




















I-85/I-385 Interchange Improvements
2015 Alternate 4A PM

21: US 276 &

						
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	53	119	37	2067	1654	53
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	59	132	41	2297	1838	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1013	
pX, platoon unblocked	0.69	0.69	0.69			
vC, conflicting volume	3098	948	1897			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3141	37	1407			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	87			
cM capacity (veh/h)	5	704	323			
Direction, Lane #	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	191	41	1148	1148	1225	671
Volume Left	59	41	0	0	0	0
Volume Right	132	0	0	0	0	59
cSH	15	323	1700	1700	1700	1700
Volume to Capacity	12.39	0.13	0.68	0.68	0.72	0.39
Queue Length 95th (ft)	Err	11	0	0	0	0
Control Delay (s)	Err	17.8	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	Err	0.3			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			432.0			
Intersection Capacity Utilization			74.1%		ICU Level of Service	D
Analysis Period (min)			15			

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22: US 276 & St Josephs Dr

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (veh/h)	1710	410	87	1340	367	266
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1900	456	97	1489	408	296
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				860		
pX, platoon unblocked					0.68	
vC, conflicting volume			2356		3066	1178
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2356		3097	1178
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			51		0	0
cM capacity (veh/h)			196		3	179
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	
Volume Total	1267	1089	593	993	703	
Volume Left	0	0	97	0	408	
Volume Right	0	456	0	0	296	
cSH	1700	1700	196	1700	5	
Volume to Capacity	0.75	0.64	0.49	0.58	140.22	
Queue Length 95th (ft)	0	0	61	0	Err	
Control Delay (s)	0.0	0.0	29.9	0.0	Err	
Lane LOS			D		F	
Approach Delay (s)	0.0		11.2		Err	
Approach LOS					F	
Intersection Summary						
Average Delay			1518.0			
Intersection Capacity Utilization			145.8%		ICU Level of Service	H
Analysis Period (min)			15			

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29: Rothwell Dr & E Butler Road



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	21	6	1	784	1081	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	23	7	1	871	1201	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		5				
Median type				TWLT	TWLT	
Median storage (veh)				2	2	
Upstream signal (ft)				1176	378	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	1639	601	1202			
vC1, stage 1 conf vol	1202					
vC2, stage 2 conf vol	438					
vCu, unblocked vol	1401	294	972			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	99	100			
cM capacity (veh/h)	265	615	609			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	1	436	436	801	401
Volume Left	23	1	0	0	0	0
Volume Right	7	0	0	0	0	1
cSH	341	609	1700	1700	1700	1700
Volume to Capacity	0.09	0.00	0.26	0.26	0.47	0.24
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	17.9	10.9	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	17.9	0.0			0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			39.9%		ICU Level of Service	A
Analysis Period (min)			15			




















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32: New Commerce Ct & E Butler Road

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Volume (veh/h)	57	65	1090	4	57	1708
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	63	72	1211	4	63	1898
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)			371			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	2289	608			1216	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2208	337			1014	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	88			89	
cM capacity (veh/h)	29	584			595	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	136	807	408	63	949	949
Volume Left	63	0	0	63	0	0
Volume Right	72	0	4	0	0	0
cSH	59	1700	1700	595	1700	1700
Volume to Capacity	2.31	0.47	0.24	0.11	0.56	0.56
Queue Length 95th (ft)	335	0	0	9	0	0
Control Delay (s)	747.6	0.0	0.0	11.8	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	747.6	0.0		0.4		
Approach LOS	F					
Intersection Summary						
Average Delay		30.8				
Intersection Capacity Utilization		61.0%		ICU Level of Service		B
Analysis Period (min)		15				

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33: E Butler Road & Brookfield Pkwy

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	17	1134	4	1	1557	10	2	0	190	18	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	1260	4	1	1730	11	2	0	211	20	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		939										
pX, platoon unblocked				0.92			0.92	0.92		0.92	0.92	0.92
vC, conflicting volume	1741			1264			2410	3040	871	2378	3043	632
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1741			1107			2356	3044	871	2322	3047	417
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			86	100	27	0	100	99
cM capacity (veh/h)	344			559			16	10	289	5	10	528
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2			
Volume Total	19	840	424	866	876	2	211	20	4			
Volume Left	19	0	0	1	0	2	0	20	0			
Volume Right	0	0	4	0	11	0	211	0	4			
cSH	344	1700	1700	559	1700	16	289	5	528			
Volume to Capacity	0.05	0.49	0.25	0.00	0.52	0.14	0.73	4.42	0.01			
Queue Length 95th (ft)	4	0	0	0	0	10	132	Err	1			
Control Delay (s)	16.1	0.0	0.0	0.1	0.0	269.0	45.2	Err	11.9			
Lane LOS	C			A		F	E	F	B			
Approach Delay (s)	0.2			0.0		47.5		8183.2				
Approach LOS						E		F				
Intersection Summary												
Average Delay			64.5									
Intersection Capacity Utilization			68.5%		ICU Level of Service				C			
Analysis Period (min)			15									