

APPENDIX E

CAPACITY CALCULATIONS

NC 42 & Site Driveway #2

HCM Unsignalized Intersection Capacity Analysis 3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↑		↗
Volume (veh/h)	948	38	0	1028	0	61
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1053	42	0	1142	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.50		0.69	0.50
vC, conflicting volume			1096		2196	1053
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			689		1283	605
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	73
cM capacity (veh/h)			456		126	250
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	1053	42	1142	68		
Volume Left	0	0	0	0		
Volume Right	0	42	0	68		
cSH	1700	1700	1700	250		
Volume to Capacity	0.62	0.02	0.67	0.27		
Queue Length 95th (ft)	0	0	0	27		
Control Delay (s)	0.0	0.0	0.0	24.6		
Lane LOS				C		
Approach Delay (s)	0.0		0.0	24.6		
Approach LOS				C		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			60.3%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1063	69	0	1076	0	111
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1181	77	0	1196	0	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.37		0.57	0.37
vC, conflicting volume			1258		2377	1181
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			850		1473	645
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	31
cM capacity (veh/h)			297		81	177
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	1181	77	1196	123		
Volume Left	0	0	0	0		
Volume Right	0	77	0	123		
cSH	1700	1700	1700	177		
Volume to Capacity	0.69	0.05	0.70	0.69		
Queue Length 95th (ft)	0	0	0	105		
Control Delay (s)	0.0	0.0	0.0	61.8		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	61.8		
Approach LOS				F		
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			69.5%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	948	38	0	1028	0	61
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1053	42	0	1142	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.83		0.90	0.83
vC, conflicting volume			1096		1624	527
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			716		653	33
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			745		366	866
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	527	527	42	571	571	68
Volume Left	0	0	0	0	0	0
Volume Right	0	0	42	0	0	68
cSH	1700	1700	1700	1700	1700	866
Volume to Capacity	0.31	0.31	0.02	0.34	0.34	0.08
Queue Length 95th (ft)	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.5
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.5
Approach LOS						A
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			36.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1063	69	0	1076	0	111
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1181	77	0	1196	0	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.76		0.86	0.76
vC, conflicting volume			1258		1779	591
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			714		520	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	85
cM capacity (veh/h)			682		425	832
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	591	591	77	598	598	123
Volume Left	0	0	0	0	0	0
Volume Right	0	0	77	0	0	123
cSH	1700	1700	1700	1700	1700	832
Volume to Capacity	0.35	0.35	0.05	0.35	0.35	0.15
Queue Length 95th (ft)	0	0	0	0	0	13
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.1
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.1
Approach LOS						B
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			42.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1110	38	0	1181	0	61
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1233	42	0	1312	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.79		0.89	0.79
vC, conflicting volume			1276		1889	617
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			808		665	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			650		353	858
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	617	617	42	656	656	68
Volume Left	0	0	0	0	0	0
Volume Right	0	0	42	0	0	68
cSH	1700	1700	1700	1700	1700	858
Volume to Capacity	0.36	0.36	0.02	0.39	0.39	0.08
Queue Length 95th (ft)	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.6
Approach LOS						A
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: NC 42 & Site Driveway #2

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1226	69	0	1222	0	111
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1362	77	0	1358	0	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	851			829		
pX, platoon unblocked			0.70		0.81	0.70
vC, conflicting volume			1439		2041	681
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			777		599	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	84
cM capacity (veh/h)			596		356	766
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	681	681	77	679	679	123
Volume Left	0	0	0	0	0	0
Volume Right	0	0	77	0	0	123
cSH	1700	1700	1700	1700	1700	766
Volume to Capacity	0.40	0.40	0.05	0.40	0.40	0.16
Queue Length 95th (ft)	0	0	0	0	0	14
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.6
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.6
Approach LOS						B
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			47.4%		ICU Level of Service	A
Analysis Period (min)			15			

APPENDIX F

CAPACITY CALCULATIONS

NC 42 & Site Driveway #3

HCM Unsignalized Intersection Capacity Analysis 4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↑		↗
Volume (veh/h)	974	34	0	1028	0	40
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1082	38	0	1142	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.53		0.71	0.53
vC, conflicting volume			1120		2224	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			777		1325	705
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	81
cM capacity (veh/h)			446		124	231
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	1082	38	1142	44		
Volume Left	0	0	0	0		
Volume Right	0	38	0	44		
cSH	1700	1700	1700	231		
Volume to Capacity	0.64	0.02	0.67	0.19		
Queue Length 95th (ft)	0	0	0	17		
Control Delay (s)	0.0	0.0	0.0	24.2		
Lane LOS				C		
Approach Delay (s)	0.0		0.0	24.2		
Approach LOS				C		
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			61.3%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1131	42	0	1076	0	57
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1257	47	0	1196	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.38		0.58	0.38
vC, conflicting volume			1303		2452	1257
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			986		1598	864
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	54
cM capacity (veh/h)			271		69	136
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	1257	47	1196	63		
Volume Left	0	0	0	0		
Volume Right	0	47	0	63		
cSH	1700	1700	1700	136		
Volume to Capacity	0.74	0.03	0.70	0.46		
Queue Length 95th (ft)	0	0	0	53		
Control Delay (s)	0.0	0.0	0.0	52.4		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	52.4		
Approach LOS				F		
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			69.7%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	974	34	0	1028	0	40
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1082	38	0	1142	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.84		0.90	0.84
vC, conflicting volume			1120		1653	541
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			759		702	68
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			723		340	828
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	541	541	38	571	571	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	38	0	0	44
cSH	1700	1700	1700	1700	1700	828
Volume to Capacity	0.32	0.32	0.02	0.34	0.34	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.6
Approach LOS						A
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			36.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1131	42	0	1076	0	57
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1257	47	0	1196	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.77		0.87	0.77
vC, conflicting volume			1303		1854	628
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			789		622	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			644		368	837
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	628	628	47	598	598	63
Volume Left	0	0	0	0	0	0
Volume Right	0	0	47	0	0	63
cSH	1700	1700	1700	1700	1700	837
Volume to Capacity	0.37	0.37	0.03	0.35	0.35	0.08
Queue Length 95th (ft)	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1136	34	0	1181	0	40
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1262	38	0	1312	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.79		0.89	0.79
vC, conflicting volume			1300		1918	631
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			847		709	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			631		330	861
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	631	631	38	656	656	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	38	0	0	44
cSH	1700	1700	1700	1700	1700	861
Volume to Capacity	0.37	0.37	0.02	0.39	0.39	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.4
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.4
Approach LOS						A
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: NC 42 & Site Driveway #3

Cornwallis Crossings (Johnston Co., NC)

Synchro 7 - Report

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1294	42	0	1222	0	57
Sign Control	Free			Free	Stop	
Grade	-3%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1438	47	0	1358	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1221			459		
pX, platoon unblocked			0.71		0.82	0.71
vC, conflicting volume			1484		2117	719
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			852		705	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			561		306	770
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	719	719	47	679	679	63
Volume Left	0	0	0	0	0	0
Volume Right	0	0	47	0	0	63
cSH	1700	1700	1700	1700	1700	770
Volume to Capacity	0.42	0.42	0.03	0.40	0.40	0.08
Queue Length 95th (ft)	0	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.1
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.1
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			46.0%		ICU Level of Service	A
Analysis Period (min)			15			

APPENDIX G

CAPACITY CALCULATIONS

Cornwallis Road & Site Driveway #4

HCM Unsignalized Intersection Capacity Analysis 5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	33	25	45	1000	294	35
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)	37	28	50	1111	327	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					300	
pX, platoon unblocked						
vC, conflicting volume	1538	327	366			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1538	327	366			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	96	96			
cM capacity (veh/h)	123	719	1204			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	37	28	50	1111	327	39
Volume Left	37	0	50	0	0	0
Volume Right	0	28	0	0	0	39
cSH	123	719	1204	1700	1700	1700
Volume to Capacity	0.30	0.04	0.04	0.65	0.19	0.02
Queue Length 95th (ft)	29	3	3	0	0	0
Control Delay (s)	46.0	10.2	8.1	0.0	0.0	0.0
Lane LOS	E	B	A			
Approach Delay (s)	30.6		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			62.6%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	36	68	48	524	1010	74
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)	40	76	53	582	1122	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					300	
pX, platoon unblocked	0.64	0.64	0.64			
vC, conflicting volume	1811	1122	1204			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1983	913	1041			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	65	88			
cM capacity (veh/h)	39	215	435			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	40	76	53	582	1122	82
Volume Left	40	0	53	0	0	0
Volume Right	0	76	0	0	0	82
cSH	39	215	435	1700	1700	1700
Volume to Capacity	1.04	0.35	0.12	0.34	0.66	0.05
Queue Length 95th (ft)	99	37	10	0	0	0
Control Delay (s)	315.7	30.5	14.4	0.0	0.0	0.0
Lane LOS	F	D	B			
Approach Delay (s)	129.2		1.2		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			8.0			
Intersection Capacity Utilization			64.0%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	33	25	45	1000	294	35
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)	37	28	50	1111	327	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					300	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	1538	327	366			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1540	244	286			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	68	96	96			
cM capacity (veh/h)	115	747	1203			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	37	28	50	1111	327	39
Volume Left	37	0	50	0	0	0
Volume Right	0	28	0	0	0	39
cSH	115	747	1203	1700	1700	1700
Volume to Capacity	0.32	0.04	0.04	0.65	0.19	0.02
Queue Length 95th (ft)	31	3	3	0	0	0
Control Delay (s)	50.4	10.0	8.1	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	33.0		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			62.6%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	36	68	48	524	1010	74
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)	40	76	53	582	1122	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					300	
pX, platoon unblocked	0.68	0.68	0.68			
vC, conflicting volume	1811	1122	1204			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1960	941	1063			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	5	65	88			
cM capacity (veh/h)	42	218	448			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	40	76	53	582	1122	82
Volume Left	40	0	53	0	0	0
Volume Right	0	76	0	0	0	82
cSH	42	218	448	1700	1700	1700
Volume to Capacity	0.95	0.35	0.12	0.34	0.66	0.05
Queue Length 95th (ft)	94	37	10	0	0	0
Control Delay (s)	270.9	30.1	14.1	0.0	0.0	0.0
Lane LOS	F	D	B			
Approach Delay (s)	113.5		1.2		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization			64.0%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

											
Movement	EBL	EBR	NBL	NBT	SBT	SBR					
Lane Configurations											
Volume (veh/h)	33	25	45	1162	333	35					
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)	37	28	50	1291	370	39					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type				None	None						
Median storage (veh)											
Upstream signal (ft)				300							
pX, platoon unblocked	0.97	0.97	0.97								
vC, conflicting volume	1116	185	409								
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	1062	105	335								
tC, single (s)	6.8	6.9	4.1								
tC, 2 stage (s)											
tF (s)	3.5	3.3	2.2								
p0 queue free %	82	97	96								
cM capacity (veh/h)	207	910	1201								
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3			
Volume Total	37	28	50	646	646	185	185	39			
Volume Left	37	0	50	0	0	0	0	0			
Volume Right	0	28	0	0	0	0	0	39			
cSH	207	910	1201	1700	1700	1700	1700	1700			
Volume to Capacity	0.18	0.03	0.04	0.38	0.38	0.11	0.11	0.02			
Queue Length 95th (ft)	16	2	3	0	0	0	0	0			
Control Delay (s)	26.1	9.1	8.1	0.0	0.0	0.0	0.0	0.0			
Lane LOS	D	A	A								
Approach Delay (s)	18.8	0.3				0.0					
Approach LOS	C										
Intersection Summary											
Average Delay			0.9								
Intersection Capacity Utilization			42.1%	ICU Level of Service			A				
Analysis Period (min)			15								

HCM Unsignalized Intersection Capacity Analysis 5: Site Driveway #4 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations				 	 				
Volume (veh/h)	36	68	48	593	1169	74			
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)	40	76	53	659	1299	82			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh									
Upstream signal (ft)					300				
pX, platoon unblocked	0.82	0.82	0.82						
vC, conflicting volume	1735	649	1381						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	1455	129	1023						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	56	90	91						
cM capacity (veh/h)	91	740	562						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	
Volume Total	40	76	53	329	329	649	649	82	
Volume Left	40	0	53	0	0	0	0	0	
Volume Right	0	76	0	0	0	0	0	82	
cSH	91	740	562	1700	1700	1700	1700	1700	
Volume to Capacity	0.44	0.10	0.09	0.19	0.19	0.38	0.38	0.05	
Queue Length 95th (ft)	46	8	8	0	0	0	0	0	
Control Delay (s)	72.2	10.4	12.1	0.0	0.0	0.0	0.0	0.0	
Lane LOS	F	B	B						
Approach Delay (s)	31.8		0.9			0.0			
Approach LOS	D								
Intersection Summary									
Average Delay			2.0						
Intersection Capacity Utilization			49.0%	ICU Level of Service			A		
Analysis Period (min)			15						

APPENDIX H

CAPACITY CALCULATIONS

Cornwallis Road & Site Driveway #5

HCM Unsignalized Intersection Capacity Analysis 6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	82	94	135	964	249	71
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)	91	104	150	1071	277	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					723	
pX, platoon unblocked						
vC, conflicting volume	1648	277	356			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1648	277	356			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	6	86	88			
cM capacity (veh/h)	97	767	1214			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	91	104	150	1071	277	79
Volume Left	91	0	150	0	0	0
Volume Right	0	104	0	0	0	79
cSH	97	767	1214	1700	1700	1700
Volume to Capacity	0.94	0.14	0.12	0.63	0.16	0.05
Queue Length 95th (ft)	138	12	11	0	0	0
Control Delay (s)	155.8	10.4	8.4	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	78.1		1.0		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			9.3			
Intersection Capacity Utilization			61.9%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	132	216	179	439	919	159
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)	147	240	199	488	1021	177
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)					723	
pX, platoon unblocked	0.66	0.66	0.66			
vC, conflicting volume	1907	1021	1198			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2118	773	1041			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	9	55			
cM capacity (veh/h)	20	265	445			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	147	240	199	488	1021	177
Volume Left	147	0	199	0	0	0
Volume Right	0	240	0	0	0	177
cSH	20	265	445	1700	1700	1700
Volume to Capacity	7.16	0.91	0.45	0.29	0.60	0.10
Queue Length 95th (ft)	Err	201	56	0	0	0
Control Delay (s)	Err	74.8	19.5	0.0	0.0	0.0
Lane LOS	F	F	C			
Approach Delay (s)	3839.1		5.6		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			655.3			
Intersection Capacity Utilization			75.6%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	82	94	135	964	249	71
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)	91	104	150	1071	277	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					723	
pX, platoon unblocked	0.96	0.96	0.96			
vC, conflicting volume	1648	277	356			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1654	227	309			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	1	87	88			
cM capacity (veh/h)	92	785	1214			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	91	104	150	1071	277	79
Volume Left	91	0	150	0	0	0
Volume Right	0	104	0	0	0	79
cSH	92	785	1214	1700	1700	1700
Volume to Capacity	0.99	0.13	0.12	0.63	0.16	0.05
Queue Length 95th (ft)	145	11	11	0	0	0
Control Delay (s)	173.7	10.3	8.4	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	86.4		1.0		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			10.2			
Intersection Capacity Utilization			61.9%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	132	216	179	439	919	159
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)	147	240	199	488	1021	177
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					723	
pX, platoon unblocked	0.69	0.69	0.69			
vC, conflicting volume	1907	1021	1198			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2090	805	1061			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	10	57			
cM capacity (veh/h)	23	266	457			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	147	240	199	488	1021	177
Volume Left	147	0	199	0	0	0
Volume Right	0	240	0	0	0	177
cSH	23	266	457	1700	1700	1700
Volume to Capacity	6.44	0.90	0.43	0.29	0.60	0.10
Queue Length 95th (ft)	Err	200	54	0	0	0
Control Delay (s)	Err	74.1	18.8	0.0	0.0	0.0
Lane LOS	F	F	C			
Approach Delay (s)	3838.7		5.4		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			655.2			
Intersection Capacity Utilization			75.6%	ICU Level of Service		D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

												
Movement	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Volume (veh/h)	82	94	135	1126	288	71						
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)	91	104	150	1251	320	79						
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type				None	None							
Median storage veh)												
Upstream signal (ft)				723								
pX, platoon unblocked												
vC, conflicting volume	1246	160	399									
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1246	160	399									
tC, single (s)	6.8	6.9	4.1									
tC, 2 stage (s)												
tF (s)	3.5	3.3	2.2									
p0 queue free %	38	88	87									
cM capacity (veh/h)	147	863	1171									
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	91	104	150	626	626	160	160	79				
Volume Left	91	0	150	0	0	0	0	0				
Volume Right	0	104	0	0	0	0	0	79				
cSH	147	863	1171	1700	1700	1700	1700	1700				
Volume to Capacity	0.62	0.12	0.13	0.37	0.37	0.09	0.09	0.05				
Queue Length 95th (ft)	83	10	11	0	0	0	0	0				
Control Delay (s)	62.8	9.7	8.5	0.0	0.0	0.0	0.0	0.0				
Lane LOS	F	A	A									
Approach Delay (s)	34.5			0.9								
Approach LOS	D											
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			42.3%	ICU Level of Service			A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Site Driveway #5 & Cornwallis Road (SR 1525)

Cornwallis Crossings (Johnston Co., NC)
Synchro 7 - Report

																
Movement	EBL	EBR	NBL	NBT	SBT	SBR										
Lane Configurations																
Volume (veh/h)	132	216	179	508	1078	159										
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)	147	240	199	564	1198	177										
Pedestrians																
Lane Width (ft)																
Walking Speed (ft/s)																
Percent Blockage																
Right turn flare (veh)																
Median type				None	None											
Median storage veh																
Upstream signal (ft)					723											
pX, platoon unblocked	0.83	0.83	0.83													
vC, conflicting volume	1878	599	1374													
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	1650	112	1045													
tC, single (s)	6.8	6.9	4.1													
tC, 2 stage (s)																
tF (s)	3.5	3.3	2.2													
p0 queue free %	0	69	64													
cM capacity (veh/h)	49	770	560													
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3								
Volume Total	147	240	199	282	282	599	599	177								
Volume Left	147	0	199	0	0	0	0	0								
Volume Right	0	240	0	0	0	0	0	177								
cSH	49	770	560	1700	1700	1700	1700	1700								
Volume to Capacity	2.99	0.31	0.36	0.17	0.17	0.35	0.35	0.10								
Queue Length 95th (ft)	393	33	40	0	0	0	0	0								
Control Delay (s)	1073.7	11.8	14.9	0.0	0.0	0.0	0.0	0.0								
Lane LOS	F	B	B													
Approach Delay (s)	414.6		3.9													
Approach LOS	F															
Intersection Summary																
Average Delay			64.7													
Intersection Capacity Utilization			57.0%	ICU Level of Service			B									
Analysis Period (min)			15													

APPENDIX I

ROADWAY SEGMENT ANALYSIS



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Facility Name: Cornwallis Road (SR 1525)

Project Name: Cornwallis Crossings

Organization: Ramey Kemp & Associates, Inc.

Region Type: Piedmont

Facility Type: Two Lane Highway

Classification: Suburban

Terrain Type: Rolling

Street Class: I

Lane Width(ft): 12

Lat. Clearance(ft): 6

No Passing Zones: 100.00%

Access Points/Mile: 20

Grade Length(mi): 0.00

Grade Percent: 0.00 %

PHF: 0.90

Truck/Bus Percent: 10.00 %

K Factor: 0.14

RV Percent: 0.00 %

D Factor: 0.70

BFFS(mph): 60

LOS	Max AADT
A	0
B	800
C	4,700
D	9,300
D	19,400





STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Facility Name: NC 42

Project Name: Cornwallis Crossings

Organization: Ramey Kemp & Associates, Inc.

Region Type: Piedmont

Facility Type: Two Lane Highway

Classification: Suburban

Terrain Type: Rolling

Street Class: I

Lane Width(ft): 12

Lat. Clearance(ft): 6

No Passing Zones: 100.00%

Access Points/Mile: 20

Grade Length(mi): 0.00

Grade Percent: 0.00 %

PHF: 0.90

Truck/Bus Percent: 10.00 %

K Factor: 0.09

RV Percent: 0.00 %

D Factor: 0.55

BFFS(mph): 60

LOS	Max AADT
A	0
B	1,200
C	7,100
D	14,600
D	30,200



APPENDIX J

TRAFFIC ACCIDENT DATA

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Study Criteria Summary

County: JOHNSTON **City:** All and Rural
Date: 10/1/2004 **to** 9/30/2007 **Study:** OLV200802154
Location: NC 42 and SR 1525 (Cornwallis Rd)

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	101311081	10/17/2004 13:02	REAR END, SLOW OR STOP	\$ 5000	0	0	0	2	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 1	Speed: 35 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn: 1		Obj Strk:									
2	101371596	12/25/2004 18:48	REAR END, SLOW OR STOP	\$ 1700	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 45 MPH Dir: S	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 4	Alchl/Drgs: 0	Speed: 0 MPH Dir: S	Veh Mnvr / Ped Actn: 1		Obj Strk:									
3	101450599	04/08/2005 14:50	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	13	1
Unit	1 : 4	Alchl/Drgs: 0	Speed: 30 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 4	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
4	101485207	05/27/2005 17:20	FIXED OBJECT	\$ 2000	0	0	0	0	1	1	1	1	0	13	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk: 33									
5	101513486	10/22/2005 15:50	SIDESWIPE, SAME DIRECTION	\$ 650	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: S	Veh Mnvr / Ped Actn: 12		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: S	Veh Mnvr / Ped Actn: 16		Obj Strk:									
6	101612244	11/18/2005 05:50	SIDESWIPE, SAME DIRECTION	\$ 7500	0	0	1	0	1	5	1	2	0	3	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 1	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
7	101613297	11/19/2005 21:20	LEFT TURN, DIFFERENT ROADWAYS	\$ 1000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: SW	Veh Mnvr / Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 45 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
8	101541317	11/20/2005 14:55	ANGLE	\$ 7500	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 45 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 20 MPH Dir: N	Veh Mnvr / Ped Actn: 4		Obj Strk:									

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op
9	101557483	12/08/2005 22:28	ANGLE	\$ 8000	0	0	1	1	1	5	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs: 0	Speed: 55 MPH Dir: S	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk: 58									
10	101633913	12/15/2005 16:47	LEFT TURN, DIFFERENT ROADWAYS	\$ 6300	0	0	1	1	2	2	3	3	0	0	
Unit	1 : 1	Alchl/Drgs: 0	Speed: 35 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 10 MPH Dir: NW	Veh Mnvr / Ped Actn: 8		Obj Strk:									
11	101666437	01/29/2006 09:35	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 4	Alchl/Drgs: 0	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
12	101712116	04/12/2006 15:14	SIDESWIPE, SAME DIRECTION	\$ 13000	0	0	0	0	1	1	1	2	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 10 MPH Dir: W	Veh Mnvr / Ped Actn: 5		Obj Strk:									
Unit	2 : 2	Alchl/Drgs: 0	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
13	101744040	06/02/2006 08:45	OVERTURN/ROLLOVER	\$ 25000	0	0	1	0	1	1	1	1	0	3	1
Unit	1 : 11	Alchl/Drgs: 0	Speed: 15 MPH Dir: NE	Veh Mnvr / Ped Actn: 8		Obj Strk:									
14	101815460	08/24/2006 16:54	REAR END, SLOW OR STOP	\$ 2000	0	0	0	1	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
Unit	2 : 4	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
15	101821800	09/01/2006 16:19	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	2	1	3	2	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn: 1		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 30 MPH Dir: E	Veh Mnvr / Ped Actn: 4		Obj Strk:									
16	101846307	10/03/2006 08:25	REAR END, SLOW OR STOP	\$ 1200	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 20 MPH Dir: W	Veh Mnvr / Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn: 1		Obj Strk:									
17	101874851	11/02/2006 15:50	LEFT TURN, DIFFERENT ROADWAYS	\$ 10600	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs: 0	Speed: 25 MPH Dir: N	Veh Mnvr / Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drgs: 0	Speed: 35 MPH Dir: S	Veh Mnvr / Ped Actn: 4		Obj Strk:									
18	101896036	11/24/2006 18:03	REAR END, SLOW OR STOP	\$ 0	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: S	Veh Mnvr / Ped Actn: 1		Obj Strk:									

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drgs: 7	Speed: 10 MPH Dir: S	Veh Mnvr / Ped Actn:					4	Obj Strk:					
19	101938799	01/15/2007 18:07	LEFT TURN, SAME ROADWAY	\$ 3000	0	0	0	1	1	2	1	1	0	1	1
Unit	1 : 5	Alchl/Drgs: 0	Speed: 5 MPH Dir: N	Veh Mnvr / Ped Actn:					8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs: 0	Speed: 45 MPH Dir: S	Veh Mnvr / Ped Actn:					4	Obj Strk:					
20	101965857	02/19/2007 17:19	REAR END, SLOW OR STOP	\$ 1800	0	0	0	1	1	1	1	1	0	13	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 10 MPH Dir: W	Veh Mnvr / Ped Actn:					4	Obj Strk:					
Unit	2 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: W	Veh Mnvr / Ped Actn:					1	Obj Strk:					
21	101973343	02/27/2007 16:09	ANGLE	\$ 21000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 55 MPH Dir: W	Veh Mnvr / Ped Actn:					4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs: 0	Speed: 20 MPH Dir: N	Veh Mnvr / Ped Actn:					4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs: 0	Speed: 55 MPH Dir: S	Veh Mnvr / Ped Actn:					4	Obj Strk:					
22	101963616	03/01/2007 14:17	RIGHT TURN, SAME ROADWAY	\$ 2300	0	0	0	0	1	1	2	1	0	12	1
Unit	1 : 10	Alchl/Drgs: 0	Speed: 10 MPH Dir: W	Veh Mnvr / Ped Actn:					7	Obj Strk:					
Unit	2 : 2	Alchl/Drgs: 0	Speed: 45 MPH Dir: W	Veh Mnvr / Ped Actn:					4	Obj Strk:					
23	101982976	03/05/2007 17:44	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn:					1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs: 7	Speed: 15 MPH Dir: E	Veh Mnvr / Ped Actn:					4	Obj Strk:					
24	101995174	03/22/2007 19:35	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	5	1	1	0	13	1
Unit	1 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: S	Veh Mnvr / Ped Actn:					1	Obj Strk:					
Unit	2 : 4	Alchl/Drgs: 0	Speed: 10 MPH Dir: S	Veh Mnvr / Ped Actn:					4	Obj Strk:					
25	102016979	04/20/2007 17:30	REAR END, SLOW OR STOP	\$ 1300	0	0	0	0	1	1	1	1	0	13	1
Unit	1 : 4	Alchl/Drgs: 0	Speed: 10 MPH Dir: E	Veh Mnvr / Ped Actn:					4	Obj Strk:					
Unit	2 : 2	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn:					11	Obj Strk:					
26	102026267	04/30/2007 15:50	REAR END, SLOW OR STOP	\$ 700	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 0 MPH Dir: N	Veh Mnvr / Ped Actn:					1	Obj Strk:					
Unit	2 : 2	Alchl/Drgs: 0	Speed: 5 MPH Dir: N	Veh Mnvr / Ped Actn:					4	Obj Strk:					
27	102081236	07/04/2007 12:35	LEFT TURN, SAME ROADWAY	\$ 4500	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs: 0	Speed: 15 MPH Dir: W	Veh Mnvr / Ped Actn:					8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs: 0	Speed: 40 MPH Dir: E	Veh Mnvr / Ped Actn:					4	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
					F	A	B	C	R	L	W	Ch	Ci	Dv	Op
28	102127066	08/31/2007 07:12	LEFT TURN, SAME ROADWAY	\$ 12500	0	0	2	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs: 0	Speed: 10 MPH Dir: S	Veh Mnvr / Ped Actn: 8				Obj Strk:							
Unit	2 : 1	Alchl/Drgs: 0	Speed: 50 MPH Dir: N	Veh Mnvr / Ped Actn: 4				Obj Strk:							
29	102143298	09/18/2007 11:53	REAR END, SLOW OR STOP	\$ 2200	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs: 0	Speed: 55 MPH Dir: E	Veh Mnvr / Ped Actn: 4				Obj Strk:							
Unit	2 : 5	Alchl/Drgs: 0	Speed: 0 MPH Dir: E	Veh Mnvr / Ped Actn: 1				Obj Strk:							

**Legend for
Report
Details:**

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	29	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	13	44.83
Total Injury Crashes	13	44.83
Property Damage Only Crashes	16	55.17
Night Crashes	7	24.14
Wet Crashes	2	6.90
Alcohol/Drugs Involvement Crashes	2	6.90

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	29	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	6	20.69
Class C Crashes	7	24.14
Property Damage Only Crashes	16	55.17

Vehicle Exposure Statistics

Annual ADT = 21400

Total Vehicle Exposure = 23.43 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	123.76
Fatal Crash Rate	0.00
Non Fatal Crash Rate	55.48
Night Crash Rate	29.87
Wet Crash Rate	8.53
EPDO Rate	534.29

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Miscellaneous Statistics

Severity Index =	4.32
EPDO Crash Index =	125.20
Estimated Property Damage Total = \$	150250.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	3	10.34
FIXED OBJECT	1	3.45
LEFT TURN, DIFFERENT ROADWAYS	3	10.34
LEFT TURN, SAME ROADWAY	3	10.34
OVERTURN/ROLLOVER	1	3.45
REAR END, SLOW OR STOP	14	48.28
RIGHT TURN, SAME ROADWAY	1	3.45
SIDESWIPE, SAME DIRECTION	3	10.34

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	7	36.84
Class C Injuries	12	63.16
Total Non-Fatal Injuries	19	100.00
Total Injuries	19	100.00

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	2	6.90
Feb	2	6.90
Mar	3	10.34
Apr	4	13.79
May	1	3.45
Jun	1	3.45
Jul	1	3.45
Aug	2	6.90
Sep	2	6.90
Oct	3	10.34
Nov	5	17.24
Dec	3	10.34

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	4	13.79
Tue	3	10.34
Wed	2	6.90
Thu	6	20.69
Fri	8	27.59
Sat	3	10.34
Sun	3	10.34

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	1	3.45
0600-0659	0	0.00
0700-0759	1	3.45
0800-0859	2	6.90
0900-0959	1	3.45
1000-1059	0	0.00
1100-1159	1	3.45
1200-1259	1	3.45
1300-1359	1	3.45
1400-1459	3	10.34
1500-1559	4	13.79
1600-1659	4	13.79
1700-1759	4	13.79
1800-1859	3	10.34
1900-1959	1	3.45
2000-2059	0	0.00
2100-2159	1	3.45
2200-2259	1	3.45
2300-2359	0	0.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	19	1	0	20
Dark	7	0	0	7
Other	1	1	0	2
Total	27	2	0	29

Object Struck Summary

Object Type	Times Struck	Percent of Total
DITCH	1	50.00
TREE	1	50.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	29	50.88
PICKUP	11	19.30
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	1	1.75
SINGLE UNIT TRUCK (3 OR MORE AXLES)	1	1.75
SPORT UTILITY	12	21.05
VAN	3	5.26

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2004	2	0	1	1
2005	8	0	4	4
2006	8	0	2	6
2007	11	0	6	5
Total	29	0	13	16

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2004	0	2
2005	0	7
2006	0	2
2007	0	8
Total	0	19

Miscellaneous Totals

Year	Property Damage	EPDO Index
2004	\$ 6700	9.40
2005	\$ 34950	37.60
2006	\$ 55300	22.80
2007	\$ 53300	55.40
Total	\$ 150250	125.20

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2004	0	0	2	0	0	0	0
2005	2	0	1	1	2	2	0
2006	1	0	5	0	0	1	1
2007	3	1	6	0	1	0	0
Total	6	1	14	1	3	3	1

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Intersection Analysis Report**

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
OLV200802154	200802154			76.8	8.4	21400	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
01/25/2008		919-872-5115		919-878-5416

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
JOHNSTON	50	4	All and Rural		150	10/1/2004	9/30/2007	3.00

Location Text	Requestor
NC 42 and SR 1525 (Cornwallis Rd)	John Grant, PE Ramey Kemp & Associates Raleigh, NC

Included Accidents
101612244

Excluded Accidents
102029235

Fiche Roads

Name	Code
NC 42	30000042
SR 1525	40001525
CORNWALLIS	50006971

Intersection Road Combinations

Name	Code	Code	Name
NC 42	30000042	40001525	SR 1525
NC 42	30000042	50006971	CORNWALLIS

APPENDIX K

SITE DISTANCE REQUIREMENTS

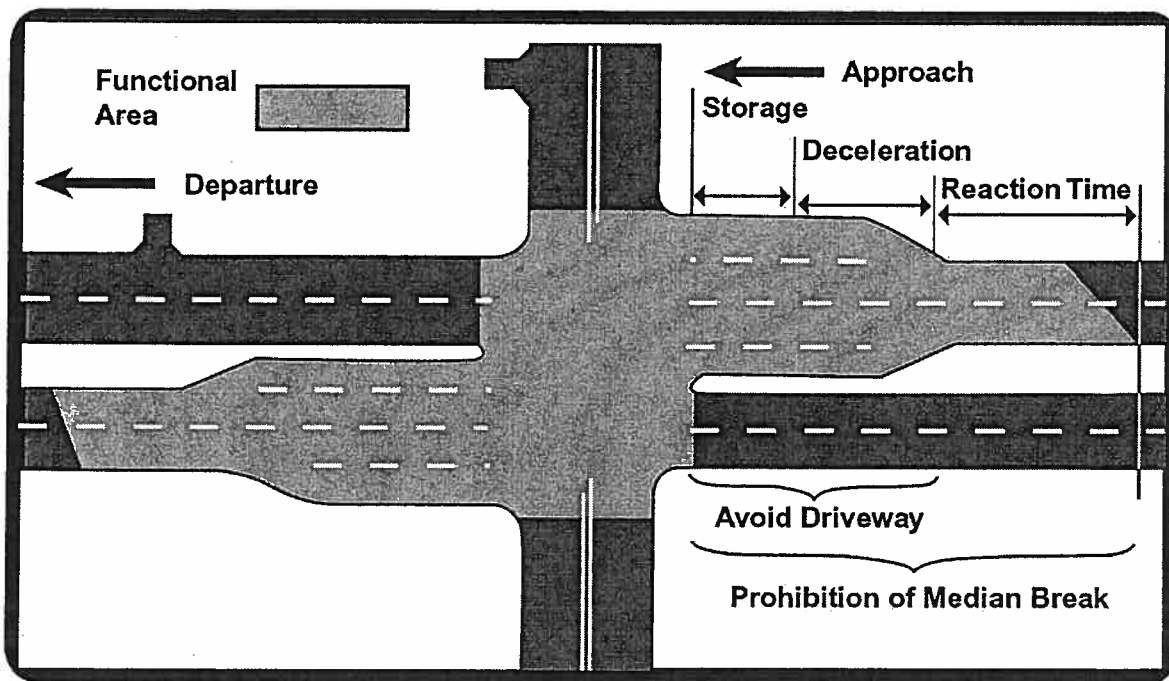
Policy On Street And Driveway Access to North Carolina Highways

Every effort shall be taken to prevent access connections and median breaks within the functional area of an intersection. If access connections have to be located within the functional area due to limited property frontage, the NCDOT may restrict access to "right-in/right-out" or other limited movement treatments. Such driveways must still meet all location and minimum distance requirements.

Functional Area of Intersection - The functional area of an intersection consists of the distance traveled during reaction time, the deceleration distance, and queue storage length. The following reaction time and distances may be used:

Reaction Time and Distances				
Areas	Sec.	35 mph	45 mph	55 mph
Rural	2.5	130 ft	165 ft	200 ft
Urban	1.5	75 ft	100 ft	120 ft

Functional Area of an Intersection

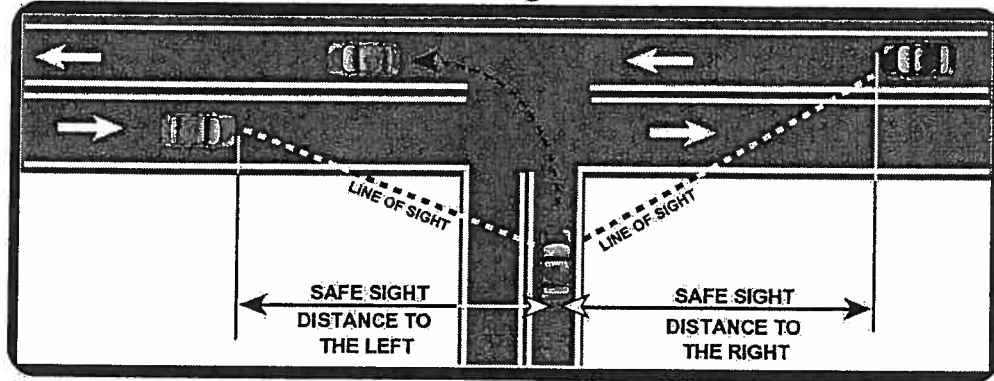


Sight Distance – Street and driveway connections should provide for adequate vertical and horizontal sight distance. The table on page 29 lists minimum sight distance values for various design vehicles. The table summarizes sight distance along arterial roads and streets necessary for a stopped vehicle to cross the arterial and any auxiliary lanes. If the access is located on a divided facility, the median width is not accounted for in the table. Median width may be ignored when the

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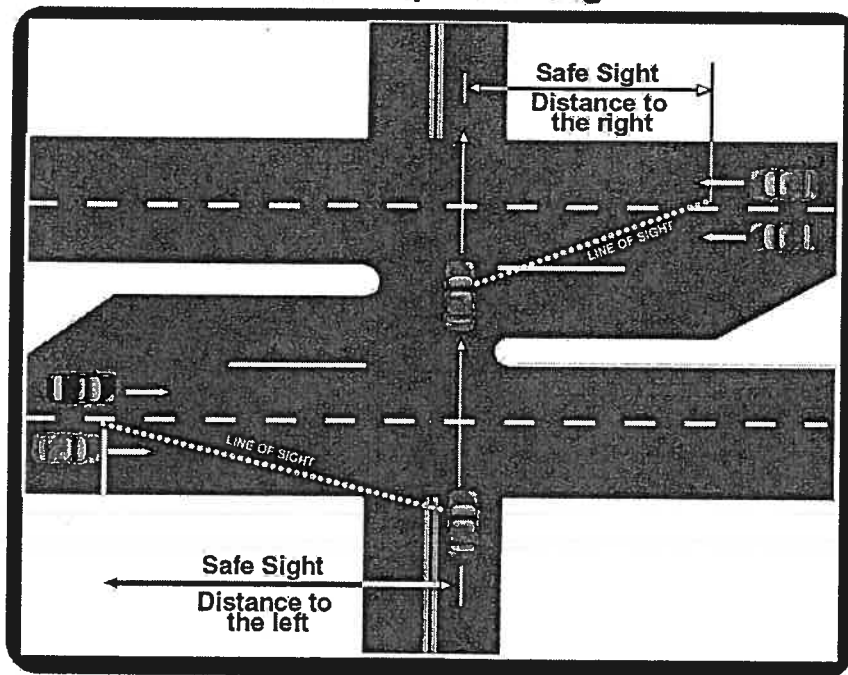
median width is 20 feet or more for passenger vehicle crossings or 40 feet or more for truck crossings. In these cases, sight distance may be based on a two-stop crossing with consideration given to the width of each one-way pavement.

Intersection Sight Distance



One Stop Crossing

Two Stop Crossing



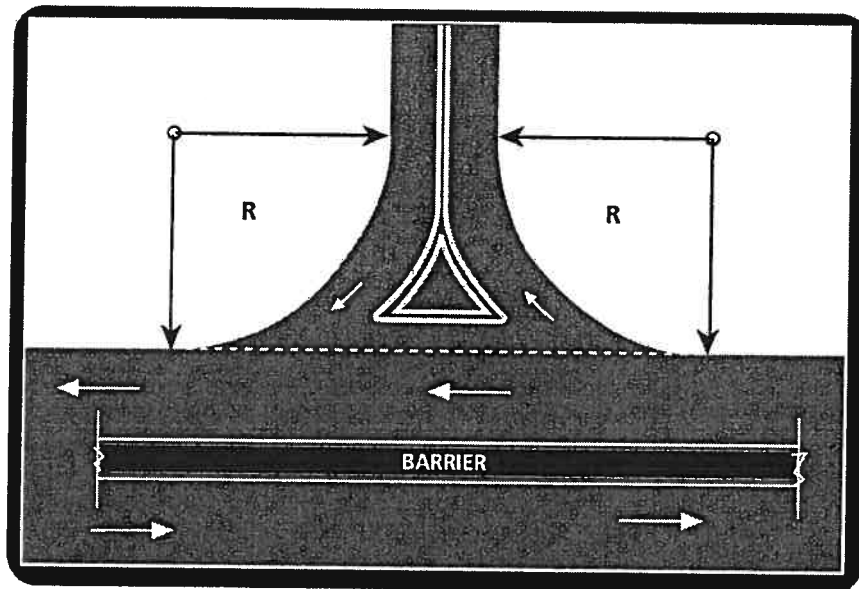
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SIGHT DISTANCE (ft) PER 10 MPH OF ARTERIAL DESIGN SPEED FOR APPROPRIATE ARTERIAL WIDTH OF CROSSING			
Design Vehicle Crossing the Arterial	Two Lanes	Four Lanes	Six Lanes
Passenger Vehicle	100	120	130
Single Unit Truck	130	150	170
WB-50 Tractor Trailer	170	200	210

At signalized intersections, sight distance values should be maintained due to the possibility of signal malfunctions, late night flashing operations, right turns on red, and permissive turn movement phases. Limited sight distance shall not be used as sole justification for the installation of a traffic signal.

In locations where the sight distance cannot be met on both sides of the driveway location, the driveway may be denied. In some cases, the left turn movements into or out of the driveway may be prohibited; thus, restricting the driveway operation to right turns only.

**Left turn prohibition
channelization detail in a
shoulder and ditch section**



In addition, a deceleration lane and a right turn acceleration lane, designed in accordance with AASHTO standards, may be required where the sight distance cannot be met.

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The available sight distance at street and driveway connections to the State Highway System shall not be restricted by landscaping, permanent or temporary signing, or in any other manner. In order to achieve adequate sight distance, the applicant may at a minimum be required to dedicate an easement near the entrance and to keep it clear of visual obstructions.

A clear recovery area should be preserved along the highway travel way. The clear recovery area is the area between the travelway and any hazardous fixed object, such as utility poles, monuments, markers, or trees. Refer to AASHTO Roadside Design Guide for specific dimensions.

The property owner or lessee having access to the State Highway System shall be fully responsible for providing and maintaining safe sight distances along their property frontage. If the property owner or lessee fails to comply with this requirement, the NCDOT may, upon written notice to the property owner or lessee, remove such obstacles from the right-of-way (at the property owner's expense) or barricade the driveway from further use until such corrections and improvements deemed necessary are made.

Identification Signing and Landscaping - Identification signing or landscape vegetation within the median and the sight distance triangle must not obstruct the driver's line of sight. No landscaping or signing will be allowed to exceed 42 inches in height, measured from the Edge of Pavement (EOP) within the median or sight triangle.

All pylon signs in the median or sight distance triangle must provide a vertical clear sight zone between 3 feet-6 inches and 10 feet-0 inches measured from the EOP. Signing located within a clear recovery area shall be of a "breakaway design."

Only low growing shrubbery, consistent with the NCDOT's landscaping policies, as contained in the publication "Guidelines for Planting Within Highway Right of Way," will be allowed within a landscaped median and the sight distance triangle at the entranceway to a development, whether the street or driveway connection to the State Highway System is designated as a public facility or not. Landscaping within the right-of-way and sight distance triangles may require additional approval by the District Engineer.

If the property owner or lessee fails to comply with this requirement, the NCDOT may, upon written notice to the property owner or lessee, remove such obstacles from the right-of-way or sight distance triangle at the property owner's expense or