



**Coonpath Rd and Election House Rd
Intersection Feasibility Study**

Appendix E

Traffic Analysis



HCS All-Way Stop Control Report

General and Site Information		Lanes
Analyst	Kyle Bright	
Agency/Co.	Burgess & Niple	
Date Performed	4/9/2024	
Analysis Year	2048	
Analysis Time Period (hrs)	0.25	
Time Analyzed	AM peak	
Project Description	2048 No-Build	
Intersection	Coonpath Rd & Election House Rd	
Jurisdiction		
East/West Street	Coonpath Rd	
North/South Street	Election House Rd	
Peak Hour Factor	0.88	

Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	20	290	10	190	690	70	20	50	100	30	110	100
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	364			1080			193			273		
Percent Heavy Vehicles	4			2			7			2		
Initial Departure Headway, h _d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.323			0.960			0.172			0.242		
Final Departure Headway, h _d (s)	7.02			6.65			7.60			7.31		
Final Degree of Utilization, x	0.709			1.995			0.408			0.554		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t _s (s)	5.02			4.65			5.60			5.31		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	364			1080			193			273		
Capacity (veh/h)	513			541			474			492		
95% Queue Length, Q ₉₅ (veh)	5.6			72.9			2.0			3.3		
95% Queue Length, Q ₉₅ (ft)	144.7			1845.8			52.6			84.0		
Control Delay (s/veh)	25.3			470.2			15.7			19.0		
Level of Service, LOS	D			F			C			C		
Approach Delay (s/veh) LOS	25.3		D	470.2		F	15.7		C	19.0		C
Intersection Delay (s/veh) LOS	275.0						F					

HCS All-Way Stop Control Report

General and Site Information		Lanes
Analyst	Kyle Bright	
Agency/Co.	Burgess & Niple	
Date Performed	4/9/2024	
Analysis Year	2048	
Analysis Time Period (hrs)	0.25	
Time Analyzed	PM peak	
Project Description	2048 No-Build	
Intersection	Coonpath Rd & Election House Rd	
Jurisdiction		
East/West Street	Coonpath Rd	
North/South Street	Election House Rd	
Peak Hour Factor	0.96	

Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	80	640	10	220	430	30	10	200	280	40	140	40
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	760			708			510			229		
Percent Heavy Vehicles	2			1			2			1		
Initial Departure Headway, h _d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.676			0.630			0.454			0.204		
Final Departure Headway, h _d (s)	8.59			8.61			8.25			9.51		
Final Degree of Utilization, x	1.814			1.693			1.170			0.605		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t _s (s)	6.59			6.61			6.25			7.51		

Capacity, Delay and Level of Service

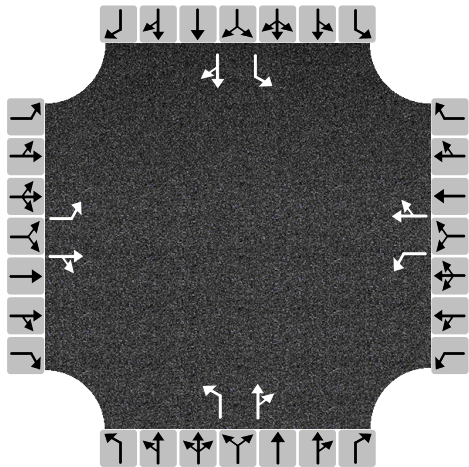
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	760			708			510			229		
Capacity (veh/h)	419			418			436			379		
95% Queue Length, Q ₉₅ (veh)	48.5			42.5			19.2			3.8		
95% Queue Length, Q ₉₅ (ft)	1228.0			1072.7			489.2			95.7		
Control Delay (s/veh)	396.1			343.4			125.6			26.0		
Level of Service, LOS	F			F			F			D		
Approach Delay (s/veh) LOS	396.1		F	343.4		F	125.6		F	26.0		D
Intersection Delay (s/veh) LOS	278.3						F					

HCS All-Way Stop Control Report

General and Site Information

Analyst	Kyle Bright
Agency/Co.	Burgess & Niple
Date Performed	4/9/2024
Analysis Year	2048
Analysis Time Period (hrs)	0.25
Time Analyzed	AM peak
Project Description	2048 No-Build
Intersection	Coonpath Rd & Election House Rd
Jurisdiction	
East/West Street	Coonpath Rd
North/South Street	Election House Rd
Peak Hour Factor	0.88

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	20	290	10	190	690	70	20	50	100	30	110	100
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		L	TR	
Flow Rate, v (veh/h)	23	341		216	864		23	170		34	239	
Percent Heavy Vehicles	4	4		2	2		7	7		2	2	
Initial Departure Headway, h _d (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20	3.20	
Initial Degree of Utilization, x	0.020	0.303		0.192	0.768		0.020	0.152		0.030	0.212	
Final Departure Headway, h _d (s)	7.91	7.39		7.39	6.82		8.62	7.69		8.36	7.55	
Final Degree of Utilization, x	0.050	0.700		0.443	1.637		0.054	0.364		0.079	0.500	
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Service Time, t _s (s)	5.61	5.09		5.09	4.52		6.32	5.39		6.06	5.25	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		L	TR	
Flow Rate, v (veh/h)	23	341		216	864		23	170		34	239	
Capacity (veh/h)	455	487		487	528		417	468		431	477	
95% Queue Length, Q ₉₅ (veh)	0.2	5.4		2.2	48.7		0.2	1.6		0.3	2.8	
95% Queue Length, Q ₉₅ (ft)	5.2	139.5		55.7	1233.1		5.3	42.1		7.6	71.3	
Control Delay (s/veh)	11.0	25.6		15.8	312.7		11.8	14.7		11.8	17.6	
Level of Service, LOS	B	D		C	F		B	B		B	C	
Approach Delay (s/veh) LOS	24.7		C	253.3		F	14.4		B	16.8		C
Intersection Delay (s/veh) LOS	151.8						F					

HCS All-Way Stop Control Report

General and Site Information		Lanes
Analyst	Kyle Bright	
Agency/Co.	Burgess & Niple	
Date Performed	4/9/2024	
Analysis Year	2048	
Analysis Time Period (hrs)	0.25	
Time Analyzed	PM peak	
Project Description	2048 No-Build	
Intersection	Coonpath Rd & Election House Rd	
Jurisdiction		
East/West Street	Coonpath Rd	
North/South Street	Election House Rd	
Peak Hour Factor	0.96	

Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	80	640	10	220	430	30	10	200	280	40	140	40
% Thrus in Shared Lane												

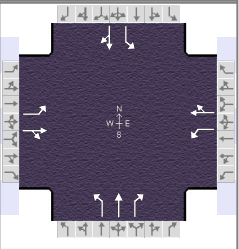
Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		L	TR	
Flow Rate, v (veh/h)	83	677		229	479		10	500		42	188	
Percent Heavy Vehicles	2	2		1	1		2	2		1	1	
Initial Departure Headway, h _d (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20	3.20	
Initial Degree of Utilization, x	0.074	0.602		0.204	0.426		0.009	0.444		0.037	0.167	
Final Departure Headway, h _d (s)	9.06	8.57		9.01	8.48		9.17	8.28		9.95	9.31	
Final Degree of Utilization, x	0.210	1.611		0.574	1.129		0.027	1.150		0.115	0.485	
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Service Time, t _s (s)	6.76	6.27		6.71	6.18		6.87	5.98		7.65	7.01	

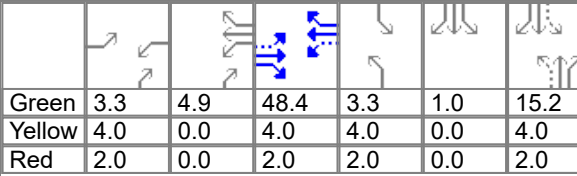
Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		L	TR	
Flow Rate, v (veh/h)	83	677		229	479		10	500		42	188	
Capacity (veh/h)	397	420		400	425		393	435		362	387	
95% Queue Length, Q ₉₅ (veh)	0.8	38.7		3.5	17.2		0.1	18.4		0.4	2.6	
95% Queue Length, Q ₉₅ (ft)	20.3	979.9		88.3	434.1		2.5	468.8		10.1	65.5	
Control Delay (s/veh)	14.2	307.2		23.2	111.9		12.1	118.5		13.9	20.5	
Level of Service, LOS	B	F		C	F		B	F		B	C	
Approach Delay (s/veh) LOS	275.1		F	83.2		F	116.3		F	19.3		C
Intersection Delay (s/veh) LOS	150.3						F					

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Burgess & Niple			Duration, h	0.250	
Analyst	Kyle Bright	Analysis Date	4/9/2024	Area Type	Other	
Jurisdiction		Time Period	AM peak	PHF	0.88	
Urban Street		Analysis Year	2048	Analysis Period	1> 7:00	
Intersection	Coonpath Rd & Election...	File Name	2048 Build Signalized AM.xus			
Project Description	2048 Build Signalized AM					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	290	10	190	690	70	20	50	100	30	110	100

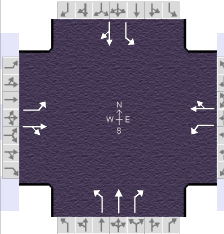
Signal Information											
Cycle, s	100.0	Reference Phase	2		Green	3.3	4.9	48.4	3.3	1.0	15.2
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								
				Yellow	4.0	0.0	4.0	4.0	0.0	4.0	
				Red	2.0	0.0	2.0	2.0	0.0	2.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	9.3	54.4	14.2	59.3	9.3	21.2	10.3	22.2
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g_s), s	2.6		7.9		3.1	7.8	3.6	15.5
Green Extension Time (g_e), s	0.0	0.0	0.3	0.0	0.0	0.7	0.0	0.7
Phase Call Probability	0.47		1.00		0.47	1.00	0.61	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

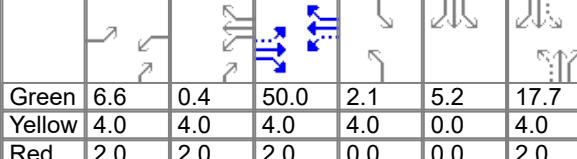
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	23	341		216	864		23	57	114	34	239	
Adjusted Saturation Flow Rate (s), veh/h/ln	1753	1830		1781	1840		1711	1796	1610	1781	1723	
Queue Service Time (g_s), s	0.6	11.8		5.9	41.3		1.1	2.8	5.8	1.6	13.5	
Cycle Queue Clearance Time (g_c), s	0.6	11.8		5.9	41.3		1.1	2.8	5.8	1.6	13.5	
Green Ratio (g/C)	0.52	0.48		0.57	0.53		0.18	0.15	0.23	0.19	0.16	
Capacity (c), veh/h	192	885		598	980		136	272	376	315	279	
Volume-to-Capacity Ratio (X)	0.118	0.385		0.361	0.881		0.167	0.209	0.302	0.108	0.856	
Back of Queue (Q), ft/ln (95 th percentile)	11	218		93	646		21	56	98	30	244	
Back of Queue (Q), veh/ln (95 th percentile)	0.4	8.4		3.7	25.5		0.8	2.1	3.9	1.2	9.6	
Queue Storage Ratio (RQ) (95 th percentile)	0.04	0.22		0.31	0.65		0.07	0.06	0.28	0.10	0.24	
Uniform Delay (d_1), s/veh	19.5	16.4		11.3	20.6		34.8	37.2	31.6	33.1	40.8	
Incremental Delay (d_2), s/veh	0.1	1.3		0.1	11.2		0.2	0.1	0.2	0.1	3.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	19.6	17.7		11.5	31.8		35.0	37.3	31.8	33.2	43.7	
Level of Service (LOS)	B	B		B	C		C	D	C	C	D	
Approach Delay, s/veh / LOS	17.8	B		27.8	C		33.8	C		42.4	D	
Intersection Delay, s/veh / LOS	28.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.89	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	1.09	A	2.27	B	0.81	A	0.94	A

HCS Signalized Intersection Results Summary

General Information					Intersection Information		
Agency	Burgess & Niple				Duration, h	0.250	
Analyst	Kyle Bright	Analysis Date	4/9/2024	Area Type	CBD		
Jurisdiction		Time Period	PM peak	PHF	0.88		
Urban Street		Analysis Year	2048	Analysis Period	1> 7:00		
Intersection	Coonpath Rd & Election...	File Name	2048 Build Signalized PM.xus				
Project Description	2048 Build Signalized PM						

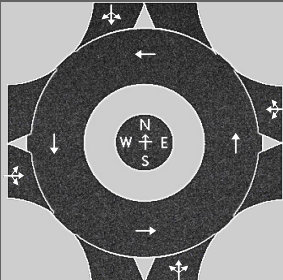
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	80	640	10	220	430	30	10	200	280	40	140	40

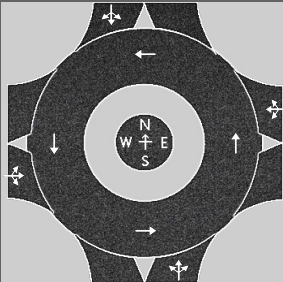
Signal Information											
Cycle, s	110.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								
				Green	6.6	0.4	50.0	2.1	5.2	17.7	
				Yellow	4.0	4.0	4.0	4.0	0.0	4.0	
				Red	2.0	2.0	2.0	0.0	0.0	2.0	

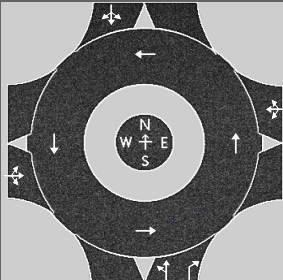
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	12.6	56.0	19.0	62.4	6.1	23.7	11.3	28.9
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	4.0	6.0	6.0	6.0
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g_s), s	5.2		12.7		2.6	19.7	4.5	14.5
Green Extension Time (g_e), s	0.1	0.0	0.4	0.0	0.0	0.0	0.0	1.1
Phase Call Probability	0.94		1.00		0.29	1.00	0.75	1.00
Max Out Probability	0.00		0.00		0.00	1.00	0.00	0.09

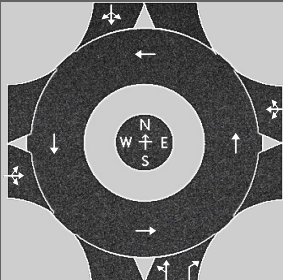
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	91	739		250	523		11	227	318	45	205	
Adjusted Saturation Flow Rate (s), veh/h/ln	1603	1679		1616	1677		1603	1683	1449	1616	1631	
Queue Service Time (g_s), s	3.2	47.0		10.7	24.3		0.6	14.4	17.7	2.5	12.5	
Cycle Queue Clearance Time (g_c), s	3.2	47.0		10.7	24.3		0.6	14.4	17.7	2.5	12.5	
Green Ratio (g/C)	0.52	0.45		0.59	0.51		0.18	0.16	0.28	0.22	0.21	
Capacity (c), veh/h	379	766		276	860		177	271	402	174	340	
Volume-to-Capacity Ratio (X)	0.240	0.964		0.906	0.607		0.064	0.837	0.791	0.261	0.601	
Back of Queue (Q), ft/ln (95 th percentile)	50	770		279	362		11	296	335	44	219	
Back of Queue (Q), veh/ln (95 th percentile)	2.0	30.3		11.1	14.4		0.4	11.6	13.4	1.7	8.7	
Queue Storage Ratio (RQ) (95 th percentile)	0.17	0.77		0.93	0.36		0.04	0.30	0.96	0.15	0.22	
Uniform Delay (d_1), s/veh	15.7	29.0		29.8	18.9		37.7	44.7	36.8	35.6	39.4	
Incremental Delay (d_2), s/veh	0.1	24.9		4.6	3.2		0.1	19.0	9.4	0.3	2.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	15.8	53.9		34.4	22.1		37.7	63.7	46.2	35.9	41.5	
Level of Service (LOS)	B	D		C	C		D	E	D	D	D	
Approach Delay, s/veh / LOS	49.7	D		26.1	C		53.2	D		40.5	D	
Intersection Delay, s/veh / LOS	42.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.90	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	1.86	B	1.76	B	1.41	A	0.90	A

HCS Roundabouts Report																	
General Information									Site Information								
Analyst	Kyle Bright								Intersection				Coonpath Rd & Election Ho...				
Agency or Co.	Burgess & Niple								E/W Street Name				Coonpath Rd				
Date Performed	4/9/2024								N/S Street Name				Election House Rd				
Analysis Year	2024								Analysis Time Period, hrs				0.25				
Time Analyzed	AM Peak								Peak Hour Factor				0.88				
Project Description	2048 Build								Jurisdiction								
Volume Adjustments and Site Characteristics																	
Approach	EB				WB				NB				SB				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
Lane Assignment			LTR				LTR				LTR				LTR		
Volume (V), veh/h	0	20	290	10	0	190	690	70	0	20	50	100	0	30	110	100	
Percent Heavy Vehicles, %	0	4	4	4	0	2	2	2	0	7	7	7	0	2	2	2	
Flow Rate (v _{PCE}), pc/h	0	24	343	12	0	219	797	81	0	24	61	121	0	35	128	116	
Right-Turn Bypass	None				None				None				None				
Conflicting Lanes	1				1				1				1				
Pedestrians Crossing, p/h	0				0				0				0				
Proportion of CAVs, %	0																
Critical and Follow-Up Headway Adjustment																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Critical Headway, s		4.9763				4.9763				4.9763				4.9763			
Follow-Up Headway, s		2.6087				2.6087				2.6087				2.6087			
Flow Computations, Capacity and v/c Ratios																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Entry Flow (v _e), pc/h		379				1097				206				279			
Entry Volume, veh/h		364				1080				193				273			
Circulating Flow (v _c), pc/h	382				109				402				1040				
Exiting Flow (v _{ex}), pc/h	499				937				166				359				
Capacity (C _{pce}), pc/h		935				1235				916				478			
Capacity (C), veh/h		897				1215				859				467			
v/c Ratio (x)		0.41				0.89				0.22				0.58			
Delay and Level of Service																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Lane Control Delay (d), s/veh		8.8				24.9				6.5				20.9			
Lane LOS		A				C				A				C			
95% Queue Length, Q ₉₅ (veh)		2.0				13.4				0.9				3.7			
95% Queue Length, Q ₉₅ (ft)		51.7				339.3				23.7				94.2			
Approach Delay, s/veh LOS	8.8		A		24.9		C		6.5		A		20.9		C		
Intersection Delay, s/veh LOS	19.4								C								

HCS Roundabouts Report																	
General Information									Site Information								
Analyst	Kyle Bright								Intersection				Coonpath Rd & Election Ho...				
Agency or Co.	Burgess & Niple								E/W Street Name				Coonpath Rd				
Date Performed	4/9/2024								N/S Street Name				Election House Rd				
Analysis Year	2048								Analysis Time Period, hrs				0.25				
Time Analyzed	PM Peak								Peak Hour Factor				0.96				
Project Description	2048 Build								Jurisdiction								
Volume Adjustments and Site Characteristics																	
Approach	EB				WB				NB				SB				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
Lane Assignment			LTR				LTR				LTR				LTR		
Volume (V), veh/h	0	80	640	10	0	220	430	30	0	10	200	280	0	40	140	40	
Percent Heavy Vehicles, %	0	2	2	2	0	1	1	1	0	2	2	2	0	1	1	1	
Flow Rate (V _{PCE}), pc/h	0	85	677	11	0	232	453	32	0	11	213	299	0	42	147	42	
Right-Turn Bypass	None				None				None				None				
Conflicting Lanes	1				1				1				1				
Pedestrians Crossing, p/h	0				0				0				0				
Proportion of CAVs, %	0																
Critical and Follow-Up Headway Adjustment																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Critical Headway, s		4.9763				4.9763				4.9763				4.9763			
Follow-Up Headway, s		2.6087				2.6087				2.6087				2.6087			
Flow Computations, Capacity and v/c Ratios																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Entry Flow (v _e), pc/h		773				717				523				231			
Entry Volume, veh/h		761				708				511				229			
Circulating Flow (v _c), pc/h	421				309				804				696				
Exiting Flow (v _{ex}), pc/h	1018				506				330				390				
Capacity (C _{pce}), pc/h		898				1007				608				679			
Capacity (c), veh/h		884				995				594				672			
v/c Ratio (x)		0.86				0.71				0.86				0.34			
Delay and Level of Service																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Lane Control Delay (d), s/veh		27.6				15.6				36.7				9.8			
Lane LOS		D				C				E				A			
95% Queue Length, Q ₉₅ (veh)		10.9				6.3				9.6				1.5			
95% Queue Length, Q ₉₅ (ft)		276.0				159.0				244.6				37.8			
Approach Delay, s/veh LOS	27.6		D		15.6		C		36.7		E		9.8		A		
Intersection Delay, s/veh LOS	24.0								C								

HCS Roundabouts Report																	
General Information								Site Information									
Analyst	Kyle Bright								Intersection				Coonpath Rd & Election Ho...				
Agency or Co.	Burgess & Niple								E/W Street Name				Coonpath Rd				
Date Performed	4/9/2024								N/S Street Name				Election House Rd				
Analysis Year	2024								Analysis Time Period, hrs				0.25				
Time Analyzed	AM Peak								Peak Hour Factor				0.88				
Project Description	2048 Build								Jurisdiction								
Volume Adjustments and Site Characteristics																	
Approach	EB				WB				NB				SB				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	1	0	0	1	0	
Lane Assignment			LTR				LTR		LT		R				LTR		
Volume (V), veh/h	0	20	290	10	0	190	690	70	0	20	50	100	0	30	110	100	
Percent Heavy Vehicles, %	0	4	4	4	0	2	2	2	0	7	7	7	0	2	2	2	
Flow Rate (v _{PCE}), pc/h	0	24	343	12	0	219	797	81	0	24	61	121	0	35	128	116	
Right-Turn Bypass	None				None				None				None				
Conflicting Lanes	1				1				1				1				
Pedestrians Crossing, p/h	0				0				0				0				
Proportion of CAVs, %	0																
Critical and Follow-Up Headway Adjustment																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Critical Headway, s		4.9763				4.9763			4.5436	4.5436				4.9763			
Follow-Up Headway, s		2.6087				2.6087			2.5352	2.5352				2.6087			
Flow Computations, Capacity and v/c Ratios																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Entry Flow (v _e), pc/h		379				1097			85	121				279			
Entry Volume, veh/h		364				1080			80	114				273			
Circulating Flow (v _c), pc/h	382				109				402				1040				
Exiting Flow (v _{ex}), pc/h	499				937				166				359				
Capacity (C _{pce}), pc/h		935				1235			985	985				478			
Capacity (C), veh/h		897				1215			924	924				467			
v/c Ratio (x)		0.41				0.89			0.09	0.12				0.58			
Delay and Level of Service																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Lane Control Delay (d), s/veh		8.8				24.9			4.7	5.1				20.9			
Lane LOS		A				C			A	A				C			
95% Queue Length, Q ₉₅ (veh)		2.0				13.4			0.3	0.4				3.7			
95% Queue Length, Q ₉₅ (ft)		51.7				339.3			7.9	10.5				94.2			
Approach Delay, s/veh LOS	8.8		A		24.9		C		4.9		A		20.9		C		
Intersection Delay, s/veh LOS	19.2								C								

HCS Roundabouts Report																	
General Information									Site Information								
Analyst	Kyle Bright								Intersection				Coonpath Rd & Election Ho...				
Agency or Co.	Burgess & Niple								E/W Street Name				Coonpath Rd				
Date Performed	4/9/2024								N/S Street Name				Election House Rd				
Analysis Year	2048								Analysis Time Period, hrs				0.25				
Time Analyzed	PM Peak								Peak Hour Factor				0.96				
Project Description	2048 Build								Jurisdiction								
Volume Adjustments and Site Characteristics																	
Approach	EB				WB				NB				SB				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	1	0	0	1	0	
Lane Assignment			LTR				LTR		LT		R				LTR		
Volume (V), veh/h	0	80	640	10	0	220	430	30	0	10	200	280	0	40	140	40	
Percent Heavy Vehicles, %	0	2	2	2	0	1	1	1	0	2	2	2	0	1	1	1	
Flow Rate (v _{PCE}), pc/h	0	85	677	11	0	232	453	32	0	11	213	299	0	42	147	42	
Right-Turn Bypass	None				None				None				None				
Conflicting Lanes	1				1				1				1				
Pedestrians Crossing, p/h	0				0				0				0				
Proportion of CAVs, %	0																
Critical and Follow-Up Headway Adjustment																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Critical Headway, s		4.9763				4.9763			4.5436	4.5436				4.9763			
Follow-Up Headway, s		2.6087				2.6087			2.5352	2.5352				2.6087			
Flow Computations, Capacity and v/c Ratios																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Entry Flow (v _e), pc/h		773				717			224	299				231			
Entry Volume, veh/h		761				708			219	292				229			
Circulating Flow (v _c), pc/h	421				309				804				696				
Exiting Flow (v _{ex}), pc/h	1018				506				330				390				
Capacity (c _{pce}), pc/h		898				1007			683	683				679			
Capacity (c), veh/h		884				995			667	667				672			
v/c Ratio (x)		0.86				0.71			0.33	0.44				0.34			
Delay and Level of Service																	
Approach	EB				WB				NB				SB				
Lane	Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		Left	Right	Bypass		
Lane Control Delay (d), s/veh		27.6				15.6			9.6	11.7				9.8			
Lane LOS		D				C			A	B				A			
95% Queue Length, Q ₉₅ (veh)		10.9				6.3			1.4	2.2				1.5			
95% Queue Length, Q ₉₅ (ft)		276.0				159.0			35.7	56.1				37.8			
Approach Delay, s/veh LOS	27.6		D		15.6		C		10.8		B		9.8		A		
Intersection Delay, s/veh LOS	18.0								C								

