




















I-85/I-385 Interchange Improvements
2010 Existing AM

21: Frontage Rd & US 276

						
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	115	18	67	1419	1744	67
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)	128	20	74	1577	1938	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1009	
pX, platoon unblocked	0.63	0.63	0.63			
vC, conflicting volume	2912	1006	2012			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2861	0	1435			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	0	97	74			
cM capacity (veh/h)	6	678	287			
Direction, Lane #	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	148	74	788	788	1292	720
Volume Left	128	74	0	0	0	0
Volume Right	20	0	0	0	0	74
cSH	7	287	1700	1700	1700	1700
Volume to Capacity	21.67	0.26	0.46	0.46	0.76	0.42
Queue Length 95th (ft)	Err	25	0	0	0	0
Control Delay (s)	Err	21.9	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	Err	1.0			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		388.1				
Intersection Capacity Utilization		69.8%		ICU Level of Service		C
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)	1297	237	245	1397	414	92
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)	1441	263	272	1552	460	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				854		
pX, platoon unblocked					0.59	
vC, conflicting volume			1704		2893	852
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1704		2818	852
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			24		0	66
cM capacity (veh/h)			356		2	297
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	
Volume Total	961	744	790	1035	562	
Volume Left	0	0	272	0	460	
Volume Right	0	263	0	0	102	
cSH	1700	1700	356	1700	2	
Volume to Capacity	0.57	0.44	0.76	0.61	246.23	
Queue Length 95th (ft)	0	0	154	0	Err	
Control Delay (s)	0.0	0.0	41.4	0.0	Err	
Lane LOS			E		F	
Approach Delay (s)	0.0		17.9		Err	
Approach LOS					F	
Intersection Summary						
Average Delay			1382.1			
Intersection Capacity Utilization			127.7%	ICU Level of Service		H
Analysis Period (min)			15			

I-85/I-385 Interchange Improvements














2010 Existing AM

29: Rothwell Dr & E Butler Road

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	5	1	4	998	838	24
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)	6	1	4	1109	931	27
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	0.86	0.88	0.88			
vC, conflicting volume	1508	479	958			
vC1, stage 1 conf vol	944					
vC2, stage 2 conf vol	563					
vCu, unblocked vol	619	130	675			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4	2.2			
p0 queue free %	99	100	99			
cM capacity (veh/h)	400	779	784			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	7	4	554	554	621	337
Volume Left	6	4	0	0	0	0
Volume Right	1	0	0	0	0	27
cSH	480	784	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.33	0.33	0.37	0.20
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	13.4	9.6	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	13.4	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			37.6%		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)	48	52	1329	19	32	1199
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)	53	58	1477	21	36	1332
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	0.83	0.83			0.83	
vC, conflicting volume	2224	749			1498	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2067	291			1192	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	0	90			92	
cM capacity (veh/h)	35	579			469	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	111	984	513	36	666	666
Volume Left	53	0	0	36	0	0
Volume Right	58	0	21	0	0	0
cSH	68	1700	1700	469	1700	1700
Volume to Capacity	1.63	0.58	0.30	0.08	0.39	0.39
Queue Length 95th (ft)	242	0	0	6	0	0
Control Delay (s)	444.4	0.0	0.0	13.3	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	444.4	0.0		0.3		
Approach LOS	F					
Intersection Summary						
Average Delay			16.7			
Intersection Capacity Utilization			49.9%		ICU Level of Service	A
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)	86	1276	19	15	1201	16	1	0	12	18	0	9
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)	96	1418	21	17	1334	18	1	0	13	20	0	10
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				0.85			0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1352			1439			2287	3007	676	2333	3005	719
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1352			1159			2159	3008	676	2214	3006	310
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			3.6	4.0	3.4	3.6	4.0	3.4
p0 queue free %	80			97			94	100	97	0	100	98
cM capacity (veh/h)	489			493			18	8	389	16	8	574
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2			
Volume Total	96	945	494	684	685	1	13	20	10			
Volume Left	96	0	0	17	0	1	0	20	0			
Volume Right	0	0	21	0	18	0	13	0	10			
cSH	489	1700	1700	493	1700	18	389	16	574			
Volume to Capacity	0.20	0.56	0.29	0.03	0.40	0.06	0.03	1.26	0.02			
Queue Length 95th (ft)	18	0	0	3	0	5	3	75	1			
Control Delay (s)	14.1	0.0	0.0	1.0	0.0	221.0	14.6	657.2	11.4			
Lane LOS	B			A		F	B	F	B			
Approach Delay (s)	0.9			0.5		30.5		441.9				
Approach LOS						D		F				
Intersection Summary												
Average Delay			5.3									
Intersection Capacity Utilization			85.8%		ICU Level of Service				E			
Analysis Period (min)			15									