




















I-85/I-385 Interchange Improvements
2015 No-Build PM

21: Frontage Rd & US 276

						
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	53	119	37	2967	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	3297	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)					1010	
pX, platoon unblocked	0.70	0.70	0.70			
vC, conflicting volume	3598	948	1897			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3860	50	1413			
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)	1	694	322			
Direction, Lane #	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	191	41	1648	1648	1225	671
Volume Left	59	41	0	0	0	0
Volume Right	132	0	0	0	0	59
cSH	5	322	1700	1700	1700	1700
Volume to Capacity	40.32	0.13	0.97	0.97	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	0.2			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			352.3			
Intersection Capacity Utilization			98.9%		ICU Level of Service	F
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)				862		
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		3096	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	139.54	
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)				1175	377	
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	1400	293	971			
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	616	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)			369			
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	2211	344			1019	
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	579			594	
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	594	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)	749.1	0.0	0.0	11.8	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	749.1	0.0		0.4		
Approach LOS	F					
Intersection Summary						
Average Delay		30.9				
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				0.95			0.95	0.95		0.95	0.95	0.95
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			1170			2378	3042	871	2344	3046	503
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			546			16	11	289	4	11	480
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	546	1700	16	289	4	480			
Volume to Capacity	0.05	0.49	0.25	0.00	0.52	0.14	0.73	4.45	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	270.6	45.2	Err	12.6			
Lane LOS	C			A		F	E	F	B			
Approach Delay (s)	0.2			0.0		47.5		8183.3				
Approach LOS						E		F				
Intersection Summary												
Average Delay			64.5									
Intersection Capacity Utilization			68.5%		ICU Level of Service				C			
Analysis Period (min)			15									