



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE












New Carlisle Intersection Study
Final Tech Memo

Appendix E: Synchro 8.0 & RODEL Results

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church/Linden












7/8/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	64	172	279	3	0	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.75	0.92	0.50	0.92	0.57
Hourly flow rate (vph)	80	229	303	6	0	181
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	309				696	306
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	309				696	306
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				100	75
cM capacity (veh/h)	1251				382	734
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	80	229	309	181		
Volume Left	80	0	0	0		
Volume Right	0	0	6	181		
cSH	1251	1700	1700	734		
Volume to Capacity	0.06	0.13	0.18	0.25		
Queue Length 95th (ft)	5	0	0	24		
Control Delay (s)	8.1	0.0	0.0	11.5		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	11.5		
Approach LOS				B		
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			34.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church/Linden












7/8/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	173	401	286	7	5	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.88	0.83	0.63	0.50	0.76
Hourly flow rate (vph)	186	456	345	11	10	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	356				1178	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	356				1178	350
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				94	79
cM capacity (veh/h)	1203				178	693
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	186	456	356	159		
Volume Left	186	0	0	10		
Volume Right	0	0	11	149		
cSH	1203	1700	1700	586		
Volume to Capacity	0.15	0.27	0.21	0.27		
Queue Length 95th (ft)	14	0	0	27		
Control Delay (s)	8.5	0.0	0.0	13.4		
Lane LOS	A			B		
Approach Delay (s)	2.5		0.0	13.4		
Approach LOS				B		
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			42.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church/Linden












7/17/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	64	172	279	3	0	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.75	0.92	0.50	0.92	0.57
Hourly flow rate (vph)	96	275	364	7	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				835	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				835	368
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	68
cM capacity (veh/h)	1187				311	678
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	96	275	371	217		
Volume Left	96	0	0	0		
Volume Right	0	0	7	217		
cSH	1187	1700	1700	678		
Volume to Capacity	0.08	0.16	0.22	0.32		
Queue Length 95th (ft)	7	0	0	34		
Control Delay (s)	8.3	0.0	0.0	12.8		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	12.8		
Approach LOS				B		
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church












8/4/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	64	172	279	3	0	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.75	0.92	0.50	0.50	0.57
Hourly flow rate (vph)	96	275	364	7	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				835	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				835	368
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	68
cM capacity (veh/h)	1187				311	678
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	96	275	371	217		
Volume Left	96	0	0	0		
Volume Right	0	0	7	217		
cSH	1187	1700	1700	678		
Volume to Capacity	0.08	0.16	0.22	0.32		
Queue Length 95th (ft)	7	0	0	34		
Control Delay (s)	8.3	0.0	0.0	12.8		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	12.8		
Approach LOS				B		
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church

8/4/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	61	172	279	3	0	98
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.75	0.92	0.50	0.50	0.57
Hourly flow rate (vph)	92	275	364	7	0	206
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				826	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				826	368
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	70
cM capacity (veh/h)	1187				316	678
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	92	275	371	206		
Volume Left	92	0	0	0		
Volume Right	0	0	7	206		
cSH	1187	1700	1700	678		
Volume to Capacity	0.08	0.16	0.22	0.30		
Queue Length 95th (ft)	6	0	0	32		
Control Delay (s)	8.3	0.0	0.0	12.6		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	12.6		
Approach LOS				B		
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			39.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: SR235 & Linden

8/4/2014














Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	3	233	377	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.50	0.75	0.92	0.50
Hourly flow rate (vph)	0	12	7	373	492	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	879	492	492			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	879	492	492			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	316	577	1072			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	12	7	373	492		
Volume Left	0	7	0	0		
Volume Right	12	0	0	0		
cSH	577	1072	1700	1700		
Volume to Capacity	0.02	0.01	0.22	0.29		
Queue Length 95th (ft)	2	1	0	0		
Control Delay (s)	11.4	8.4	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.4	0.2		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			33.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church

8/4/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	64	172	279	3	0	98
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.75	0.92	0.50	0.50	0.57
Hourly flow rate (vph)	96	275	364	7	0	206
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				835	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				835	368
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	70
cM capacity (veh/h)	1187				311	678
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	96	275	371	206		
Volume Left	96	0	0	0		
Volume Right	0	0	7	206		
cSH	1187	1700	1700	678		
Volume to Capacity	0.08	0.16	0.22	0.30		
Queue Length 95th (ft)	7	0	0	32		
Control Delay (s)	8.3	0.0	0.0	12.6		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	12.6		
Approach LOS				B		
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			39.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: SR235 & Linden

8/4/2014














Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	
Volume (veh/h)	0	5	0	236	377	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.92	0.75	0.92	0.92
Hourly flow rate (vph)	0	12	0	378	492	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	869	492	492			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869	492	492			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	322	577	1072			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	12	378	492			
Volume Left	0	0	0			
Volume Right	12	0	0			
cSH	577	1700	1700			
Volume to Capacity	0.02	0.22	0.29			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	11.4	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	11.4	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			33.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church/Linden












7/17/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	173	401	286	7	5	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.88	0.83	0.63	0.50	0.76
Hourly flow rate (vph)	223	547	413	13	12	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	427				1413	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	427				1413	420
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				90	72
cM capacity (veh/h)	1133				122	633
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	223	547	427	190		
Volume Left	223	0	0	12		
Volume Right	0	0	13	178		
cSH	1133	1700	1700	501		
Volume to Capacity	0.20	0.32	0.25	0.38		
Queue Length 95th (ft)	18	0	0	44		
Control Delay (s)	9.0	0.0	0.0	16.5		
Lane LOS	A			C		
Approach Delay (s)	2.6		0.0	16.5		
Approach LOS				C		
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church












8/4/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	173	401	286	5	2	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.88	0.83	0.63	0.50	0.76
Hourly flow rate (vph)	223	547	413	10	5	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	423				1412	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	423				1412	418
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				96	72
cM capacity (veh/h)	1136				122	635
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	223	547	423	183		
Volume Left	223	0	0	5		
Volume Right	0	0	10	178		
cSH	1136	1700	1700	572		
Volume to Capacity	0.20	0.32	0.25	0.32		
Queue Length 95th (ft)	18	0	0	34		
Control Delay (s)	8.9	0.0	0.0	14.2		
Lane LOS	A			B		
Approach Delay (s)	2.6		0.0	14.2		
Approach LOS				B		
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			48.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church

8/6/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	163	401	288	5	2	106
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.88	0.83	0.63	0.50	0.76
Hourly flow rate (vph)	210	547	416	10	5	167
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	426				1389	421
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	426				1389	421
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				96	74
cM capacity (veh/h)	1133				128	632
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	210	547	426	172		
Volume Left	210	0	0	5		
Volume Right	0	0	10	167		
cSH	1133	1700	1700	570		
Volume to Capacity	0.19	0.32	0.25	0.30		
Queue Length 95th (ft)	17	0	0	32		
Control Delay (s)	8.9	0.0	0.0	14.0		
Lane LOS	A			B		
Approach Delay (s)	2.5		0.0	14.0		
Approach LOS				B		
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			47.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: SR235 & Linden

8/6/2014














Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	7	10	564	392	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.83	0.87	0.83	0.50
Hourly flow rate (vph)	0	17	14	778	567	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1376	569	572			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1376	569	572			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	99			
cM capacity (veh/h)	158	522	1001			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	17	14	778	572		
Volume Left	0	14	0	0		
Volume Right	17	0	0	5		
cSH	522	1001	1700	1700		
Volume to Capacity	0.03	0.01	0.46	0.34		
Queue Length 95th (ft)	2	1	0	0		
Control Delay (s)	12.1	8.6	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	12.1	0.2		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			39.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SR235 & Church

8/4/2014

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	173	401	286	5	2	106
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.88	0.83	0.63	0.50	0.76
Hourly flow rate (vph)	223	547	413	10	5	167
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	423				1412	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	423				1412	418
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				96	74
cM capacity (veh/h)	1136				122	635
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	223	547	423	172		
Volume Left	223	0	0	5		
Volume Right	0	0	10	167		
cSH	1136	1700	1700	568		
Volume to Capacity	0.20	0.32	0.25	0.30		
Queue Length 95th (ft)	18	0	0	32		
Control Delay (s)	8.9	0.0	0.0	14.1		
Lane LOS	A			B		
Approach Delay (s)	2.6		0.0	14.1		
Approach LOS				B		
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			47.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: SR235 & Linden

8/4/2014



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	
Volume (veh/h)	0	7	0	574	392	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.92	0.87	0.83	0.92
Hourly flow rate (vph)	0	17	0	792	567	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1358	567	567			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1358	567	567			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	164	523	1005			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	17	792	567			
Volume Left	0	0	0			
Volume Right	17	0	0			
cSH	523	1700	1700			
Volume to Capacity	0.03	0.47	0.33			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	12.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	12.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			39.6%	ICU Level of Service		A
Analysis Period (min)			15			

Mini-Roundabout

AM – 50% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd\Traffic\mini.rod

File View Help

Project: SR 235/Linden Ave/Church St Date: 7-Nov-2014 Model: Rodel Win1 Timeslice: 7.5 Full Geometry: Peak: AM Feet: RHD

Name: Mini-Roundabout Flows: 2014 Delay: Queuing Results: Veh Peak: 60/15m Synthetic Flow Profile: Conf: 50 Light: 28

Approach Geometry						Entry Geometry					Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	+ Cap (v/h)	Xwalk Fact
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000

Volume Modifiers				Turning Volumes (veh/hr)					Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor				U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	
1 SB SR 235	6.0	1.00				0	279	3	0	0.750	1.125	0.750	0	30	60
2 EB Church	1.0	1.00				0	0	98	0	0.750	1.125	0.750	0	30	60
3 NB SR 235	10.0	1.00				0	64	172	0	0.750	1.125	0.750	0	30	60

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F			
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp	Leg
1	SB SR 235	None	282		64		1082		0.2665		4.15		4.15	0.38	1.00			A	A	A
2	EB Church	None	98		279		1063		0.0945		3.68		3.68	0.12	0.31			A	A	A
3	NB SR 235	None	236		0		1039		0.2320		3.95		3.95	0.30	0.79			A	A	A
All	Intersection										4.00									A

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

PM – 50% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd\Traffic\mini.rod

File View Help

Project: SR 235/Linden Ave/Church St Date: 7-Nov-2014 Model: Rodel Win1 Timeslice: 7.5 Full Geometry: Peak: PM Feet: RHD

Name: Mini-Roundabout Flows: 2014 Delay: Queuing Results: Veh Peak: 60/15m Synthetic Flow Profile: Conf: 50 Light: 30

Approach Geometry						Entry Geometry					Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	+ Cap (v/h)	Xwalk Fact
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000

Volume Modifiers				Turning Volumes (veh/hr)					Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor				U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	
1 SB SR 235	3.0	1.00				0	286	5	0	0.750	1.125	0.750	0	30	60
2 EB Church	1.0	1.00				0	2	106	0	0.750	1.125	0.750	0	30	60
3 NB SR 235	3.0	1.00				0	173	401	0	0.750	1.125	0.750	0	30	60

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F			
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp	Leg
1	SB SR 235	None	291		173		1087		0.2743		4.34		4.34	0.42	1.09			A	A	A
2	EB Church	None	108		286		1064		0.1041		3.71		3.71	0.13	0.34			A	A	A
3	NB SR 235	None	574		2		1184		0.4970		5.61		5.61	1.12	2.86			A	A	A
All	Intersection										5.02									A

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

AM – 85% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd/Traffic/mini.rod

File View Help

Project: SR 235/Linden Ave/Church St Date: 7-Nov-2014 Model: Rodel Win1 Timeslice: 7.5 Full Geometry Peak: PM Feet RHD

Name: Mini-Roundabout Flows: 2014 Delay: Queuing Results: Veh Peak: 60/15m Synthetic Flow Profile Conf: 85 Light: 26

Approach Geometry						Entry Geometry						Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	+ Cap (v/h)	Xwalk Fact	
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	

Volume Modifiers			Turning Volumes (veh/hr)						Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor			U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	Time3	
1 SB SR 235	3.0	1.00			0	286	5	0	0.750	1.125	0.750	0	30	60	
2 EB Church	1.0	1.00			0	2	106	0	0.750	1.125	0.750	0	30	60	
3 NB SR 235	3.0	1.00			0	173	401	0	0.750	1.125	0.750	0	30	60	

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F		
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp
1	SB SR 235	None	291		173		892		0.3356		5.74		0.56		1.46		A		A
2	EB Church	None	108		286		861		0.1291		4.72		0.17		0.44		A		A
3	NB SR 235	None	574		2		989		0.5984		8.22		1.70		4.28		A		A
All	Intersection																		A

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

PM – 85% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd/Traffic/mini.rod

File View Help

Project: SR 235/Linden Ave/Church St Date: 7-Nov-2014 Model: Rodel Win1 Timeslice: 7.5 Full Geometry Peak: AM Feet RHD

Name: Mini-Roundabout Flows: 2014 Delay: Queuing Results: Veh Peak: 60/15m Synthetic Flow Profile Conf: 85 Light: 23

Approach Geometry						Entry Geometry						Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	+ Cap (v/h)	Xwalk Fact	
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	72.00	18.00	1	13.00	1	12.00	1	0	1.000	

Volume Modifiers			Turning Volumes (veh/hr)						Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor			U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	Time3	
1 SB SR 235	6.0	1.00			0	279	3	0	0.750	1.125	0.750	0	30	60	
2 EB Church	1.0	1.00			0	0	98	0	0.750	1.125	0.750	0	30	60	
3 NB SR 235	10.0	1.00			0	64	172	0	0.750	1.125	0.750	0	30	60	

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F		
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp
1	SB SR 235	None	282		64		898		0.3220		5.36		0.50		1.31		A		A
2	EB Church	None	98		279		860		0.1172		4.66		0.15		0.39		A		A
3	NB SR 235	None	236		0		868		0.2783		4.99		0.38		1.00		A		A
All	Intersection																		A

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

Compact Urban Roundabout

AM – 50% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd\Traffic\Compact_Urban_rod

File View Help

Project [SR 235/Linden Ave/Church St] Date [7-Nov-2014] Model [Rodel W/n1] Timeslice [7.5] Full Geometry [Full Geometry] Peak [AM] Feet [Feet] RHD

Name [Compact Urban Roundabout] Flows [2014] Delay [Queuing] Results [Veh] Peak:60/15m Synthetic Flow Profile [Synthetic Flow Profile] Conf [50] Light [Light] [30]

Approach Geometry						Entry Geometry					Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	-> Cap (v/h)	Xwalk Fact
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000

Volume Modifiers			Turning Volumes (veh/hr)					Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor	U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	Time3		
1 SB SR 235	6.0	1.00	0	279	3	0	0.750	1.125	0.750	0	30	60		
2 EB Church	1.0	1.00	0	0	98	0	0.750	1.125	0.750	0	30	60		
3 NB SR 235	10.0	1.00	0	64	172	0	0.750	1.125	0.750	0	30	60		

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F			
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp	Leg
1	SB SR 235	None	282		64		1083		0.2663		4.15		4.15	0.38		1.00		A		A
2	EB Church	None	98		279		1065		0.0943		3.67		3.67	0.12		0.31		A		A
3	NB SR 235	None	236		0		1039		0.2320		3.95		3.95	0.30		0.79		A		A
All	Intersection												3.99							A

Calibration Accidents Economics Bypass Run

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

PM – 50% CL

Rodel - M:\PROJ\1321\1005 - Croft Rd\Traffic\Compact_Urban_rod

File View Help

Project [SR 235/Linden Ave/Church St] Date [7-Nov-2014] Model [Rodel W/n1] Timeslice [7.5] Full Geometry [Full Geometry] Peak [PM] Feet [Feet] RHD

Name [Compact Urban Roundabout] Flows [2014] Delay [Queuing] Results [Veh] Peak:60/15m Synthetic Flow Profile [Synthetic Flow Profile] Conf [50] Light [Light] [32]

Approach Geometry						Entry Geometry					Circ Geom			Exit Geometry				Entry Capacity Mods	
Leg Name	Bearing	G	V	n		E	n	L'	R	Φ	D	C	n	Ex	n	Vx	n	-> Cap (v/h)	Xwalk Fact
1 SB SR 235	Y	0	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000
2 EB Church	Y	120	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000
3 NB SR 235	Y	240	0	12.00	1	16.00	1	50.00	80.00	20.00	110.00	18.00	1	13.00	1	12.00	1	0	1.000

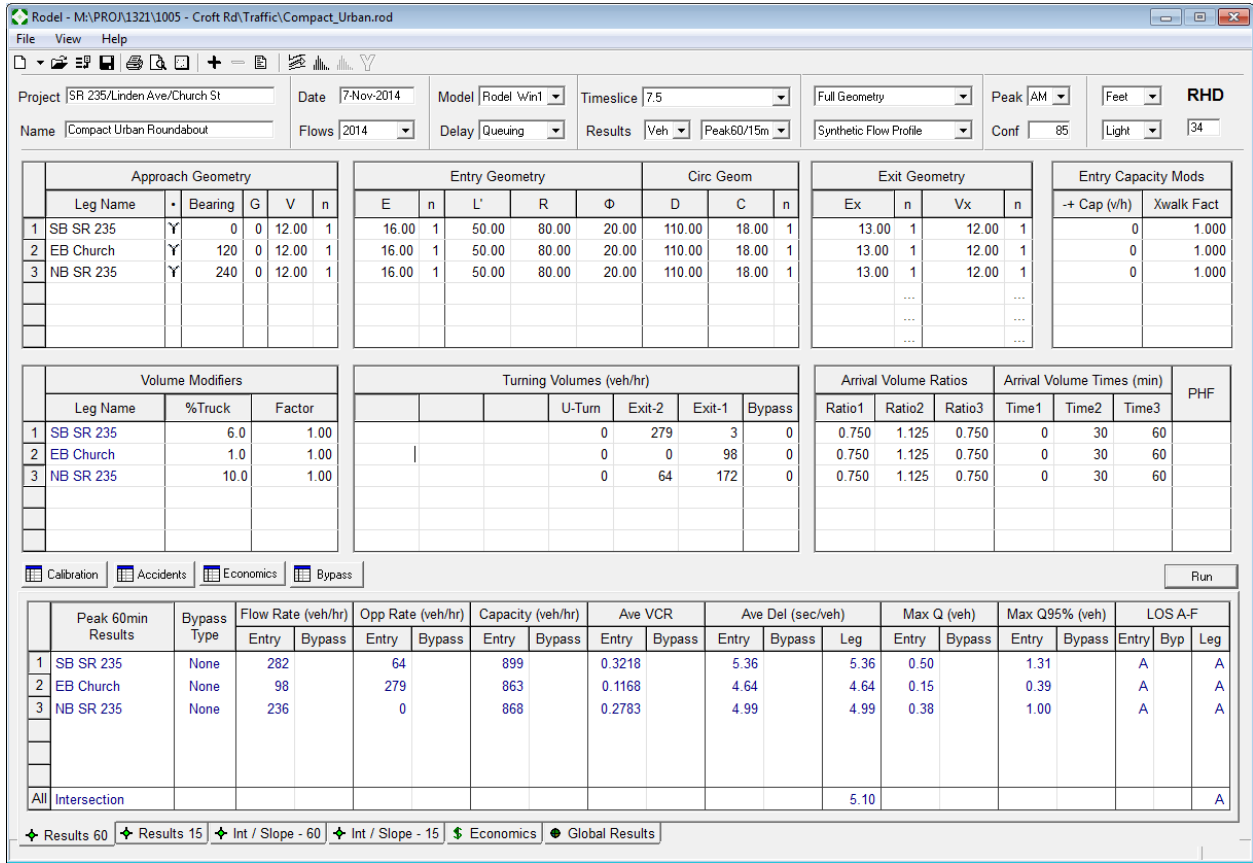
Volume Modifiers			Turning Volumes (veh/hr)					Arrival Volume Ratios			Arrival Volume Times (min)			PHF
Leg Name	%Truck	Factor	U-Turn	Exit-2	Exit-1	Bypass	Ratio1	Ratio2	Ratio3	Time1	Time2	Time3		
1 SB SR 235	3.0	1.00	0	286	5	0	0.750	1.125	0.750	0	30	60		
2 EB Church	1.0	1.00	0	2	106	0	0.750	1.125	0.750	0	30	60		
3 NB SR 235	3.0	1.00	0	173	401	0	0.750	1.125	0.750	0	30	60		

	Peak 60min Results	Bypass Type	Flow Rate (veh/hr)		Opp Rate (veh/hr)		Capacity (veh/hr)		Ave VCR		Ave Del (sec/veh)		Max Q (veh)		Max Q95% (veh)		LOS A-F			
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Entry	Byp	Leg
1	SB SR 235	None	291		173		1088		0.2740		4.33		4.33	0.42		1.09		A		A
2	EB Church	None	108		286		1066		0.1038		3.70		3.70	0.13		0.34		A		A
3	NB SR 235	None	574		2		1184		0.4969		5.61		5.61	1.12		2.86		A		A
All	Intersection												5.02							A

Calibration Accidents Economics Bypass Run

Results 60 Results 15 Int / Slope - 60 Int / Slope - 15 Economics Global Results

AM – 85% CL



PM – 85% CL

