersection	4-SR 0209 / East Driveway
Analyst	EJD	Jurisdiction	Middle Smithfield Township
Agency/Co.	HRG, Inc.	Analysis Year	2018 With Development
Date Performed	5/22/2007		
Analysis Time Period	AM Peak Hour		

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)		30	326	10	1 ok	468	11
Peak-Hour Factor, PHF		0.78	0.78	0.78	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)		38	417	12	1	497	11
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 ok	18	1 ok	82
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	36	2	164
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

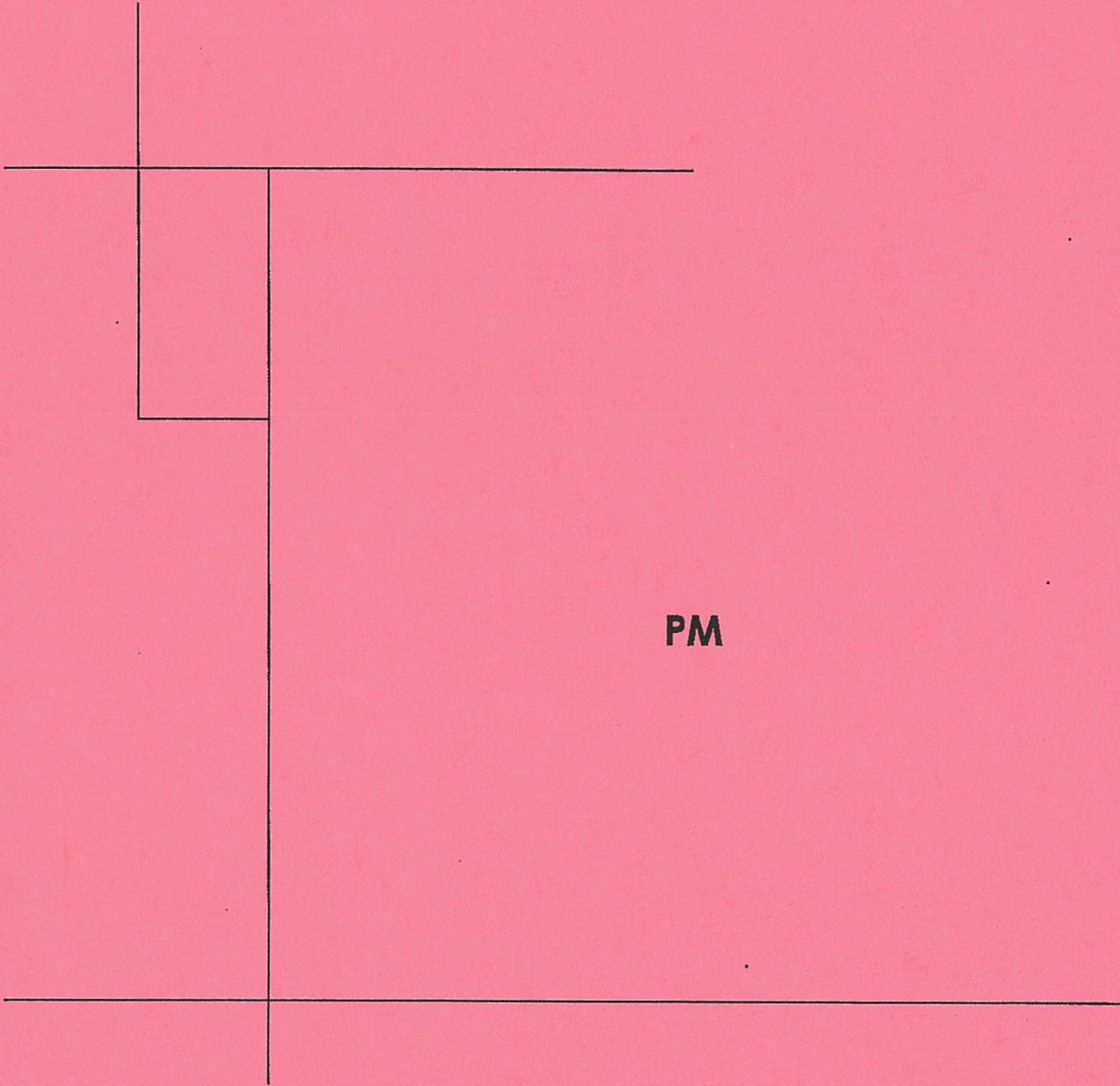
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	38	1		16			202	
C (m) (veh/h)	949	1141		160			396	
v/c	0.04	0.00		0.10			0.51	
95% queue length	0.13	0.00		0.33			2.80	
Control Delay (s/veh)	9.0	8.2		30.0			23.2	
LOS	A	A		D			C	

Approach Delay (s/veh)	--	--	30.0	23.2
Approach LOS	--	--	D	C

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PM

SHORT REPORT

General Information

Analyst **EJD**
 Agency or Co. **HRG, Inc.**
 Date Performed **5/22/2007**
 Time Period **PM Peak Hour**

DST

Site Information

Intersection **1-SR 0209 / River Rd/ SR 1016**
 Area Type **All other areas**
 Jurisdiction **Middle Smithfield Twp**
 Analysis Year **2018 With Development**

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT									
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR										
Volume (vph)	367	666	45	83	575	35	43	43	97	26	13	183
% 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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	403	770		90	654		53	142		27	146	
		1154			1084							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
<div style="text-align: right; margin-bottom: 5px;">DJT</div> Analyst: EJD Agency/Co.: HRG, Inc. Date Performed: 5/22/2007 Analysis Time Period: PM Peak Hour	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)	11	765			670	4	
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.91	0.91	0.91	
Hourly Flow Rate, HFR (veh/h)	12	859	0	0	736	4	
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		23
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	47	
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	7	8	9	10	11
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	12						59	
C (m) (veh/h)	853						258	
v/c	0.01						0.23	
95% queue length	0.04						0.86	
Control Delay (s/veh)	9.3						23.0	
LOS	A						C	

Approach Delay (s/veh)	-	--		23.0
Approach LOS	--	--		C

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	DJT EJD	Intersection	3-SR 0209 / Main Driveway
Agency/Co.	HRG, Inc.	Jurisdiction	Middle Smithfield Township
Date Performed	5/22/2007	Analysis Year	2018 With Development
Analysis Time Period	PM Peak Hour		

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)	98	637			651	21
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89
Hourly Flow Rate, HFR (veh/h)	106	692	0	0	731	23
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)	106							
C (m) (veh/h)	856							
v/c	0.12							
95% queue length	0.42							
Control Delay (s/veh)	9.8							
LOS	A							

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

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
<i>DJT</i>		Intersection	4-SR 0209 / East Driveway
Analyst	EJD	Jurisdiction	Middle Smithfield Township
Agency/Co.	HRG, Inc.	Analysis Year	2018 With Development
Date Performed	5/22/2007		
Analysis Time Period	PM Peak Hour		

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
	L	T	R	L	T	R
Volume (veh/h)	35	582	21	2	558	12
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	36	612	22	2	587	12
Percent Heavy Vehicles	18	--	--	0	--	--
Median Type	<i>Undivided</i>					
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
	L	T	R	L	T	R
Volume (veh/h)	8	1	4	21	6	126
Peak-Hour Factor, PHF	0.46	0.46	0.46	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	17	2	8	30	8	182
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

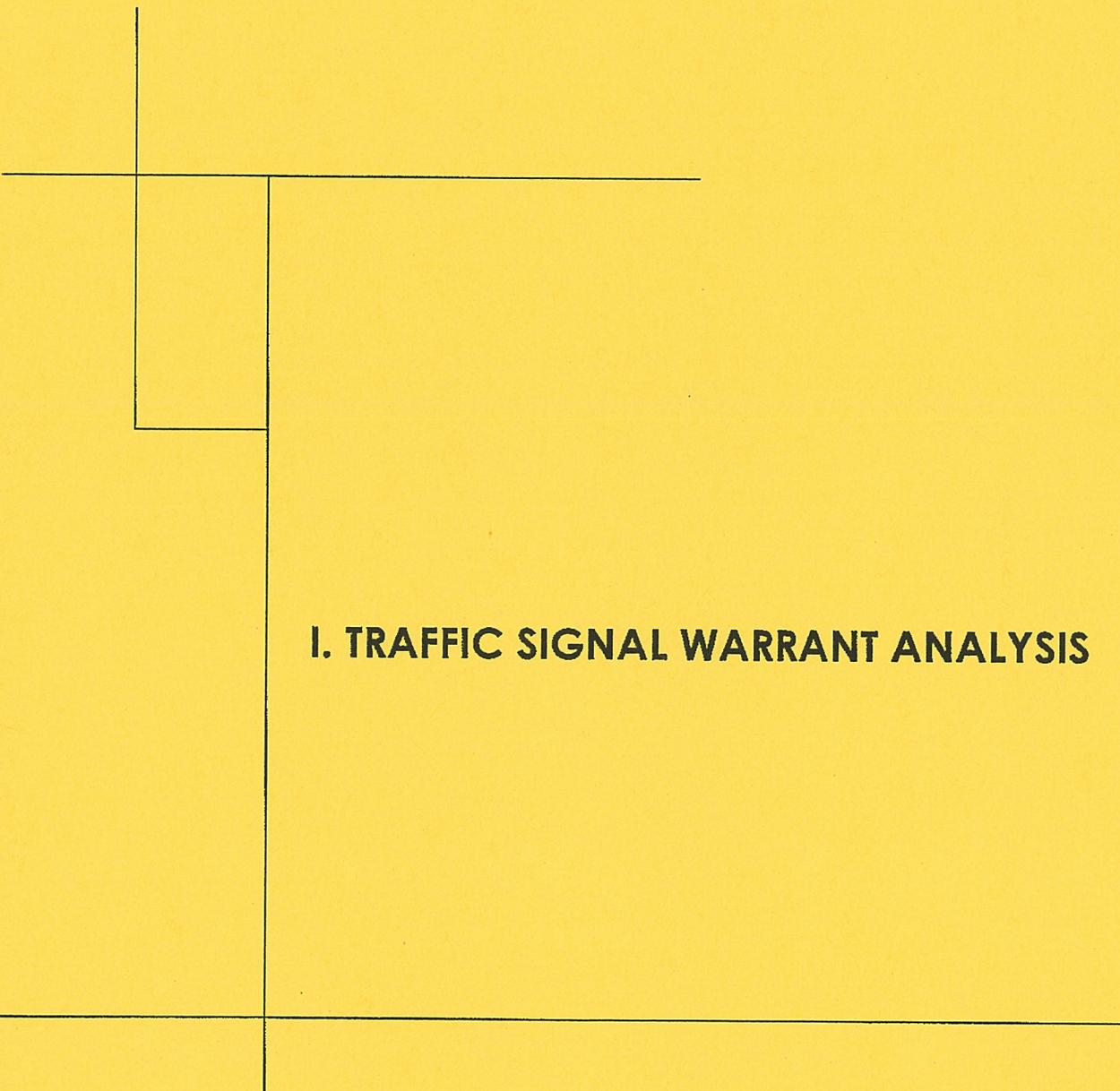
Approach	Eastbound	Westbound	Northbound			Southbound		
			Movement	7	8	9	10	11
	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	36	2		27			220	
C (m) (veh/h)	904	959		101			339	
v/c	0.04	0.00		0.27			0.65	
95% queue length	0.12	0.01		0.99			4.30	
Control Delay (s/veh)	9.1	8.8		53.2			33.3	
LOS	A	A		F			D	

Approach Delay (s/veh)	--	--	53.2	33.3
Approach LOS	--	--	F	D

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I. TRAFFIC SIGNAL WARRANT ANALYSIS

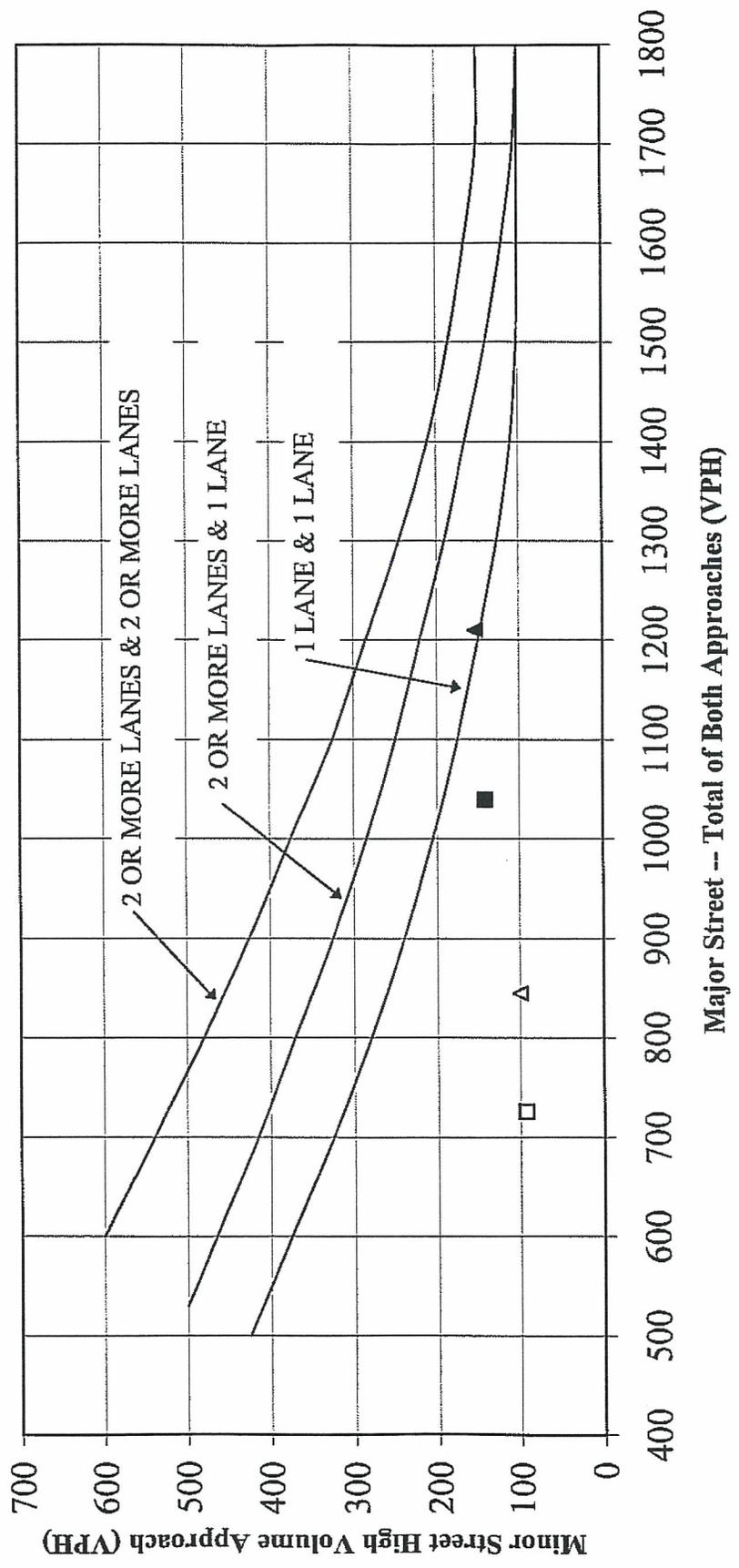


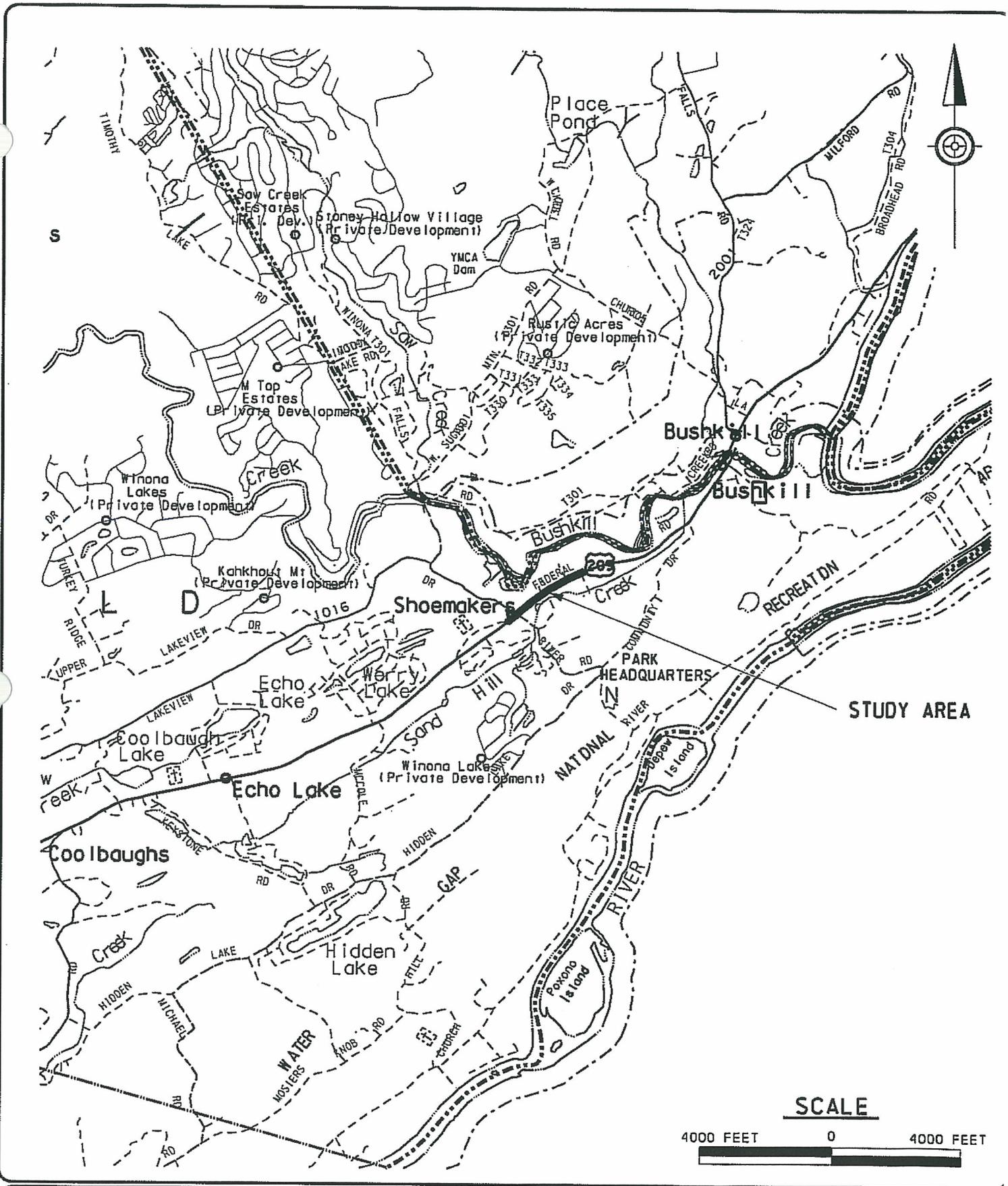
JOB NUMBER: 2773.065
 CALCULATED BY: EJD
 DATE: 5/17/2007
 CHECKED BY:
 DATE:
 INTERSECTION: SR 0209 and Fernwood East Driveway

INPUT VOLUMES

Condition	major street (total of both approaches)	minor street (high volume approach)	Yes/No 1 LANE & 1 LANE
□ 2008 AM W DEV.	726	93	NO
■ 2008 PM W DEV.	1040	142	NO
△ 2018 AM W DEV.	845	100	NO
▲ 2018 PM W DEV.	1210	153	NO

Peak Hour Volume Warrant





STUDY AREA

SCALE



HRG

Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
Harrisburg Lancaster State College Gettysburg Pittsburgh Bartonsville

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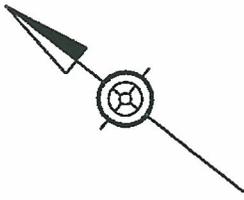
Website - www.hrg-inc.com

**FIGURE 1
LOCATION MAP
FERNWOOD HOTEL AND CASINO**

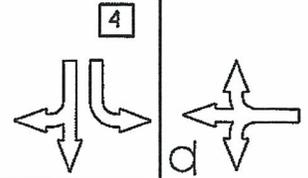
MIDDLE SMITHFIELD TWP. MONROE COUNTY PENNSYLVANIA

PROJ. MGR. - JK
DESIGN - EJD
CADD - EJD
CHECKED - TDA
SCALE - 1" = 4000'
DATE - MAY 2007

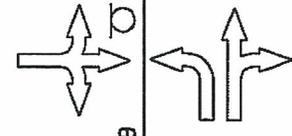
PAGE NO.
2
DRAWING NO.
1 OF 8
PROJECT 2773.065



FERNWOOD EAST DRIVEWAY



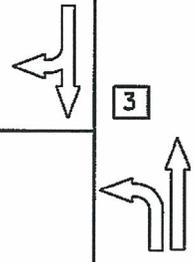
FERNWOOD MAIN DRIVEWAY



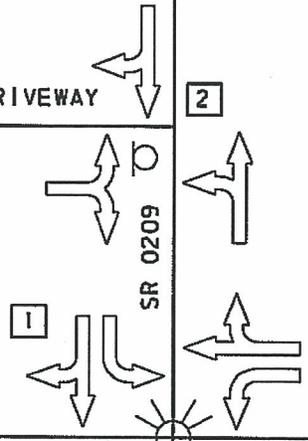
SR 0209

[SITE]

FERNWOOD SERVICE DRIVEWAY

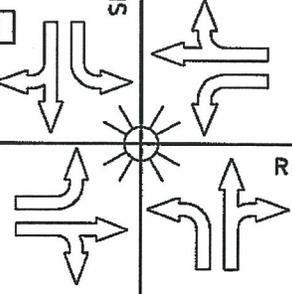


WINONA FALLS ROAD
(SR 1016)



SR 0209

RIVER ROAD
(T-515)



LEGEND

- EXISTING ROAD
- EXISTING LANE CONFIGURATION
- EXISTING TRAFFIC SIGNAL
- EXISTING STOP SIGN
- INTERSECTION STUDY NUMBER

NOT TO SCALE

HRG

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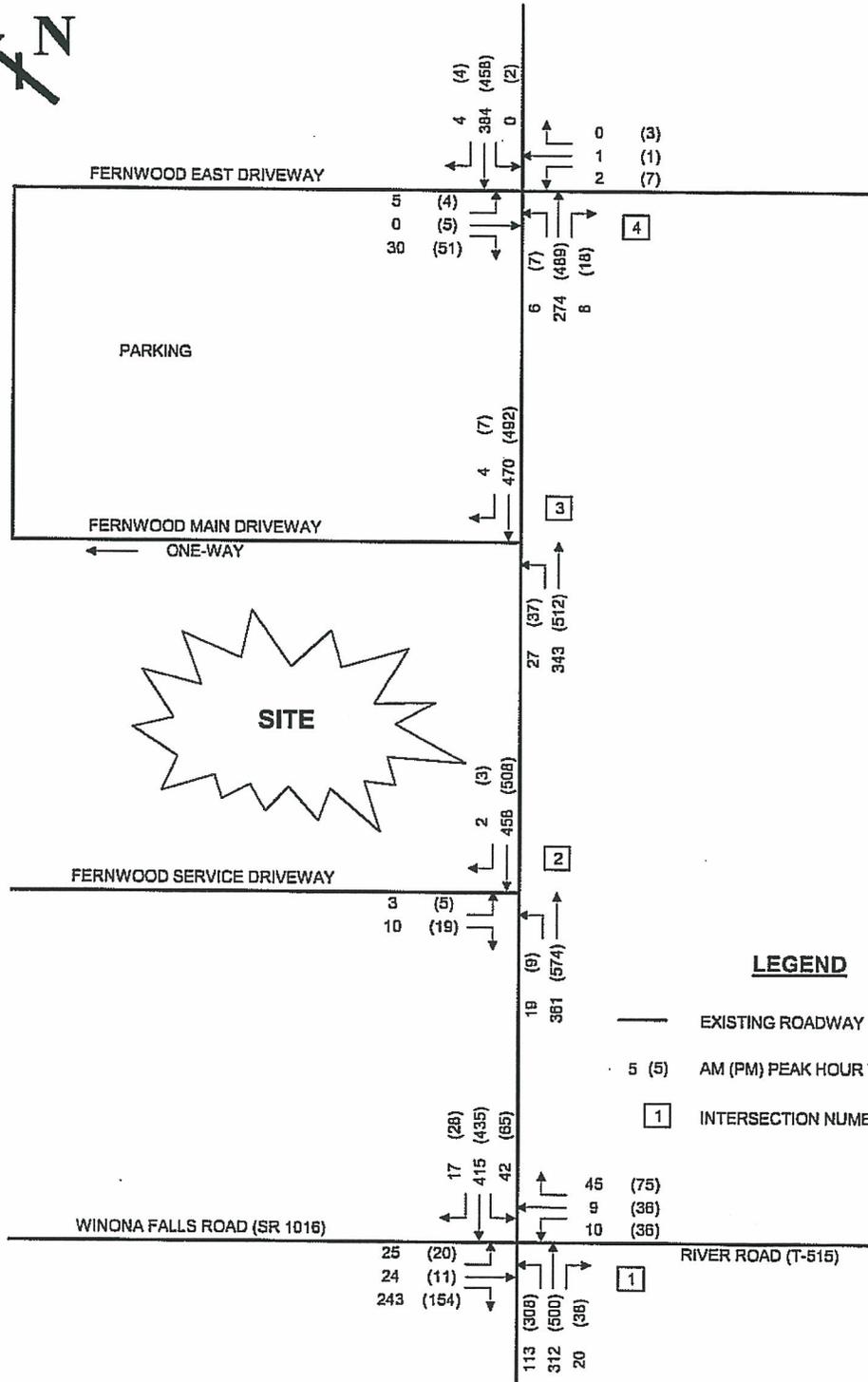
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Engineering & Related Services
Website - www.hrg-inc.com
Harrisburg Lancaster State College Gettysburg Pittsburgh Bartonsville

**FIGURE 2
EXISTING
INTERSECTION GEOMETRY
AND TRAFFIC CONTROL**

MIDDLE SMITHFIELD TWP. MONROE COUNTY PENNSYLVANIA

PROJ. MGR. - JK
DESIGN- EJD
CADD- EJD
CHECKED- TDA
SCALE- NTS
DATE- MAY 2007

PAGE NO.
6
DRAWING NO.
2 OF 8
PROJECT 2773.065



LEGEND

- EXISTING ROADWAY
- 5 (5) AM (PM) PEAK HOUR TRAFFIC VOLUMES
- 1 INTERSECTION NUMBER

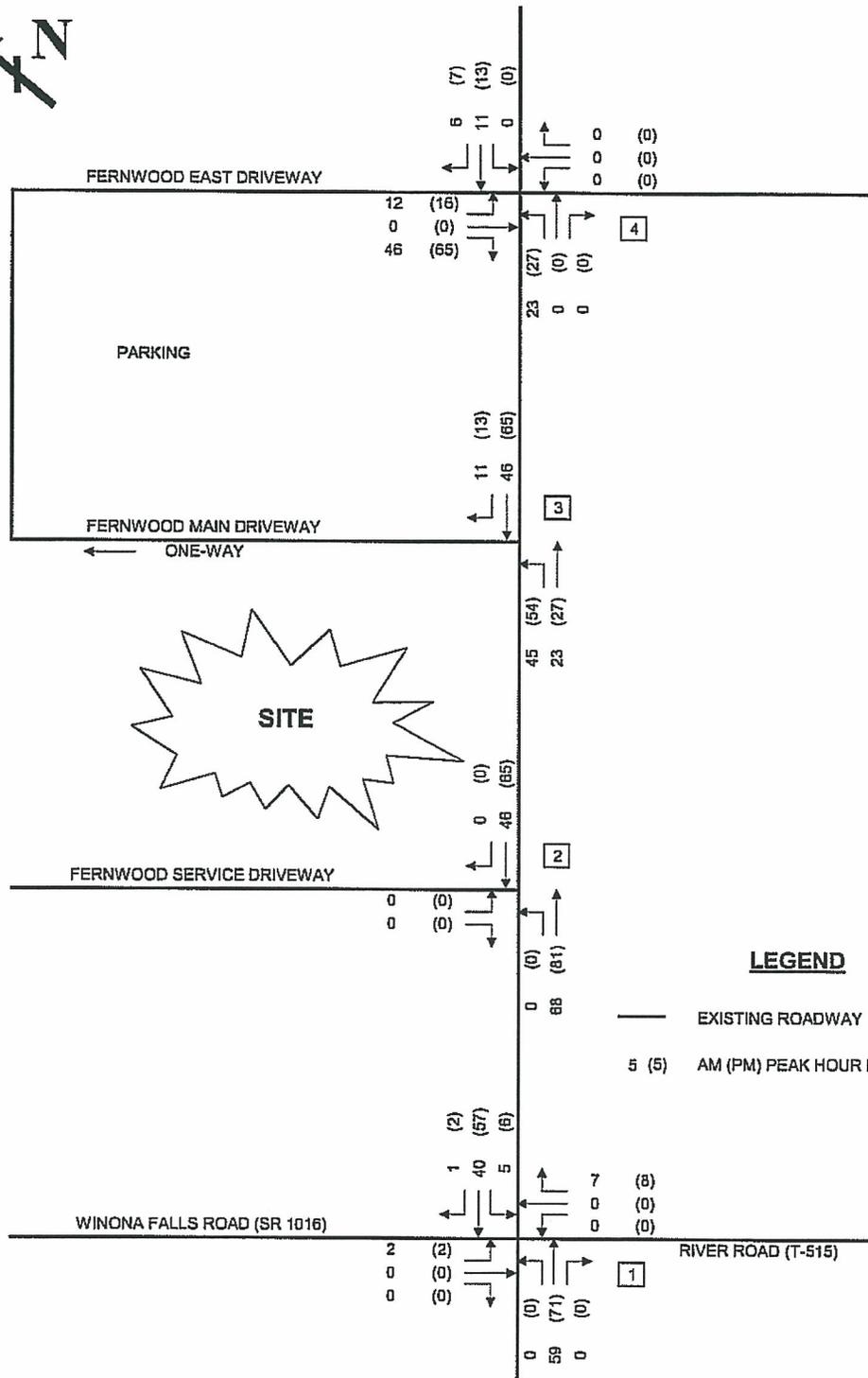


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FIGURE 3
EXISTING TRAFFIC VOLUMES

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
 SCALE - N.T.S.
 DATE - MAY 2007

SHEET NO.
7
 DRAWING NO.
3 OF 8
 PROJECT 2773.085



LEGEND

- EXISTING ROADWAY
- 5 (5) AM (PM) PEAK HOUR NEW TRIPS

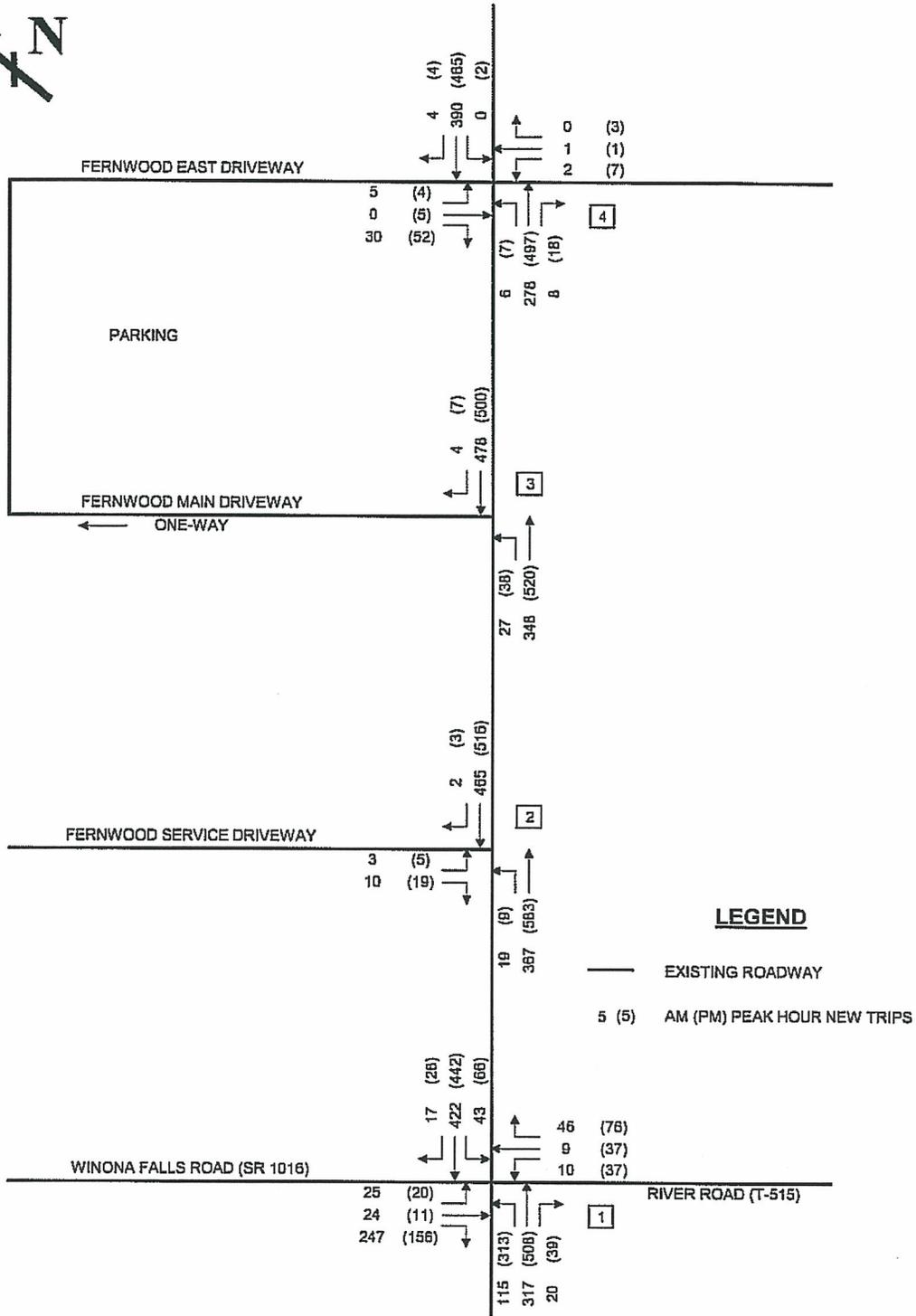


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 Fax (570) 629 - 7190
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FIGURE 4
NEW TRIP DISTRIBUTION

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
 SCALE - N.T.S.
 DATE - MAY 2007

SHEET NO.	11
DRAWING NO.	4 OF 8
PROJECT	2773.065

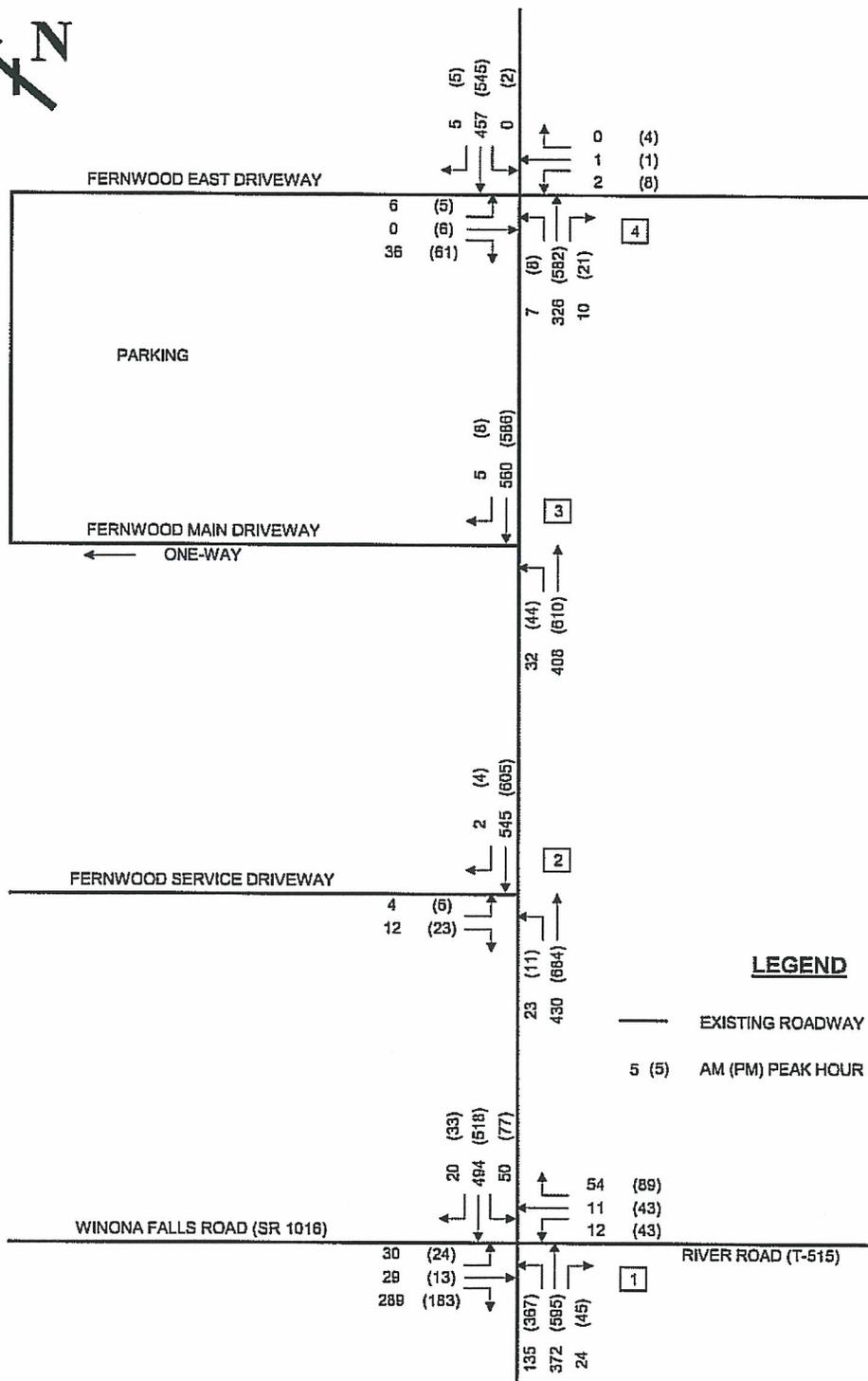


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 (570) 620 - 7140
 Fax (570) 629 - 7160
 Website - www.hrg-inc.com

FIGURE 5
2008 WITHOUT DEVELOPMENT
TRAFFIC VOLUMES

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
 SCALE - N.T.S.
 DATE - MAY 2007

SHEET NO.
13
 DRAWING NO.
5 OF 8
 PROJECT 2773.065



LEGEND

- EXISTING ROADWAY
- 5 (5) AM (PM) PEAK HOUR NEW TRIPS



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FIGURE 6

**2018 WITHOUT DEVELOPMENT
 TRAFFIC VOLUMES**

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
 SCALE - N.T.S.
 DATE - MAY 2007

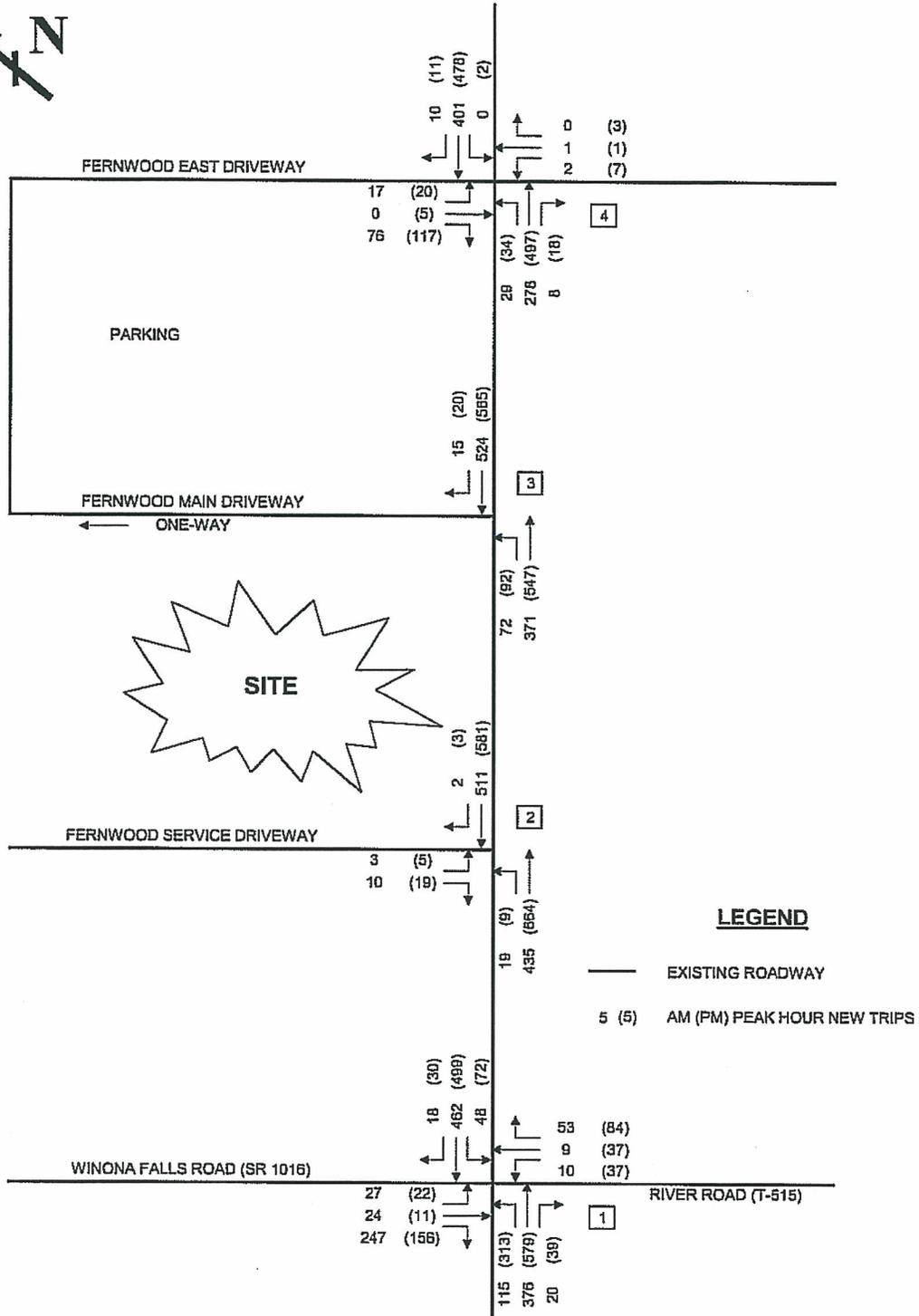
SHEET NO.

14

DRAWING NO.

6 OF 8

PROJECT 2773.065

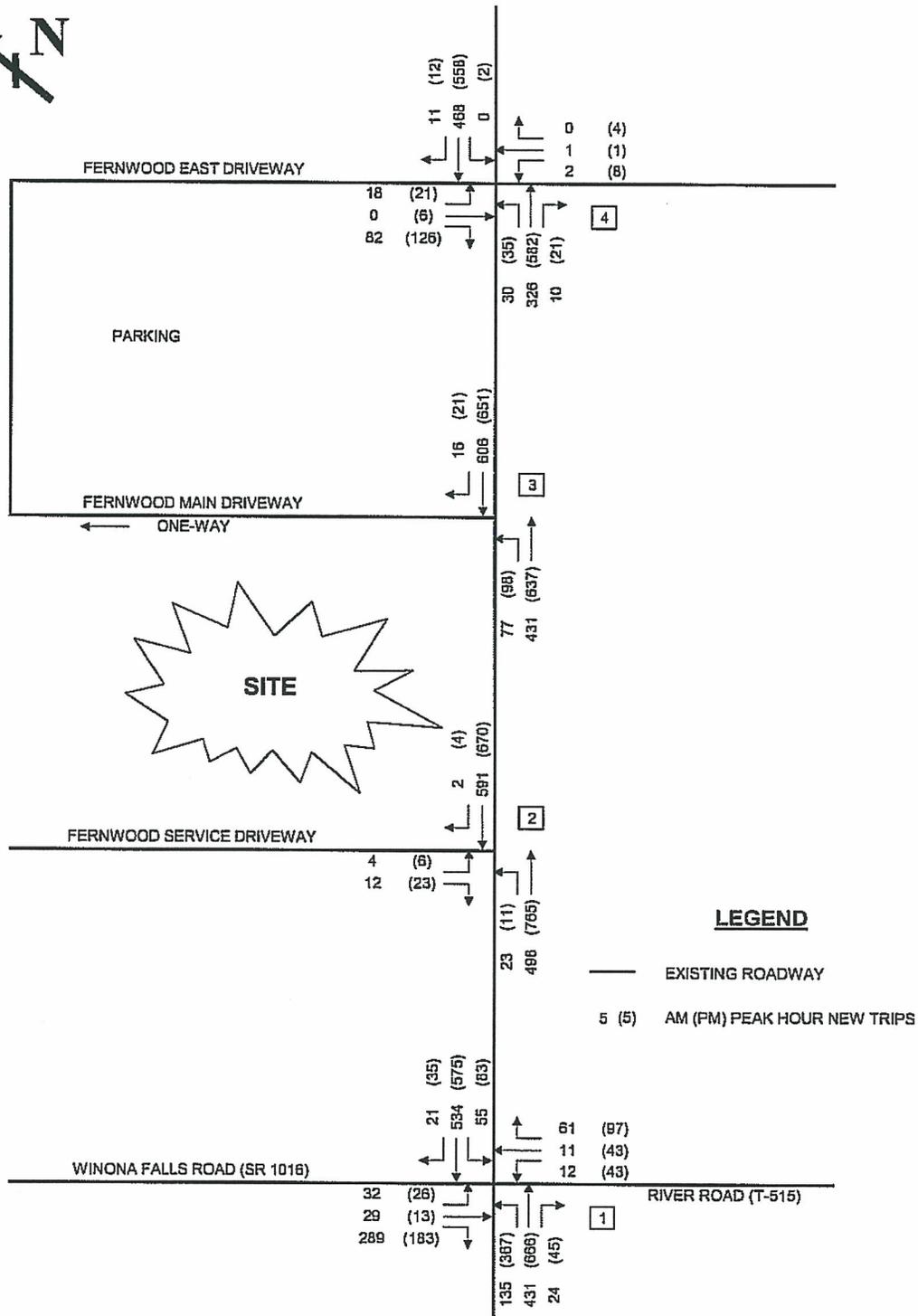


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FIGURE 7
2008 WITH DEVELOPMENT
TRAFFIC VOLUMES

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
 SCALE - N.T.S.
 DATE - MAY 2007

SHEET NO.
15
 DRAWING NO.
7 OF 8
 PROJECT 2773.065



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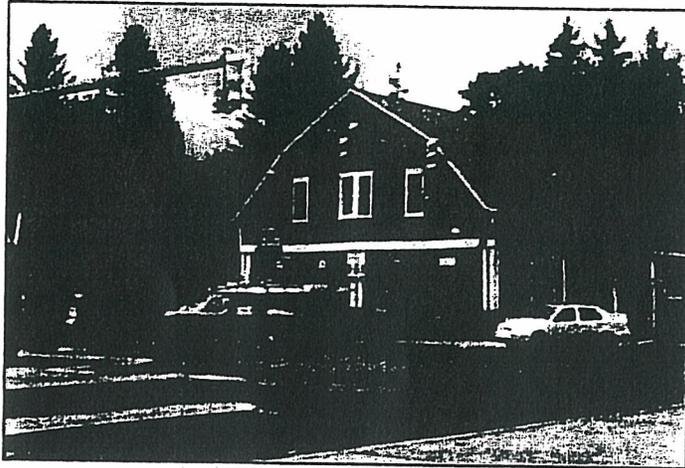
FIGURE 8
2018 WITH DEVELOPMENT
TRAFFIC VOLUMES

PROJ. MGR. - JBK
 DESIGN - EJD
 DRAWING - EJD
 CHECKED - TDA
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 DATE - MAY 2007

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 PROJECT 2773.065



Project Summary



Prepared for:

Pennsylvania Department of Transportation (District 5-0)



Prepared by:



August 21, 2003

INTRODUCTION

The following memorandum provides a brief history of the CTLUMS study, and summarizes the activities conducted as part of the CTLUMS project to date, as well as on-going activities that could be monitored by PENNDOT District 5-0 and Monroe County.

HISTORY

CTLUMS Plan

CTLUMS (Comprehensive Transportation and Land Use Management Strategy) was conceived by the Marshalls Creek Traffic Relief Land Use Committee in 1994. This Committee, comprising representatives of local and county governments and the National Park Service, was established to provide input to PENNDOT on land use issues and to act as a liaison to local officials. The Land Use Committee recognized the need for a comprehensive planning effort that could demonstrate the relationship between land use and transportation, and, more important, create a strategy that could help manage growth in the region and thus work toward acceptable road conditions on the bypass in the design year 2018. The Committee also recognized the need for a formal partnership to prepare the CTLUMS.

Subsequently, in January 1995, CTLUMS was identified as a key Congestion Management Systems (CMS) commitment of the Traffic Relief Study project, as stated in the CMS resolution by the Rural Transportation Committee of the Economic Development Council of Northeastern Pennsylvania (EDCNP).

The CTLUMS effort was initiated in August 1999. Starting that month and continuing through July 2001, a transportation planning consultant, Orth-Rodgers & Associates (ORA), met on a regular basis with the CTLUMS Partnership Committee to forge agreement on the CTLUMS Plan. The Partnership Committee consisted of the original Land Use Committee members: PENNDOT, Smithfield Township, Middle Smithfield Township, Lehman Township, Monroe County, Pike County, and the National Park Service. This group was joined by EDCNP (now known as the Northeastern Pennsylvania Association, or NEPA). There were seven Partnership Committee meetings over the course of the project, and two public meetings.

Development of the CTLUMS Plan was divided into two stages. In the first stage, ORA prepared seven different land use scenarios for the design year 2018, with different rates of growth assumed under the scenarios. The project traffic model demonstrated that under virtually all of the land use scenarios, key intersections in the study area would experience failing levels of service, even with construction of the Marshalls Creek bypass. The only scenario that resulted in acceptable levels of service was "Trend with Growth Management Controls", a scenario that assumed the implementation of various growth management measures.

Following the future land use and traffic condition analysis, work commenced on the second stage of CTLUMS: creation of the actual Growth Management Plan. Most of the

strategies prepared by ORA and reviewed with the Partnership Committee focused on the planning and regulation of land use, since these strategies were identified as having the greatest potential effect on moderating traffic growth. Strategies included the adoption of environmental regulations, zoning changes, traffic impact study ordinances, access management districts, and other strategies which did not directly regulate land use. Although it was recognized that growth in regional traffic would have a significant effect on future study area roadway conditions, the most implementable strategies were those that the municipalities could enact themselves. This study culminated in preparation of a *Growth Management Plan* in July 2001.

CTLUMS Implementation

Creation of the CTLUMS Plan was followed by the CTLUMS Implementation phase. In this phase, model ordinances were prepared by ORA to implement most of the strategies recommended in the CTLUMS Plan. Following preparation of the ordinances, ORA worked with the municipalities to adopt a version of these ordinances. Some strategies, such as the revision of zoning ordinance amendments, assumed that the townships would conduct themselves with needed coordination by ORA, because these efforts were already underway and funded by other initiatives.

An important part of this phase was a close working relationship with the three study area municipalities, and with Smithfield and Middle Smithfield Townships in particular, since land development in those two townships would have a larger impact on bypass traffic conditions. Further, new zoning and subdivision and land development ordinances had been prepared for Lehman Township, which incorporated all of the land use strategies recommended in the CTLUMS; Lehman did not request further assistance on finalizing the ordinance. From September 2001 to May 2003, ORA attended 14 meetings at the three municipalities, and made presentations at various other community forums. Larger-scale coordination was provided through two CTLUMS Partnership Committee meetings.

As of August 2003, many of the model ordinances have been implemented by the study area communities, including several ordinances identified as having the greatest effect on future traffic conditions. Other ordinances intended to implement the CTLUMS are still being considered by the communities. This staging is due to the "bottom-up" nature of the CTLUMS Plan; most of the strategies must be implemented at the local level, and the process of passing local legislation can be deliberative. Although the formal Implementation Phase in terms of ORA assistance is ending this summer, the three municipalities – in conjunction with the two counties – will likely continue to approve ordinances intended to implement the CTLUMS Plan into the future.

Perhaps a longer-term effect of CTLUMS has been the increased awareness among local officials and residents that the way in which land is developed has a direct impact on transportation. As stated in the Smithfield Township 2001 Comprehensive Plan Update, "The challenge is to find the right balance of commercial and residential growth and employ mechanisms that allow growth without exacerbating traffic problems. Many of the CTLUMS recommendations fall into these categories."

Following is a summary of the strategies recommended under the CTLUMS, and their status today:

STRATEGIES

Traffic Impact Study (TIS)

This ordinance requires traffic impact studies for land uses generating above a certain number of daily trips. Both Middle Smithfield and Smithfield adopted a TIS ordinance that requires land uses which generate more than 50 trips in the peak hour to prepare traffic impact studies.

Smithfield Township – Adopted 12/02

Middle Smithfield Township – Adopted 8/13/02

Lehman Township – Presented by ORA 1/02; still under review

Access Management District

This ordinance establishes a district overlay of Route 209 ~~was recommended~~, with the primary purpose being to manage the frequency of driveways along Route 209 and provide a safe distance between driveways. Adjacent land uses would be encouraged to provide joint access drives, cross access drives, and linked or shared parking lots, and thus reduce turning movements into and out of Route 209.

Smithfield Township – Adopted 12/02

Middle Smithfield Township – Adopted 8/13/02

Lehman Township – Not applicable

Impervious Coverage Standards

This ordinance prescribes the maximum percentage of a lot that can be covered by impervious surfaces, for both residential and commercial uses. The primary intent is to regulate the amount of development that can occur in commercial districts. In the absence of an impervious coverage standard, it would theoretically be possible for entire lots in the study area to be paved over. The CTLUMS Plan recommended that no more than 70% of a commercial lot be paved over.

Smithfield Township – Adopted 12/02

Middle Smithfield Township – Adopted 6/03

Lehman Township – Prepared by URDC 6/02; still under review

Adjusted Tract Acreage

This ordinance applies a “density factor” to residential development on environmentally constrained land, primarily steep slopes and wetlands. This provision has the effect of reducing the intensity of development in such areas.

Smithfield Township – Adopted 12/02

Middle Smithfield Township – Adopted 6/03

Lehman Township – Prepared by URDC 6/02; still under review

Critical Areas

This ordinance regulates the disturbance of environmentally sensitive lands. For example, the Middle Smithfield ordinance states that no more than 10 percent of land with slopes of 25 percent or greater can be disturbed in residential districts. This ordinance thus serves to protect environmentally sensitive land, with the corresponding effect of reducing the intensity of development in such areas.

Smithfield Township – Adopted 12/02

Middle Smithfield Township – Adopted 6/03

Lehman Township – Prepared by URDC 6/02; still under review

Residential Zoning

A model zoning ordinance could not be prepared, because the preparation and revision of a zoning ordinance is an intensive process which must consider land use conditions in all parts of a municipality. Further, the zoning ordinance of every municipality is unique. Therefore, based upon a general review of existing density in residential zoning districts in the three Townships, the CTLUMS *Growth Management Plan* suggested modifications to lot sizes that could be considered by the Townships, and general areas where zoning classifications could be re-designated. Because each of the three municipalities had independently begun the process of revising their zoning ordinances, ORA coordinated with representatives of each township. A description of the zoning activities in each township follows.

Smithfield Township

The CTLUMS *Growth Management Plan*, issued in July 2001, recommended creating a new, low-density “Rural Residential” zone and applying this district in an area between Business 209 and Route 209, and to the north of Business 209. The *Plan* also said that Smithfield should simultaneously consider increasing density slightly in an area adjacent to East Stroudsburg, to support that population center.

The Smithfield Township *2001 Comprehensive Plan Update* recommended that the CTLUMS land use recommendations be implemented, although with some modifications to the proposed Rural Residential Zone, and without increasing density next to East Stroudsburg. As of August 2003, Smithfield Township had drafted an ordinance which will create a new low-density zone. The zone, referred to as the “Rural Conservation” zone, will be applied to at least one area recommended in the CTLUMS Plan, as well as several other developable areas. This district will lower housing density to one unit per 25,000 square feet where central sewer and water is present, and one unit per 80,000 square feet in areas without central sewer or water. When approved, as appears likely, this ordinance will further advance CTLUMS goals.

Middle Smithfield Township

The CTLUMS Plan recommended expanding the R-1 low-density zone over a larger portion of the Township, and lowering density through the increase of lot sizes by 3,000 to 10,000 square feet. Middle Smithfield Township is currently considering changes to

its zoning ordinance; one change would require a minimum of two-acre lots in most of the undeveloped areas in the Township. This change would have a significant effect in reducing growth in the Township.

Lehman Township

The 2002 draft zoning ordinance would allow two-acre lots in a newly created Rural District, and between one-acre to half-acre lots in a Low Density Residential district, all of which would have the effect of managing growth. The draft ordinance is still being considered by the Planning Commission.

Conservation Subdivision

Conservation subdivisions were recommended in the CTLUMS *Growth Management Plan*, but as a means of preserving open space and reducing investments in infrastructure, not necessarily as a way of reducing trips along Route 209. Implementation of conservation subdivisions are therefore not integral to the CTLUMS effort. As of August 2003, conservation subdivision provisions were under review in all three townships.

Village Center Districts

Village Center districts are mixed-use, pedestrian-friendly zone districts with a traditional design. These districts are under consideration only in Middle Smithfield, since they were first recommended in the Middle Smithfield June 1999 *Comprehensive Plan*. The CTLUMS *Growth Management Plan* endorsed this concept in Middle Smithfield for two reasons:

- 1) the proposed village center district on Route 402 would have the potential of serving the needs of area residents for basic goods and services, and thus reduce trips on Route 209; and
- 2) because of their pedestrian-friendly design, these districts would encourage a greater number of trips to be conducted through walking or bicycling than is typical for the study area.

After conducting research on other village center districts in the Mid-Atlantic region, ORA prepared a report titled *Recommendations for Middle Smithfield Village Centers* in June 2003. This report explained the characteristics of village centers, discussed the existing conditions of the two proposed village centers in Middle Smithfield (on Route 209 and Route 402), and made recommendations on permitted uses, bulk standards, and design standards.

Creation of the village centers are still under consideration by Middle Smithfield. The most desirable features would be those that promote pedestrian and bicycle mobility, whether through encouraging pedestrian and bicycle facilities, or encouraging "pedestrian-scaled" design. Other features are less integral to CTLUMS.

Transfer of Development Rights (TDR)

The CTLUMS Plan recommended controlling the build-out of "antiquated" subdivisions (subdivisions that do not conform to current planning and public health standards) through a transfer of development rights program. By encouraging the owners of small

vacant lots within five older subdivisions in Middle Smithfield Township to sell their development rights, it was hoped to deter pressure for eventually installing public sewer in these subdivisions, and thus discourage development. Because TDR programs are typically very complicated programs to implement, and have an uneven record of accomplishment, it was decided not to emphasize this strategy in the Implementation Phase.

Open Space Preservation

Through purchasing the development rights to large developable tracts of land, and preserving these tracts as open space, two goals are accomplished:

- 1) maintain open space for study area residents to enjoy; and
- 2) reduce potential traffic growth.

Because this strategy can involve the outlay of significant funds, it was not emphasized in the CTLUMS Implementation Phase. It should be noted, however, that Smithfield Township has preserved 215 acres in the last two years. Smithfield Township is also interested in preserving the Daly farm, a large tract on the east side of Route 209.

It should also be noted that the Monroe County Planning Department has taken a leading role in encouraging open space planning efforts in the study area, and PENNDOT should continue to coordinate with this department.

Shuttle Service

The CTLUMS Plan recommended that a shuttle service be created to provide alternative transportation for residents, workers and visitors in the study area, and thus reduce the number of vehicular trips. Analysis of the feasibility of such service was not included in the CTLUMS Implementation Phase, but it remains a desirable strategy for the study area.

FOLLOW-UP

The remaining priority items for both Smithfield and Middle Smithfield Township are the revisions of zoning districts. As noted earlier, both Townships are actively working on ordinance amendments at the current time. Both Townships are also considering conservation subdivision amendments, which are not integral to CTLUMS. Middle Smithfield is also considering the creation of village center districts; this ordinance is not essential to the CTLUMS effort, but remains a long-standing goal of the Monroe County Comprehensive Plan.

Both Townships have passed the large majority of recommended CTLUMS items; even if they make only minor revisions to their zoning ordinances, it can be seen that they have done much to ensure the success of the CTLUMS project.

Lehman Township has not yet approved any ordinances recommended by CTLUMS. Approval of their draft zoning and subdivision and land development ordinances, prepared by URDC, would lead to the adoption of the most critical CTLUMS recommendations:

adjusted tract acreage, critical areas, and zoning revisions. PENNDOT should thus make this a priority in the follow-up to the CTLUMS project.

CONCLUSION

Starting in August 1999, and ending in August 2003, the CTLUMS project has resulted in the adoption of many strategies that will serve to manage land development and traffic growth in the study area. Smithfield and Middle Smithfield Townships, in particular, have approved a number of ordinances that will advance the goals of the CTLUMS project. A number of ordinances are pending that will have the effect of fulfilling the CTLUMS goals.

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