INTERSECTION CAPACITY ANALYSIS

SCENARIO 3

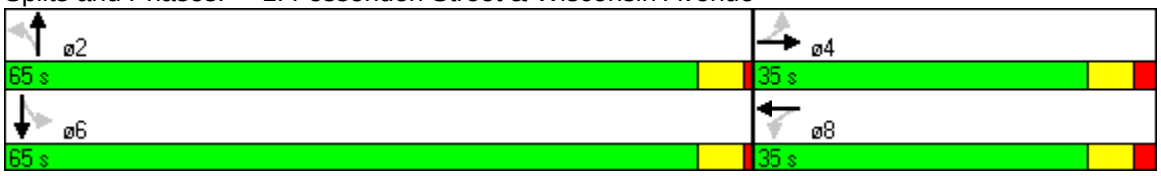
AM PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	21	146	238	52	6	1194	72	2023
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	11.0	11.0	11.0
Minimum Split (s)	27.0	27.0	27.0	27.0	55.0	55.0	55.0	55.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0	31.0		61.0		61.0
Actuated g/C Ratio		0.31	0.31	0.31		0.61		0.61
v/c Ratio		0.41	0.88	0.26		0.70		1.04
Uniform Delay, d1		26.3	32.8	14.6		13.3		19.5
Delay		26.9	52.2	15.3		8.4		45.3
LOS		C	D	B		A		D
Approach Delay		26.9		39.0		8.4		45.3
Approach LOS		C		D		A		D

Intersection Summary

Cycle Length: 100
Offset: 37 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Pretimed
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 32.3 Intersection LOS: C
Intersection Capacity Utilization 134.2% ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

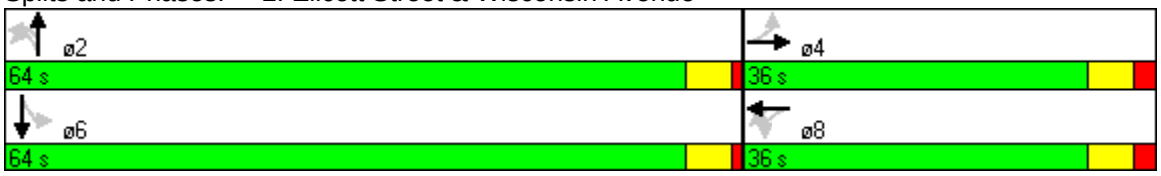


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	53	27	12	40	14	3	19	1119	14	1954	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0	64.0	0.0
Total Split (%)	36%	36%	36%	36%	36%	64%	64%	64%	64%	64%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		32.0			32.0			60.0		60.0	
Actuated g/C Ratio		0.32			0.32			0.60		0.60	
v/c Ratio		0.29			0.17			0.82		0.94	
Uniform Delay, d1		24.2			22.8			15.6		18.3	
Delay		24.7			23.4			10.0		9.9	
LOS		C			C			A		A	
Approach Delay		24.7			23.4			10.0		9.9	
Approach LOS		C			C			A		A	

Intersection Summary

Cycle Length: 100
Offset: 41 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 10.7 Intersection LOS: B
Intersection Capacity Utilization 75.4% ICU Level of Service C

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	105	1177	20	1888
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.31	0.58		0.76
Uniform Delay, d1	22.6	11.7		14.1
Delay	23.2	11.9		4.1
LOS	C	B		A
Approach Delay	23.2	11.9		4.1
Approach LOS	C	B		A

Intersection Summary

Cycle Length: 100
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 7.8 Intersection LOS: A
Intersection Capacity Utilization 67.6% ICU Level of Service B

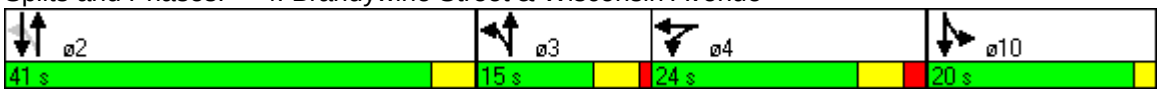
Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	65	187	1296	83	1870	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		11.0		10.0
Minimum Split (s)		24.0	15.0		20.0		41.0
Total Split (s)	0.0	24.0	15.0	56.0	20.0	61.0	41.0
Total Split (%)	0%	24%	15%	56%	20%	61%	41%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		20.0	48.0	52.0	16.0	57.0	
Actuated g/C Ratio		0.20	0.48	0.52	0.16	0.57	
v/c Ratio		0.51	0.82	0.86	0.35	0.78	
Uniform Delay, d1		31.3	34.1	20.8	37.4	16.7	
Delay		35.1	46.7	22.5	38.1	17.0	
LOS		D	D	C	D	B	
Approach Delay		35.1		25.4		17.9	
Approach LOS		D		C		B	

Intersection Summary

Cycle Length: 100
Offset: 99 (99%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 21.8 Intersection LOS: C
Intersection Capacity Utilization 77.7% ICU Level of Service C

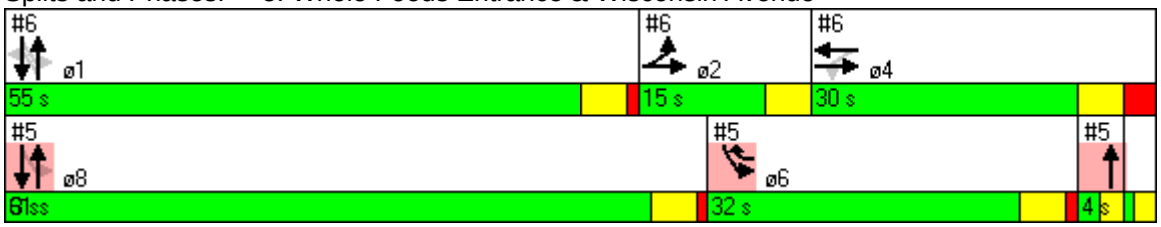
Splits and Phases: 4: Brandywine Street & Wisconsin Avenue



Lane Group	WBL	WBR	NBT	SBL	SBT	ø1	ø2	ø4	ø5	ø7	ø8
Lane Configurations											
Volume (vph)	0	17	1371	23	1845						
Turn Type		custom		pm+pt							
Protected Phases		6	5 7 8	6	5 8	1	2	4	5	7	8
Permitted Phases		6		5 8							
Detector Phases		6	5 7 8	6	5 8						
Minimum Initial (s)		22.0		22.0		21.0	10.0	19.0	23.0	2.0	1.0
Minimum Split (s)		32.0		32.0		55.0	14.0	30.0	28.0	4.0	3.0
Total Split (s)	0.0	32.0	68.0	32.0	64.0	55.0	15.0	30.0	61.0	4.0	3.0
Total Split (%)	0%	32%	68%	32%	64%	55%	15%	30%	61%	4%	3%
Yellow Time (s)		4.0		4.0		4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)		1.0		1.0		1.0	0.0	3.0	1.0	0.0	0.0
Lead/Lag		Lag		Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode		Max		Max		Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0	100.0		99.0						
Actuated g/C Ratio		0.28	1.00		0.99						
v/c Ratio		0.03	0.44		0.45						
Uniform Delay, d1		0.0	0.0		0.0						
Delay		0.0	0.0		0.0						
LOS		A	A		A						
Approach Delay	0.0		0.0		0.0						
Approach LOS	A		A		A						

Intersection Summary	
Cycle Length: 100	
Offset: 96 (96%), Referenced to phase 1:NBSB and 5:, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 66.8%	ICU Level of Service B

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

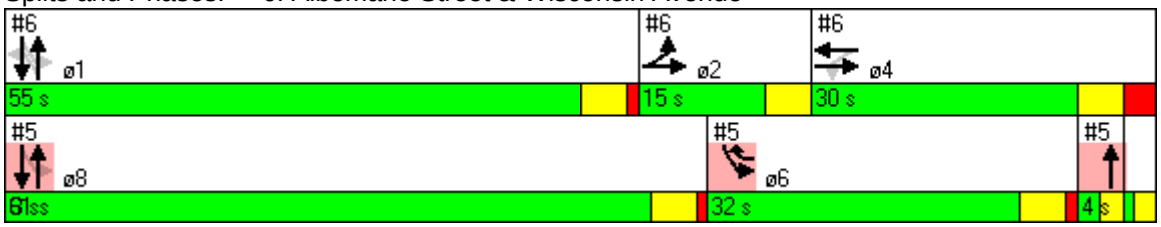


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	ø5	ø6	ø7	ø8
Lane Configurations											
Volume (vph)	65	216	77	46	1290	6	2160				
Turn Type	Prot		Perm			Perm					
Protected Phases	2	2 4		4	1		1	5	6	7	8
Permitted Phases			4			1					
Detector Phases	2	2 4	4	4	1	1	1				
Minimum Initial (s)	10.0		19.0	19.0	21.0	21.0	21.0	23.0	22.0	2.0	1.0
Minimum Split (s)	14.0		30.0	30.0	55.0	55.0	55.0	28.0	32.0	4.0	3.0
Total Split (s)	15.0	45.0	30.0	30.0	55.0	55.0	55.0	61.0	32.0	4.0	3.0
Total Split (%)	15%	45%	30%	30%	55%	55%	55%	61%	32%	4%	3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	41.0		26.0	51.0		51.0				
Actuated g/C Ratio	0.11	0.41		0.26	0.51		0.51				
v/c Ratio	0.39	0.46		0.71	0.83		1.00				
Uniform Delay, d1	41.3	21.4		26.9	20.7		24.4				
Delay	38.2	22.6		29.2	4.4		37.9				
LOS	D	C		C	A		D				
Approach Delay		25.5		29.2	4.4		37.9				
Approach LOS		C		C	A		D				

Intersection Summary

Cycle Length: 100
Offset: 96 (96%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 93.8% ICU Level of Service E

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

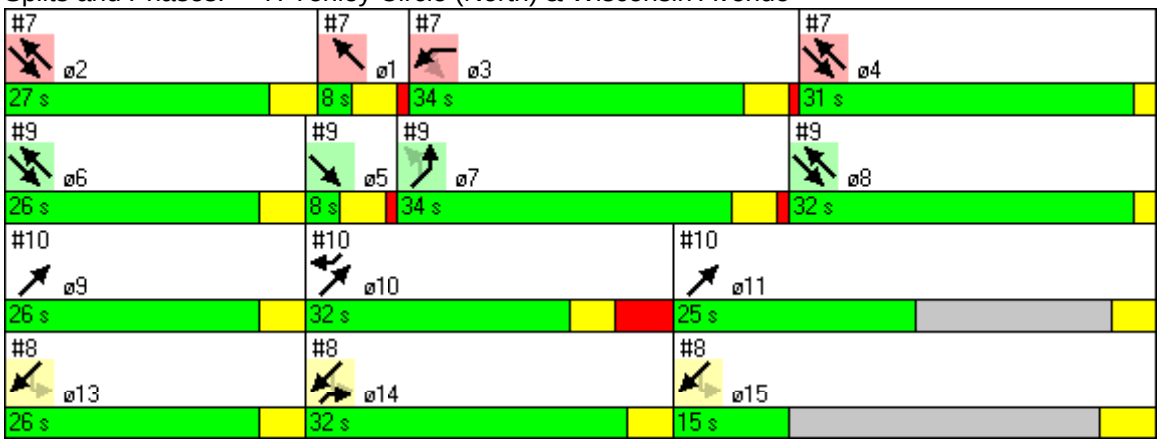


Lane Group	WBL	SET	NWT	NEL	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	892	2342	1460	0								
Turn Type												
Protected Phases	3	2 4	2 1 4		1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	3	2 4	2 1 4									
Minimum Initial (s)	17.0				1.0	5.0	10.0	3.0	1.0	19.0	23.0	5.0
Minimum Split (s)	34.0				8.0	26.0	32.0	8.0	26.0	34.0	32.0	26.0
Total Split (s)	34.0	58.0	66.0	0.0	8.0	27.0	31.0	8.0	26.0	34.0	32.0	26.0
Total Split (%)	34%	58%	66%	0%	8%	27%	31%	8%	26%	34%	32%	26%
Yellow Time (s)	4.0				4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)	1.0				1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag	Lead				Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max				Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	54.0	62.0									
Actuated g/C Ratio	0.30	0.54	0.62									
v/c Ratio	1.01	1.14	0.77									
Uniform Delay, d1	35.0	23.0	13.9									
Delay	57.4	85.8	6.4									
LOS	E	F	A									
Approach Delay	57.4	85.8	6.4									
Approach LOS	E	F	A									

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 57.5 Intersection LOS: E
Intersection Capacity Utilization 88.3% ICU Level of Service D

Splits and Phases: 7: Tenley Circle (North) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	1.0	4.0	5.0	22.0	4.0
Minimum Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (%)	32%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	5.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

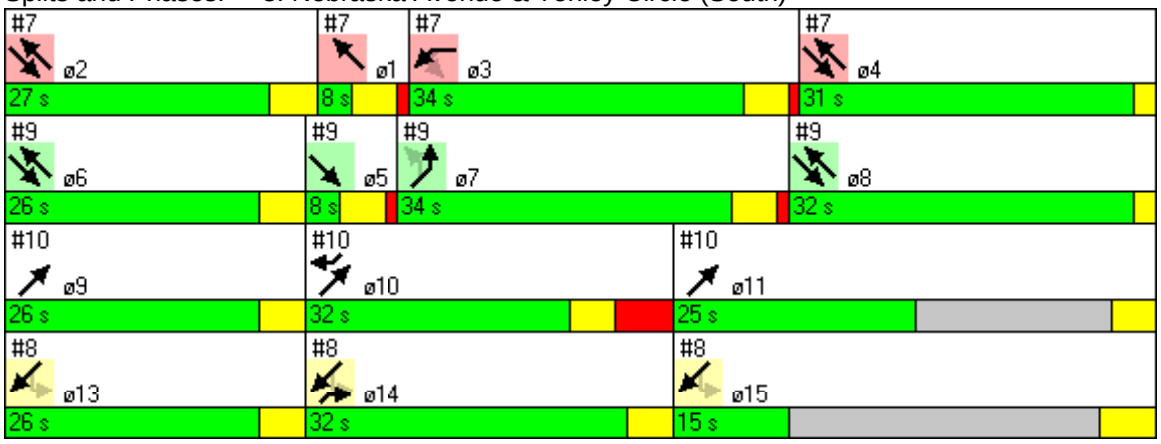
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	515	753								
Turn Type												
Protected Phases			14	13 14 15	1	2	3	4	5	6	7	8
Permitted Phases			14									
Detector Phases			14	13 14 15								
Minimum Initial (s)			22.0		1.0	5.0	17.0	10.0	3.0	1.0	19.0	23.0
Minimum Split (s)			32.0		8.0	26.0	34.0	32.0	8.0	26.0	34.0	32.0
Total Split (s)	0.0	0.0	32.0	73.0	8.0	27.0	34.0	31.0	8.0	26.0	34.0	32.0
Total Split (%)	0%	0%	32%	73%	8%	27%	34%	31%	8%	26%	34%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			28.0	100.0								
Actuated g/C Ratio			0.28	1.00								
v/c Ratio			0.57	0.31								
Uniform Delay, d1			0.0	0.0								
Delay			8.3	0.0								
LOS			A	A								
Approach Delay		8.3		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 2.9 Intersection LOS: A
Intersection Capacity Utilization 74.2% ICU Level of Service C

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	1.0	4.0	5.0	4.0
Minimum Split (s)	26.0	32.0	25.0	26.0	15.0
Total Split (s)	26.0	32.0	25.0	26.0	15.0
Total Split (%)	26%	32%	25%	26%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	0.0	5.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

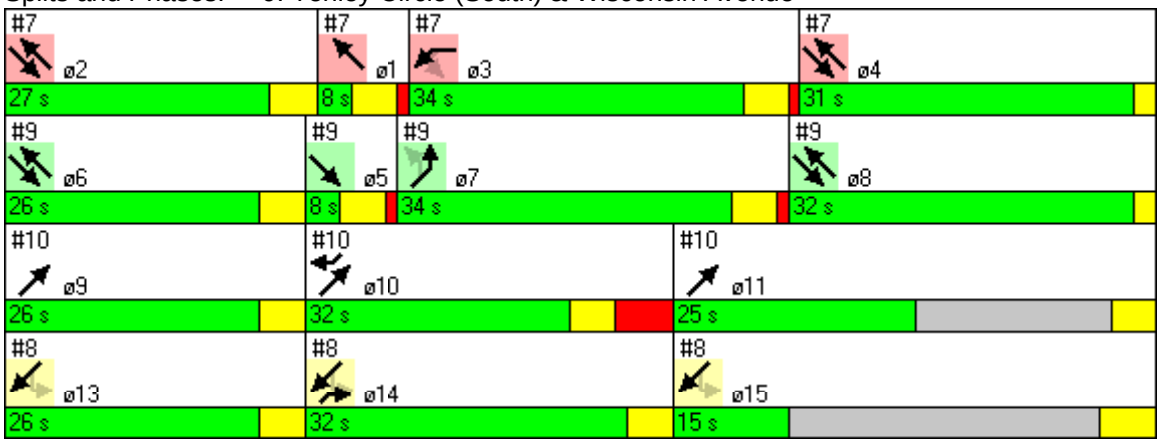
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	2628	1281	441								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				19.0	1.0	5.0	17.0	10.0	3.0	1.0	23.0	5.0
Minimum Split (s)				34.0	8.0	26.0	34.0	32.0	8.0	26.0	32.0	26.0
Total Split (s)	0.0	66.0	58.0	34.0	8.0	27.0	34.0	31.0	8.0	26.0	32.0	26.0
Total Split (%)	0%	66%	58%	34%	8%	27%	34%	31%	8%	26%	32%	26%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		62.0	54.0	30.0								
Actuated g/C Ratio		0.62	0.54	0.30								
v/c Ratio		0.91	0.62	0.76								
Uniform Delay, d1		16.5	15.9	31.7								
Delay		3.3	21.5	32.1								
LOS		A	C	C								
Approach Delay		3.3	21.5	32.1								
Approach LOS		A	C	C								

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 100.8% ICU Level of Service F

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	1.0	4.0	5.0	22.0	4.0
Minimum Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (%)	32%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	5.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

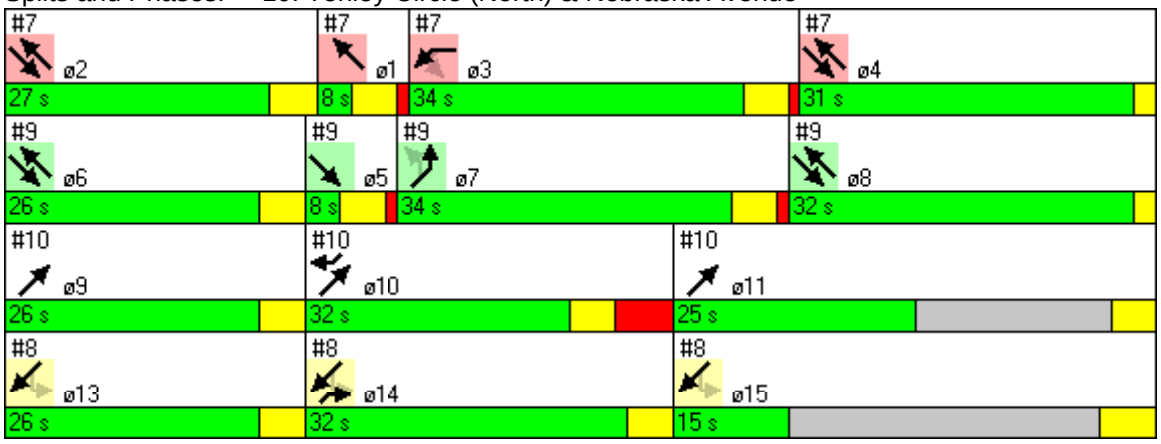
Intersection Summary

Lane Group	EBL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	456	0	768								
Turn Type				custom								
Protected Phases	9	10 11		10	1	2	3	4	5	6	7	8
Permitted Phases				10								
Detector Phases	9	10 11		10								
Minimum Initial (s)				1.0	1.0	5.0	17.0	10.0	3.0	1.0	19.0	23.0
Minimum Split (s)				32.0	8.0	26.0	34.0	32.0	8.0	26.0	34.0	32.0
Total Split (s)	0.0	83.0	0.0	32.0	8.0	27.0	34.0	31.0	8.0	26.0	34.0	32.0
Total Split (%)	0%	83%	0%	32%	8%	27%	34%	31%	8%	26%	34%	32%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)				5.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag				Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		100.0		28.0								
Actuated g/C Ratio		1.00		0.28								
v/c Ratio		0.14		0.40								
Uniform Delay, d1		0.0		0.0								
Delay		0.0		0.0								
LOS		A		A								
Approach Delay		0.0	0.0									
Approach LOS		A	A									

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 0.0 Intersection LOS: A
Intersection Capacity Utilization 35.3% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø9	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	5.0	22.0	4.0
Minimum Split (s)	26.0	25.0	26.0	32.0	15.0
Total Split (s)	26.0	25.0	26.0	32.0	15.0
Total Split (%)	26%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

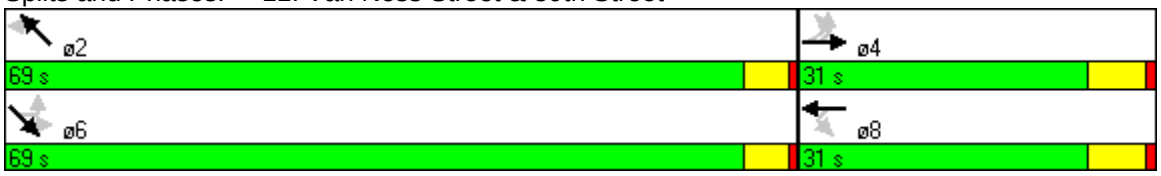
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL2	SEL	SET	NWL	NWT
Lane Configurations											
Volume (vph)	31	3	251	97	204	0	4	50	2353	19	1214
Turn Type	Perm	Perm		Perm			Perm	Perm		Perm	
Protected Phases			4		8				6		2
Permitted Phases	4	4		8			6	6	6	2	2
Detector Phases	4	4	4	8	8		6	6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		69.0	69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	0.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	31%	0%	69%	69%	69%	69%	69%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max	Max
Act Effct Green (s)			27.0	27.0	27.0				65.0		65.0
Actuated g/C Ratio			0.27	0.27	0.27				0.65		0.65
v/c Ratio			1.00	0.73	0.63				1.05		0.74
Uniform Delay, d1			36.5	33.2	32.1				17.5		11.8
Delay			60.6	48.9	32.9				35.8		12.6
LOS			E	D	C				D		B
Approach Delay			60.6		37.2				35.8		12.6
Approach LOS			E		D				D		B

Intersection Summary

Cycle Length: 100
Offset: 90 (90%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 30.7 Intersection LOS: C
Intersection Capacity Utilization 203.1% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street

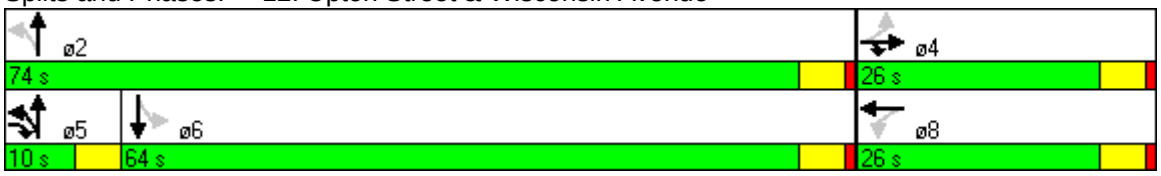


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations										
Volume (vph)	10	8	233	16	54	164	1408	18	2165	
Turn Type	Perm		pt+ov	Perm		custom		Perm		
Protected Phases		4	4 5		8	5	2 5		6	2
Permitted Phases	4			8		2		6		
Detector Phases	4	4	4 5	8	8	5	2 5	6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0	5.0		19.0	19.0	19.0
Minimum Split (s)	15.0	15.0		15.0	15.0	10.0		24.0	24.0	24.0
Total Split (s)	26.0	26.0	36.0	26.0	26.0	10.0	84.0	64.0	64.0	74.0
Total Split (%)	26%	26%	36%	26%	26%	10%	84%	64%	64%	74%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	0.0		1.0	1.0	1.0
Lead/Lag						Lead		Lag	Lag	
Lead-Lag Optimize?						Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max	Max		Max	Max	Max
Act Effct Green (s)		22.0	32.0		22.0		70.0		60.0	
Actuated g/C Ratio		0.22	0.32		0.22		0.70		0.60	
v/c Ratio		0.06	0.51		0.33		1.43		0.97	
Uniform Delay, d1		30.8	27.0		25.1		12.3		19.0	
Delay		31.2	27.8		25.8		163.7		17.2	
LOS		C	C		C		F		B	
Approach Delay		28.0			25.8		163.7		17.2	
Approach LOS		C			C		F		B	

Intersection Summary

Cycle Length: 100
Offset: 9 (9%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.43
Intersection Signal Delay: 73.5 Intersection LOS: E
Intersection Capacity Utilization 115.6% ICU Level of Service G

Splits and Phases: 12: Upton Street & Wisconsin Avenue

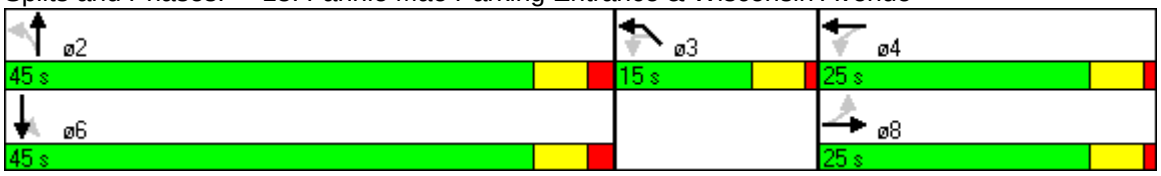


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	23	0	67	0	24	1600	10	2279	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	28.0	28.0	28.0	28.0	7.0
Minimum Split (s)	12.0	12.0	12.0	12.0	34.0	34.0	34.0	34.0	12.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
Act Effct Green (s)		12.4		12.4		48.3		48.3	8.5
Actuated g/C Ratio		0.17		0.17		0.66		0.66	0.11
v/c Ratio		0.19		0.60		1.24		1.07	0.14
Uniform Delay, d1		20.6		16.4		14.2		14.1	34.9
Delay		19.8		15.2		119.6		69.2	31.6
LOS		B		B		F		E	C
Approach Delay		19.8		15.2		119.6		69.2	31.6
Approach LOS		B		B		F		E	C

Intersection Summary

Cycle Length: 85
Actuated Cycle Length: 73.7
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 86.0 Intersection LOS: F
Intersection Capacity Utilization 96.1% ICU Level of Service E

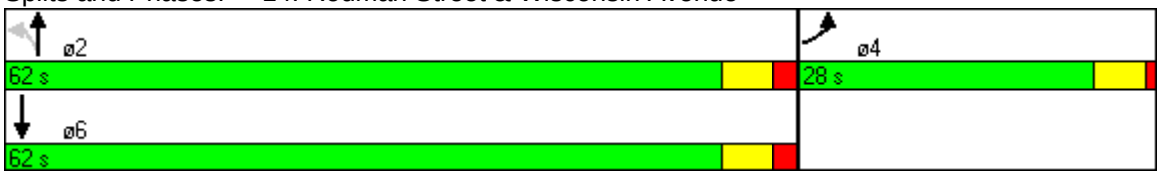
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	90	25	1613	2221
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	12.3		73.3	73.3
Actuated g/C Ratio	0.14		0.81	0.81
v/c Ratio	0.48		0.91	0.64
Uniform Delay, d1	37.6		7.2	4.0
Delay	35.5		20.6	4.7
LOS	D		C	A
Approach Delay	35.5		20.6	4.7
Approach LOS	D		C	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 76 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 81.8%	ICU Level of Service D

Splits and Phases: 14: Rodman Street & Wisconsin Avenue

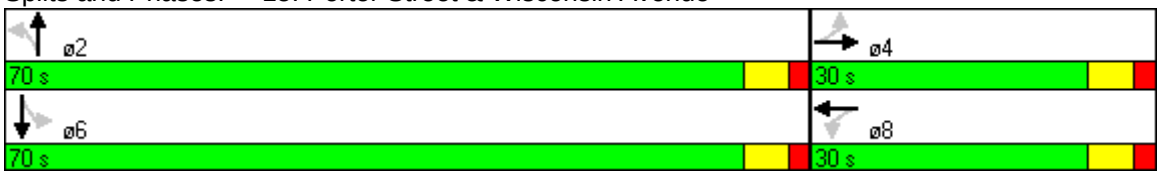


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	71	85	182	48	7	1303	60	2120
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		0.58		1.20		0.72		0.96
Uniform Delay, d1		30.6		37.0		10.9		15.8
Delay		31.6		123.1		16.0		22.9
LOS		C		F		B		C
Approach Delay		31.6		123.1		16.0		22.9
Approach LOS		C		F		B		C

Intersection Summary

Cycle Length: 100
Offset: 43 (43%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.20
Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 130.0% ICU Level of Service H

Splits and Phases: 15: Porter Street & Wisconsin Avenue

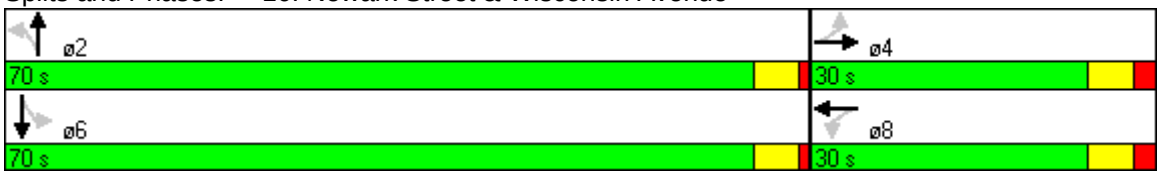


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	163	95	33	33	51	1258	40	2117
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		1.09		0.28		1.01		0.89
Uniform Delay, d1		37.0		25.2		17.0		13.9
Delay		93.1		25.9		32.8		3.9
LOS		F		C		C		A
Approach Delay		93.1		25.9		32.8		3.9
Approach LOS		F		C		C		A

Intersection Summary

Cycle Length: 100
Offset: 66 (66%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 109.0% ICU Level of Service F

Splits and Phases: 16: Newark Street & Wisconsin Avenue

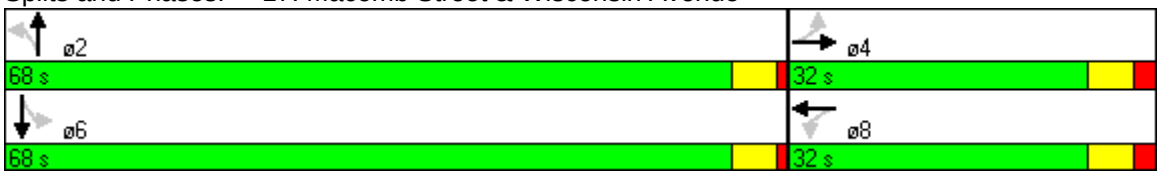


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	47	242	43	100	38	1102	63	1951
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	32.0	32.0	32.0	32.0	18.0	18.0	18.0	18.0
Total Split (s)	32.0	32.0	32.0	32.0	68.0	68.0	68.0	68.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		64.0		64.0
Actuated g/C Ratio		0.28		0.28		0.64		0.64
v/c Ratio		0.88		0.65		0.82		0.90
Uniform Delay, d1		33.4		31.6		13.6		15.3
Delay		43.9		32.8		13.9		5.1
LOS		D		C		B		A
Approach Delay		43.9		32.8		13.9		5.1
Approach LOS		D		C		B		A

Intersection Summary

Cycle Length: 100
Offset: 76 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Pretimed
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 162.8% ICU Level of Service H

Splits and Phases: 17: Macomb Street & Wisconsin Avenue

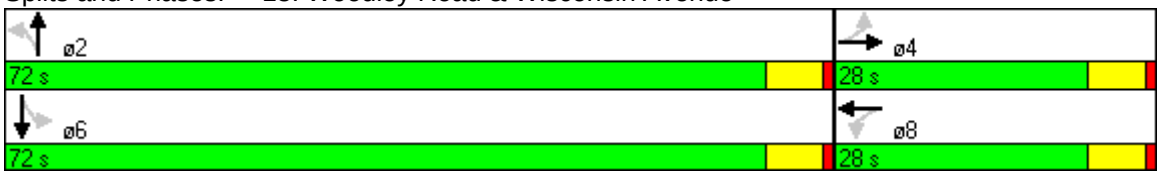


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	42	125	83	82	43	1250	110	2046
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	14.0	14.0	14.0	14.0
Minimum Split (s)	27.0	27.0	27.0	27.0	20.0	20.0	20.0	20.0
Total Split (s)	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0
Total Split (%)	28%	28%	28%	28%	72%	72%	72%	72%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		24.0		24.0		68.0		68.0
Actuated g/C Ratio		0.24		0.24		0.68		0.68
v/c Ratio		0.78		0.93		0.94		1.05
Uniform Delay, d1		35.5		37.2		14.2		16.0
Delay		41.6		65.7		17.5		38.3
LOS		D		E		B		D
Approach Delay		41.6		65.7		17.5		38.3
Approach LOS		D		E		B		D

Intersection Summary

Cycle Length: 100
Offset: 89 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 160.0% ICU Level of Service H

Splits and Phases: 18: Woodley Road & Wisconsin Avenue

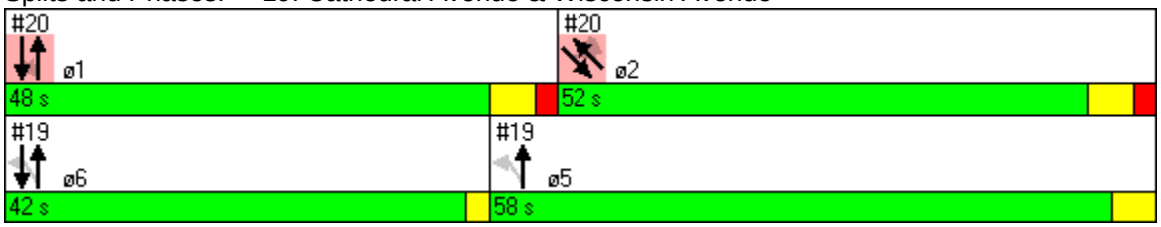


Lane Group	EBL	NBL	NBT	SBT	ø1	ø2	ø5
Lane Configurations							
Volume (vph)	0	1	1314	2137			
Turn Type		Perm					
Protected Phases			6 5	6	1	2	5
Permitted Phases		6 5					
Detector Phases		6 5	6 5	6			
Minimum Initial (s)				1.0	23.0	23.0	1.0
Minimum Split (s)				42.0	48.0	46.0	50.0
Total Split (s)	0.0	100.0	100.0	42.0	48.0	52.0	58.0
Total Split (%)	0%	100%	100%	42%	48%	52%	58%
Yellow Time (s)				2.0	4.0	4.0	4.0
All-Red Time (s)				0.0	2.0	2.0	0.0
Lead/Lag				Lead	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max
Act Effct Green (s)			100.0	38.0			
Actuated g/C Ratio			1.00	0.38			
v/c Ratio			0.45	1.30			
Uniform Delay, d1			0.0	31.0			
Delay			0.3	150.6			
LOS			A	F			
Approach Delay			0.3	150.6			
Approach LOS			A	F			

Intersection Summary

Cycle Length: 100
Offset: 18 (18%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 93.6 Intersection LOS: F
Intersection Capacity Utilization 48.6% ICU Level of Service A

Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue

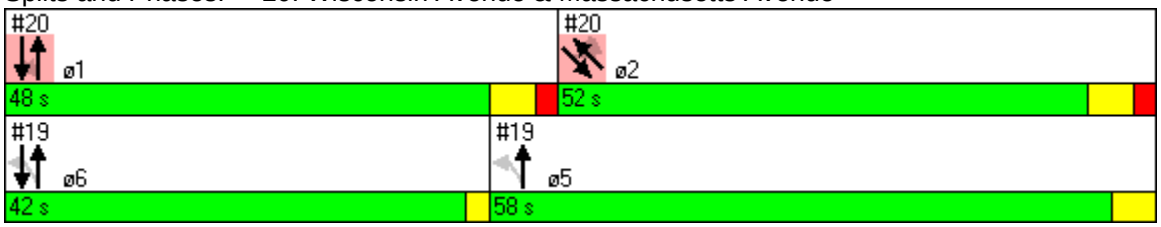


Lane Group	NBT	SBL	SBT	SEL	SET	NWT	NWR	ø5	ø6
Lane Configurations									
Volume (vph)	959	13	2246	3	1409	627	371		
Turn Type		Perm		Perm			Perm		
Protected Phases	1		1		2	2		5	6
Permitted Phases		1		2			2		
Detector Phases	1	1	1	2	2	2	2		
Minimum Initial (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	1.0	1.0
Minimum Split (s)	48.0	48.0	48.0	46.0	46.0	46.0	46.0	50.0	42.0
Total Split (s)	48.0	48.0	48.0	52.0	52.0	52.0	52.0	58.0	42.0
Total Split (%)	48%	48%	48%	52%	52%	52%	52%	58%	42%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0		44.0		48.0	48.0	48.0		
Actuated g/C Ratio	0.44		0.44		0.48	0.48	0.48		
v/c Ratio	0.73		1.26		1.09	0.41	0.55		
Uniform Delay, d1	23.0		28.0		26.0	16.8	17.0		
Delay	15.6		72.4		70.5	17.0	17.6		
LOS	B		E		E	B	B		
Approach Delay	15.6		72.4		70.5	17.3			
Approach LOS	B		E		E	B			

Intersection Summary

Cycle Length: 100
Offset: 18 (18%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 53.0 Intersection LOS: D
Intersection Capacity Utilization 114.3% ICU Level of Service G

Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue

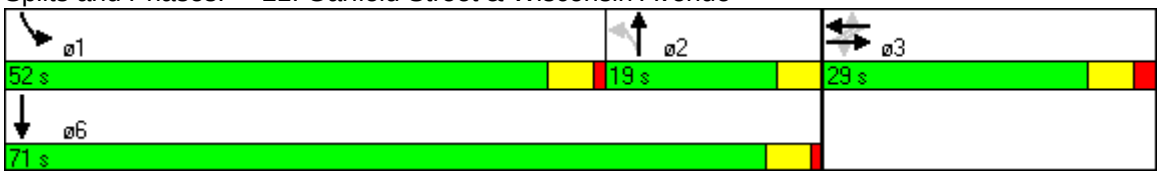


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	49	235	135	63	899	812	1465
Turn Type	Perm		Perm			Prot	
Protected Phases		3		3	2	1	6
Permitted Phases	3		3				
Detector Phases	3	3	3	3	2	1	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	25.0	25.0
Minimum Split (s)	29.0	29.0	29.0	29.0	19.0	45.0	70.0
Total Split (s)	29.0	29.0	29.0	29.0	19.0	52.0	71.0
Total Split (%)	29%	29%	29%	29%	19%	52%	71%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0	1.0
Lead/Lag					Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		25.0		25.0	15.0	48.0	67.0
Actuated g/C Ratio		0.25		0.25	0.15	0.48	0.67
v/c Ratio		0.79		1.22	1.56	1.11	0.73
Uniform Delay, d1		34.6		36.9	42.5	26.0	10.6
Delay		39.8		134.3	205.7	60.4	22.5
LOS		D		F	F	E	C
Approach Delay		39.8		134.3	205.7		35.9
Approach LOS		D		F	F		D

Intersection Summary

Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 86.5 Intersection LOS: F
Intersection Capacity Utilization 116.0% ICU Level of Service G

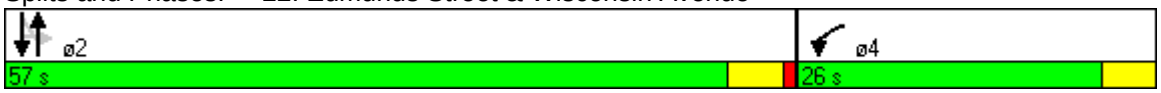
Splits and Phases: 21: Garfield Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	84	1012	1628
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	11.0	39.0	39.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	10.4	67.6	67.6
Actuated g/C Ratio	0.13	0.81	0.81
v/c Ratio	0.54	0.42	0.45
Uniform Delay, d1	30.3	2.6	2.7
Delay	28.6	3.2	3.2
LOS	C	A	A
Approach Delay	28.6	3.2	3.2
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 1 (1%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 4.2	Intersection LOS: A
Intersection Capacity Utilization 48.7%	ICU Level of Service A

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

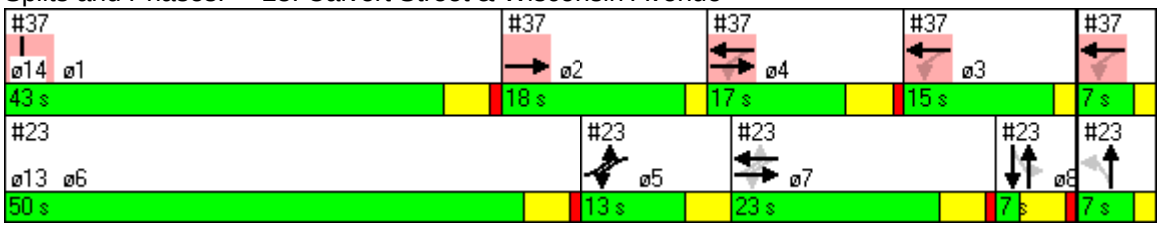


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø3	ø4
Lane Configurations												
Volume (vph)	196	161	60	36	86	863	24	1301				
Turn Type	pm+pt		pm+pt		custom		Perm					
Protected Phases	5	7	5	7		6 8 13		6 8	1	2	3	4
Permitted Phases	7		7		6 13		6 8					
Detector Phases	5	7	5	7	6 13	6 8 13	6 8	6 8				
Minimum Initial (s)	6.0	6.0	6.0	6.0					4.0	4.0	4.0	6.0
Minimum Split (s)	11.0	14.0	11.0	14.0					33.0	18.0	15.0	17.0
Total Split (s)	13.0	23.0	13.0	23.0	57.0	64.0	57.0	57.0	43.0	18.0	15.0	17.0
Total Split (%)	13%	23%	13%	23%	57%	64%	57%	57%	43%	18%	15%	17%
Yellow Time (s)	4.0	4.0	4.0	4.0					4.0	2.0	2.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0					1.0	0.0	0.0	1.0
Lead/Lag	Lag	Lead	Lag	Lead					Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max					Max	Max	Max	Max
Act Effct Green (s)	28.0	19.0	28.0	19.0		60.0		49.0				
Actuated g/C Ratio	0.28	0.19	0.28	0.19		0.60		0.49				
v/c Ratio	0.53	0.90	0.29	0.12		0.91		1.32				
Uniform Delay, d1	26.7	35.3	24.1	33.5		17.6		24.8				
Delay	4.2	38.1	24.5	34.0		23.3		141.4				
LOS	A	D	C	C		C		F				
Approach Delay		24.1		28.1		23.3		141.4				
Approach LOS		C		C		C		F				

Intersection Summary

Cycle Length: 100
Offset: 93 (93%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 76.6 Intersection LOS: E
Intersection Capacity Utilization 109.7% ICU Level of Service F

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



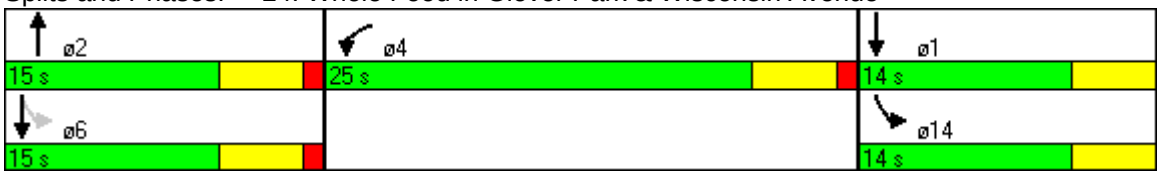
Lane Group	ø6	ø8	ø13	ø14
Lane Configurations				
Volume (vph)				
Turn Type				
Protected Phases	6	8	13	14
Permitted Phases				
Detector Phases				
Minimum Initial (s)	6.0	2.0	3.0	2.0
Minimum Split (s)	48.0	9.0	7.0	7.0
Total Split (s)	50.0	7.0	7.0	7.0
Total Split (%)	50%	7%	7%	7%
Yellow Time (s)	4.0	4.0	2.0	2.0
All-Red Time (s)	1.0	1.0	0.0	0.0
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Uniform Delay, d1				
Delay				
LOS				
Approach Delay				
Approach LOS				

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	12	1012	31	1452		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	12.0	12.0	10.0		10.0	12.0
Total Split (s)	25.0	15.0	14.0	29.0	14.0	15.0
Total Split (%)	46%	28%	26%	54%	26%	28%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Coord	None		None	Coord
Act Effct Green (s)	8.1	33.5		43.5		
Actuated g/C Ratio	0.15	0.62		0.81		
v/c Ratio	0.11	0.61		0.80		
Uniform Delay, d1	12.9	8.9		3.2		
Delay	14.7	11.0		9.6		
LOS	B	B		A		
Approach Delay	14.7	11.0		9.6		
Approach LOS	B	B		A		

Intersection Summary	
Cycle Length: 54	
Actuated Cycle Length: 54	
Offset: 39 (72%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 79.9%	ICU Level of Service C

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	25	8	1008	1460
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	40.0	40.0	40.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	8.7		66.5	66.5
Actuated g/C Ratio	0.11		0.83	0.83
v/c Ratio	0.38		0.53	0.65
Uniform Delay, d1	14.6		2.5	3.1
Delay	17.8		3.0	3.7
LOS	B		A	A
Approach Delay	17.8		3.0	3.7
Approach LOS	B		A	A

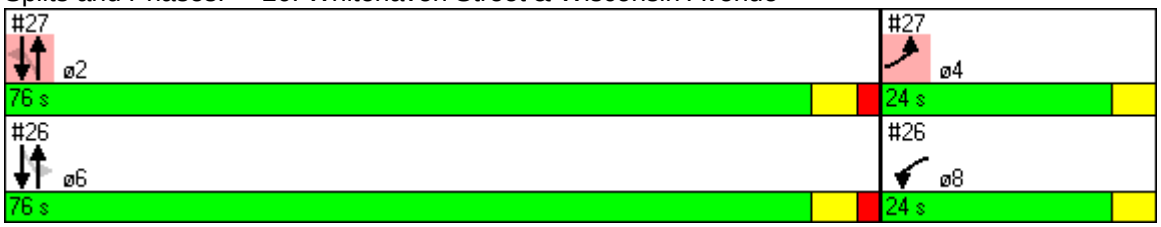
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 62 (78%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 3.8	Intersection LOS: A
Intersection Capacity Utilization 68.0%	ICU Level of Service B

Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	48	1101	67	1422		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (%)	24%	76%	76%	76%	76%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	72.0		72.0		
Actuated g/C Ratio	0.20	0.72		0.72		
v/c Ratio	0.20	0.60		0.88		
Uniform Delay, d1	25.5	6.7		10.7		
Delay	27.0	3.8		13.0		
LOS	C	A		B		
Approach Delay	27.0	3.8		13.0		
Approach LOS	C	A		B		

Intersection Summary	
Cycle Length: 100	
Offset: 2 (2%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 109.9%	ICU Level of Service F

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

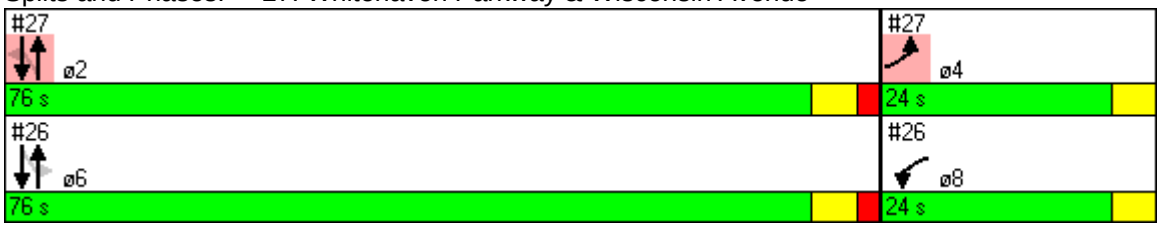


Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	211	20	1119	1401		
Turn Type		Perm				
Protected Phases	4		2	2	6	8
Permitted Phases		2				
Detector Phases	4	2	2	2		
Minimum Initial (s)	14.0	16.0	16.0	16.0	16.0	15.0
Minimum Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (%)	24%	76%	76%	76%	76%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0		72.0	72.0		
Actuated g/C Ratio	0.20		0.72	0.72		
v/c Ratio	1.13		0.63	0.62		
Uniform Delay, d1	36.0		7.2	7.1		
Delay	101.4		7.5	1.2		
LOS	F		A	A		
Approach Delay	101.4		7.5	1.2		
Approach LOS	F		A	A		

Intersection Summary

Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service C

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

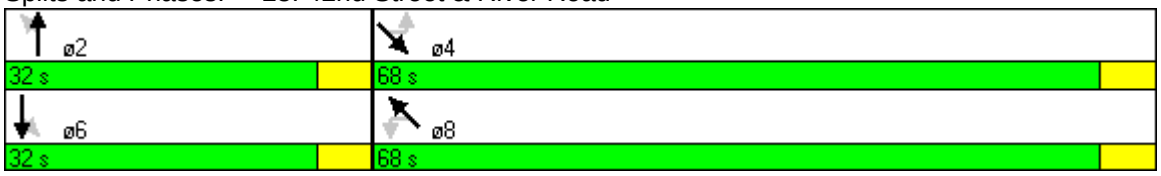


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	46	180	2	552	41	111	11	197
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.0	32.0	32.0	32.0	21.0	21.0	21.0	21.0
Total Split (s)	32.0	32.0	32.0	32.0	68.0	68.0	68.0	68.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		64.0		64.0
Actuated g/C Ratio		0.28		0.28		0.64		0.64
v/c Ratio		1.17		1.66		0.17		0.19
Uniform Delay, d1		36.0		36.0		7.3		7.4
Delay		117.2		220.6		14.7		7.5
LOS		F		F		B		A
Approach Delay		117.2		220.6		14.7		7.5
Approach LOS		F		F		B		A

Intersection Summary

Cycle Length: 100
Offset: 9 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.66
Intersection Signal Delay: 142.4 Intersection LOS: F
Intersection Capacity Utilization 103.3% ICU Level of Service F

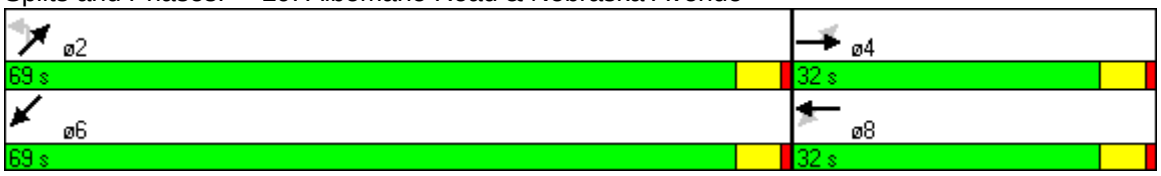
Splits and Phases: 28: 42nd Street & River Road



Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	63	289	51	234	2	426	707
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	32.0	32.0	32.0	32.0	69.0	69.0	69.0
Total Split (s)	32.0	32.0	32.0	32.0	69.0	69.0	69.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	28.0	28.0	28.0	28.0		65.0	65.0
Actuated g/C Ratio	0.28	0.28	0.28	0.28		0.64	0.64
v/c Ratio	0.36	0.65	0.39	0.54		0.26	0.49
Uniform Delay, d1	29.3	32.2	29.5	31.0		7.7	9.3
Delay	30.7	32.9	31.5	31.7		7.8	9.5
LOS	C	C	C	C		A	A
Approach Delay		32.5		31.7		7.8	9.5
Approach LOS		C		C		A	A

Intersection Summary	
Cycle Length: 101	
Offset: 27 (27%), Referenced to phase 2:NETL, Start of Green	
Natural Cycle: 105	
Control Type: Pretimed	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 101.7%	ICU Level of Service F

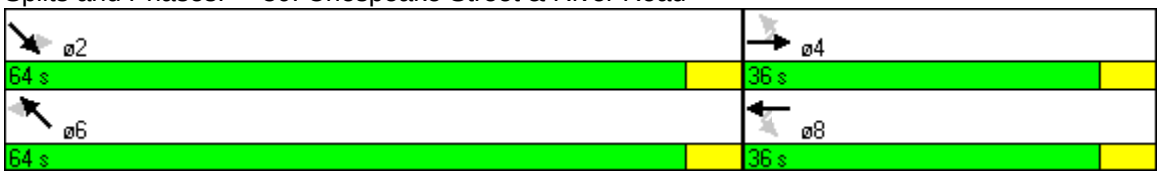
Splits and Phases: 29: Albemarle Road & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	16	45	2	38	56	616	6	214
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	36.0	36.0	36.0	36.0	27.0	27.0	64.0	64.0
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0
Total Split (%)	36%	36%	36%	36%	64%	64%	64%	64%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		32.0		32.0		60.0		60.0
Actuated g/C Ratio		0.32		0.32		0.60		0.60
v/c Ratio		0.14		0.14		0.89		0.23
Uniform Delay, d1		24.2		13.0		16.7		9.3
Delay		24.6		14.8		21.8		13.5
LOS		C		B		C		B
Approach Delay		24.6		14.8		21.8		13.5
Approach LOS		C		B		C		B

Intersection Summary	
Cycle Length: 100	
Offset: 84 (84%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 20.0	Intersection LOS: B
Intersection Capacity Utilization 135.6%	ICU Level of Service H

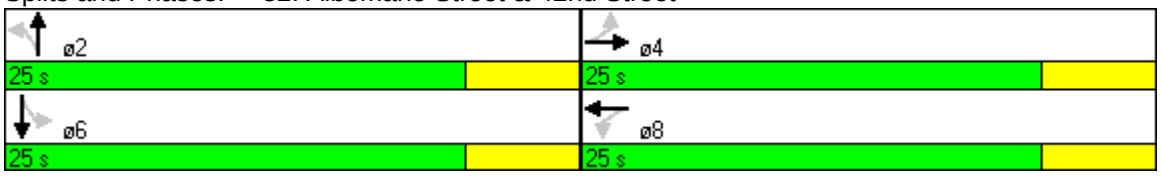
Splits and Phases: 30: Chespeake Street & River Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	195	19	92	15	171	131	185
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.17		0.12		0.35		0.61
Uniform Delay, d1		9.0		8.8		9.8		11.3
Delay		9.2		7.4		10.3		12.1
LOS		A		A		B		B
Approach Delay		9.2		7.4		10.3		12.1
Approach LOS		A		A		B		B

Intersection Summary	
Cycle Length: 50	
Offset: 8 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Pretimed	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 63.8%	ICU Level of Service B

Splits and Phases: 32: Albemarle Street & 42nd Street

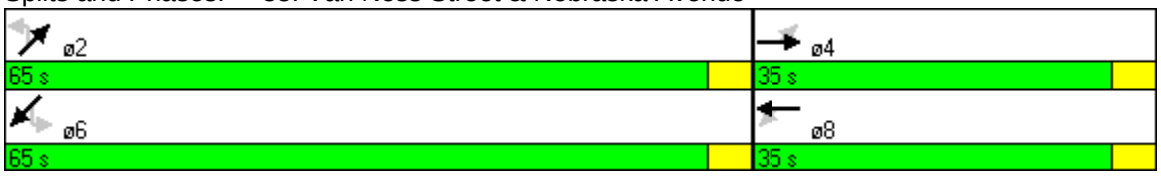


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	10	422	107	214	1	498	3	771
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0	31.0		61.0		61.0
Actuated g/C Ratio		0.31	0.31	0.31		0.61		0.61
v/c Ratio		0.86	0.88	0.42		0.43		0.42
Uniform Delay, d1		32.3	32.7	27.2		8.3		10.2
Delay		39.3	62.2	31.2		8.4		10.3
LOS		D	E	C		A		B
Approach Delay		39.3		41.4		8.4		10.3
Approach LOS		D		D		A		B

Intersection Summary

Cycle Length: 100
Offset: 65 (65%), Referenced to phase 2:NETL and 6:SWTL, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 75.0% ICU Level of Service C

Splits and Phases: 33: Van Ness Street & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	78	387	19	295	9	211	25	362
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	24.0	24.0	24.0	24.0
Total Split (s)	21.0	21.0	21.0	21.0	29.0	29.0	29.0	29.0
Total Split (%)	42%	42%	42%	42%	58%	58%	58%	58%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		17.0		17.0		25.0		25.0
Actuated g/C Ratio		0.34		0.34		0.50		0.50
v/c Ratio		1.01		0.58		0.32		0.59
Uniform Delay, d1		16.3		13.5		6.7		8.2
Delay		53.1		14.2		7.0		8.8
LOS		D		B		A		A
Approach Delay		53.1		14.2		7.0		8.8
Approach LOS		D		B		A		A

Intersection Summary

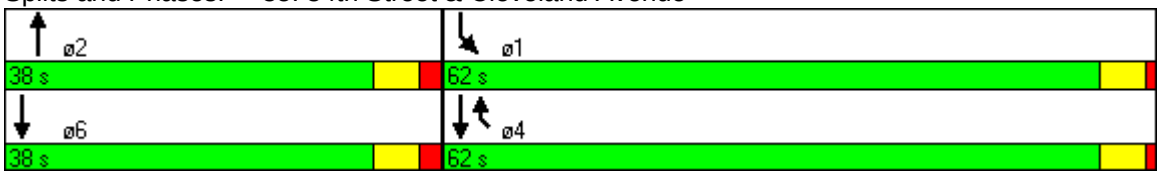
Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 110.3% ICU Level of Service G

Splits and Phases: 34: Garfield Street & 34th Street

Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	277	529	527	0	191	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	21.0			21.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	None			None	Max
Act Effct Green (s)	34.6	29.6	72.3		29.6	
Actuated g/C Ratio	0.48	0.41	1.00		0.41	
v/c Ratio	0.35	0.82	0.32		0.32	
Uniform Delay, d1	11.8	18.8	0.0		14.4	
Delay	14.5	18.5	0.0		13.8	
LOS	B	B	A		B	
Approach Delay	14.5		9.2	13.8		
Approach LOS	B		A	B		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 72.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

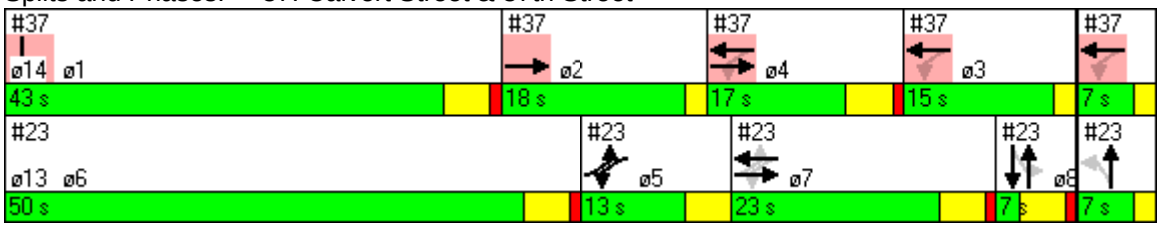


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	453	17	105	0	362							
Turn Type		Perm										
Protected Phases	2 4		4 3 14		1	2	3	4	5	6	7	8
Permitted Phases		4 3 14										
Detector Phases	2 4	4 3 14	4 3 14		1							
Minimum Initial (s)					4.0	4.0	4.0	6.0	6.0	6.0	6.0	2.0
Minimum Split (s)					33.0	18.0	15.0	17.0	11.0	48.0	14.0	9.0
Total Split (s)	35.0	39.0	39.0	0.0	43.0	18.0	15.0	17.0	13.0	50.0	23.0	7.0
Total Split (%)	35%	39%	39%	0%	43%	18%	15%	17%	13%	50%	23%	7%
Yellow Time (s)					4.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)					1.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	31.0		35.0		39.0							
Actuated g/C Ratio	0.31		0.35		0.39							
v/c Ratio	0.52		0.22		0.59							
Uniform Delay, d1	28.1		22.8		23.8							
Delay	28.5		27.1		24.3							
LOS	C		C		C							
Approach Delay	28.5		27.1		24.3							
Approach LOS	C		C		C							

Intersection Summary

Cycle Length: 100
Offset: 93 (93%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 26.6 Intersection LOS: C
Intersection Capacity Utilization 46.0% ICU Level of Service A

Splits and Phases: 37: Calvert Street & 37th Street



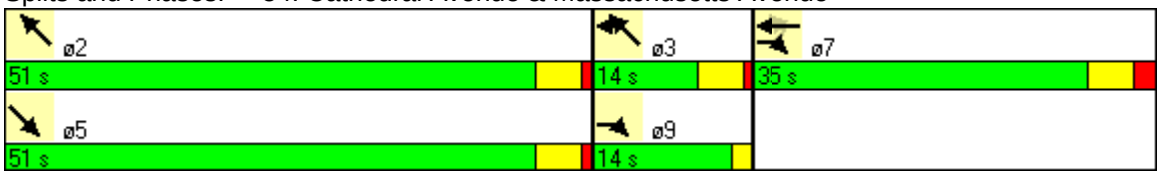
Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	7.0	7.0
Total Split (%)	7%	7%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø2	ø3	ø9
Lane Configurations							
Volume (vph)	0	0	0	0			
Turn Type							
Protected Phases		7	5	2 3	2	3	9
Permitted Phases							
Detector Phases		7	5	2 3			
Minimum Initial (s)		21.0	17.0		17.0	5.0	8.0
Minimum Split (s)		27.0	22.0		22.0	10.0	10.0
Total Split (s)	0.0	35.0	51.0	65.0	51.0	14.0	14.0
Total Split (%)	0%	35%	51%	65%	51%	14%	14%
Yellow Time (s)		4.0	4.0		4.0	4.0	2.0
All-Red Time (s)		2.0	1.0		1.0	1.0	0.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode		Max	Max		Max	Max	Max
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Uniform Delay, d1							
Delay							
LOS							
Approach Delay	0.0	0.0	0.0	0.0			
Approach LOS	A	A	A	A			

Intersection Summary	
Cycle Length: 100	
Offset: 59 (59%), Referenced to phase 2:NWT and 5:SET, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description	
East/West Street: *Newark Street*	North/South Street: *34th Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	14	593	53	13	665	47
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	15	644	57	14	722	51
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7	22	32	23	17	52
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	7	23	34	24	18	56
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	15	14		64			98	
C (m) (vph)	851	905		173			160	
v/c	0.02	0.02		0.37			0.61	
95% queue length	0.05	0.05		1.58			3.32	
Control Delay	9.3	9.0		37.5			57.8	
LOS	A	A		E			F	
Approach Delay	--	--	37.5			57.8		
Approach LOS	--	--	E			F		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description

East/West Street: *Massachussets* | North/South Street: *38th Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	9	1227	0	0	602	53
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	9	1333	0	0	654	57
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				11	0	36
Peak-Hour Factor, PHF				0.92	0.92	0.92
Hourly Flow Rate, HFR	0	0	0	11	0	39
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT					LTR	
v (vph)	9	0					50	
C (m) (vph)	898	524					360	
v/c	0.01	0.00					0.14	
95% queue length	0.03	0.00					0.48	
Control Delay	9.0	11.9					16.6	
LOS	A	B					C	
Approach Delay	--	--				16.6		
Approach LOS	--	--				C		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	AM Peak

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	165	343	9	20	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	279	0	37	41	262	23
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	551		30		343		328	23
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.3		0.9		0.1	0.0
Prop. Right-Turns	0.7		0.0		0.1		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.83		5.83		5.83		5.83	5.83

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.49		0.03		0.30		0.29	0.02
hd, final value	5.83		5.83		5.83		5.83	5.83
x, final value	0.89		0.07		0.65		0.65	0.04
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	3.8		3.8		3.8		3.8	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	608		280		503		479	273
Delay	38.79		11.39		21.59		22.42	9.52
LOS	E		B		C		C	A
Approach: Delay	38.79		11.39		21.59		21.57	
LOS	E		B		C		C	
Intersection Delay	28.78							
Intersection LOS	D							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description

East/West Street: *Albemarle Street*	North/South Street: *Fort Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*41*	*234*	*17*	*47*	*165*	*82*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*44*	*254*	*18*	*51*	*179*	*89*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*23*	*96*	*16*	*104*	*74*	*56*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*24*	*104*	*17*	*113*	*80*	*60*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*44*	*51*		*145*			*253*	
C (m) (vph)	*1307*	*1303*		*422*			*427*	
v/c	*0.03*	*0.04*		*0.34*			*0.59*	
95% queue length	*0.10*	*0.12*		*1.50*			*3.72*	
Control Delay	*7.9*	*7.9*		*17.9*			*25.0-*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*17.9*			*25.0-*		
Approach LOS	--	--	*C*			*C*		

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INTERSECTION CAPACITY ANALYSIS

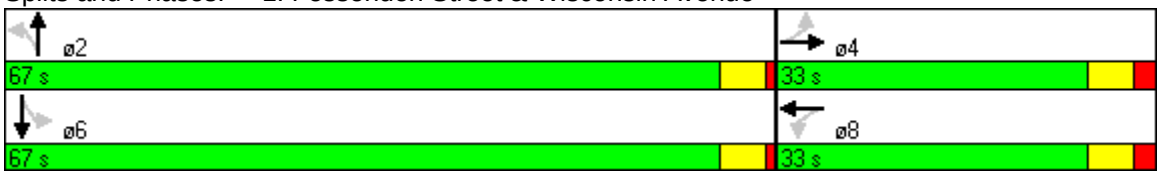
SCENARIO 3

PM PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	34	181	168	167	10	2306	43	1759
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	11.0	11.0	11.0
Minimum Split (s)	27.0	27.0	27.0	27.0	55.0	55.0	55.0	55.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0	29.0	29.0		63.0		63.0
Actuated g/C Ratio		0.29	0.29	0.29		0.63		0.63
v/c Ratio		0.62	0.79	0.57		0.97		1.43
Uniform Delay, d1		29.5	32.7	29.8		17.6		18.5
Delay		30.3	44.8	30.5		20.5		169.0
LOS		C	D	C		C		F
Approach Delay		30.3		36.0		20.5		169.0
Approach LOS		C		D		C		F

Intersection Summary	
Cycle Length: 100	
Offset: 31 (31%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 105	
Control Type: Pretimed	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 78.4	Intersection LOS: E
Intersection Capacity Utilization 133.1%	ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

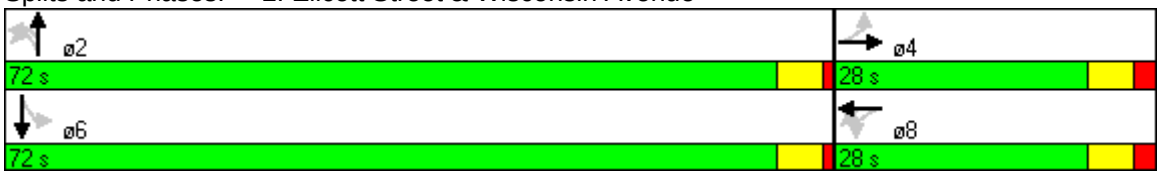


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	75	26	9	13	25	8	36	1872	7	1604	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0	72.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0	72.0	0.0
Total Split (%)	28%	28%	28%	28%	28%	72%	72%	72%	72%	72%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		24.0			24.0			68.0		68.0	
Actuated g/C Ratio		0.24			0.24			0.68		0.68	
v/c Ratio		0.45			0.16			0.88		1.00	
Uniform Delay, d1		31.1			24.6			12.7		15.9	
Delay		31.8			26.0			16.1		9.5	
LOS		C			C			B		A	
Approach Delay		31.8			26.0			16.1		9.5	
Approach LOS		C			C			B		A	

Intersection Summary

Cycle Length: 100
Offset: 29 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 13.7 Intersection LOS: B
Intersection Capacity Utilization 85.5% ICU Level of Service D

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	52	1784	19	1645
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.18	0.61		1.02
Uniform Delay, d1	22.1	12.1		19.5
Delay	22.6	12.3		15.0
LOS	C	B		B
Approach Delay	22.6	12.3		15.0
Approach LOS	C	B		B

Intersection Summary	
Cycle Length: 100	
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 82.2%	ICU Level of Service D

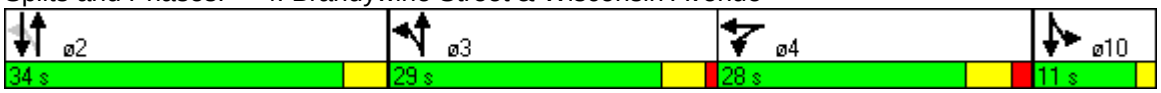
Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	71	363	1864	133	1599	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		9.0		10.0
Minimum Split (s)		26.0	27.0		11.0		34.0
Total Split (s)	0.0	28.0	29.0	63.0	11.0	45.0	34.0
Total Split (%)	0%	27%	28%	62%	11%	44%	33%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		24.0	55.0	59.0	7.0	41.0	
Actuated g/C Ratio		0.24	0.54	0.58	0.07	0.40	
v/c Ratio		0.41	0.84	0.78	1.32	1.37	
Uniform Delay, d1		33.0	31.3	16.4	47.5	30.5	
Delay		33.6	39.1	16.7	171.2	162.7	
LOS		C	D	B	F	F	
Approach Delay		33.6		20.3		163.4	
Approach LOS		C		C		F	

Intersection Summary

Cycle Length: 102
Offset: 96 (94%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 140
Control Type: Pretimed
Maximum v/c Ratio: 1.37
Intersection Signal Delay: 80.7 Intersection LOS: F
Intersection Capacity Utilization 95.0% ICU Level of Service E

Splits and Phases: 4: Brandywine Street & Wisconsin Avenue

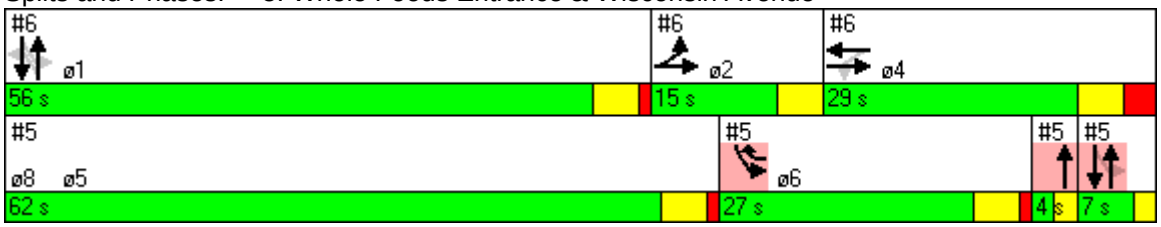


Lane Group	WBL	WBR	NBT	SBL	SBT	ø1	ø2	ø4	ø5	ø7	ø8
Lane Configurations											
Volume (vph)	0	145	2044	126	1548						
Turn Type		custom		pm+pt							
Protected Phases		6	5 7 8	6	5 8	1	2	4	5	7	8
Permitted Phases		6		5 8							
Detector Phases		6	5 7 8	6	5 8						
Minimum Initial (s)		22.0		22.0		21.0	9.0	19.0	23.0	2.0	1.0
Minimum Split (s)		27.0		27.0		56.0	13.0	29.0	62.0	4.0	3.0
Total Split (s)	0.0	27.0	73.0	27.0	69.0	56.0	15.0	29.0	62.0	4.0	7.0
Total Split (%)	0%	27%	73%	27%	69%	56%	15%	29%	62%	4%	7%
Yellow Time (s)		4.0		4.0		4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)		1.0		1.0		1.0	0.0	3.0	1.0	0.0	0.0
Lead/Lag		Lag		Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode		Max		Max		Max	Max	Max	Max	Max	Max
Act Effct Green (s)		23.0	100.0		88.0						
Actuated g/C Ratio		0.23	1.00		0.88						
v/c Ratio		0.40	0.47		0.97						
Uniform Delay, d1		24.4	0.0		8.0						
Delay		25.0	0.0		18.0						
LOS		C	A		B						
Approach Delay	25.0		0.0		18.0						
Approach LOS	C		A		B						

Intersection Summary

Cycle Length: 100
Offset: 84 (84%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.52
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 119.0% ICU Level of Service G

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

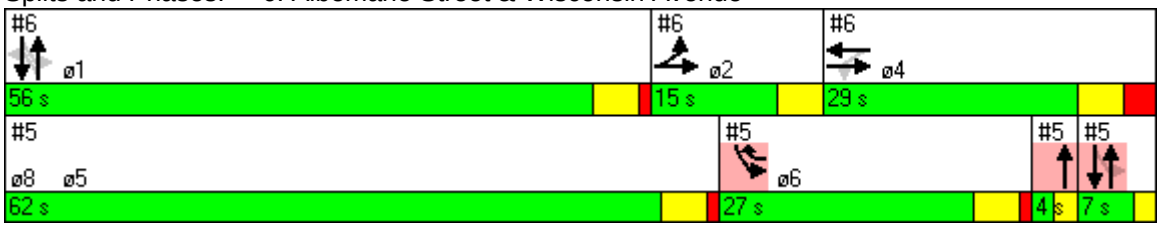


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	57	141	61	134	3	2123	20	1823				
Turn Type	Prot		Perm		Perm		Perm					
Protected Phases	2	2 4		4		1		1	5	6	7	8
Permitted Phases			4		1		1					
Detector Phases	2	2 4	4	4	1	1	1	1				
Minimum Initial (s)	9.0		19.0	19.0	21.0	21.0	21.0	21.0	23.0	22.0	2.0	1.0
Minimum Split (s)	13.0		29.0	29.0	56.0	56.0	56.0	56.0	62.0	27.0	4.0	3.0
Total Split (s)	15.0	44.0	29.0	29.0	56.0	56.0	56.0	56.0	62.0	27.0	4.0	7.0
Total Split (%)	15%	44%	29%	29%	56%	56%	56%	56%	62%	27%	4%	7%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	40.0		25.0		52.0		52.0				
Actuated g/C Ratio	0.11	0.40		0.25		0.52		0.52				
v/c Ratio	0.34	0.34		0.89		1.10		1.52				
Uniform Delay, d1	41.1	20.8		32.8		23.9		23.9				
Delay	40.6	20.6		45.3		65.9		193.5				
LOS	D	C		D		E		F				
Approach Delay		25.0		45.3		65.9		193.5				
Approach LOS		C		D		E		F				

Intersection Summary

Cycle Length: 100
Offset: 84 (84%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.52
Intersection Signal Delay: 114.1 Intersection LOS: F
Intersection Capacity Utilization 114.1% ICU Level of Service G

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

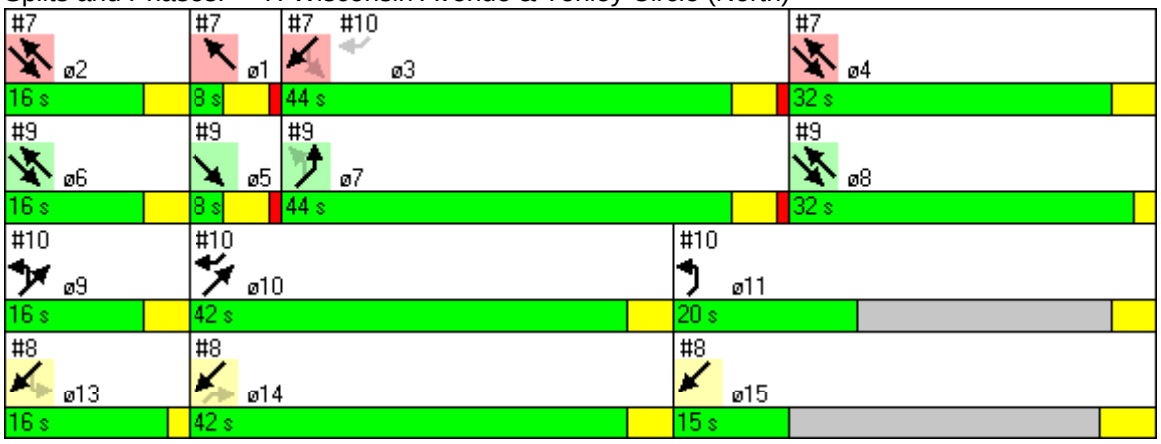


Lane Group	SET	NWT	NET	SWT	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	1533	2133	0	721								
Turn Type												
Protected Phases	2 4	2 4 1		3	1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	2 4	2 4 1		3								
Minimum Initial (s)				22.0	3.0	5.0	10.0	2.0	2.0	23.0	2.0	5.0
Minimum Split (s)				44.0	8.0	16.0	32.0	8.0	16.0	44.0	32.0	16.0
Total Split (s)	48.0	56.0	0.0	44.0	8.0	16.0	32.0	8.0	16.0	44.0	32.0	16.0
Total Split (%)	48%	56%	0%	44%	8%	16%	32%	8%	16%	44%	32%	16%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0	52.0		40.0								
Actuated g/C Ratio	0.44	0.52		0.40								
v/c Ratio	0.93	0.94		0.81								
Uniform Delay, d1	26.6	22.5		26.5								
Delay	47.4	6.4		27.1								
LOS	D	A		C								
Approach Delay	47.4	6.4		27.1								
Approach LOS	D	A		C								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 83.9% ICU Level of Service D

Splits and Phases: 7: Wisconsin Avenue & Tenley Circle (North)



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (%)	42%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

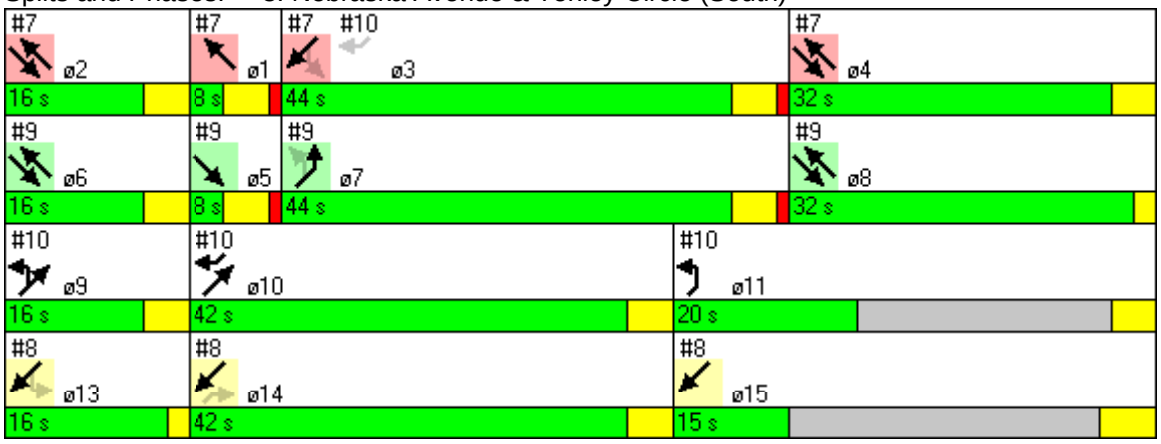
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	789	589								
Turn Type												
Protected Phases			13	14 15	1	2	3	4	5	6	7	8
Permitted Phases			14	13								
Detector Phases			14	13 14 15								
Minimum Initial (s)			4.0		3.0	5.0	22.0	10.0	2.0	2.0	23.0	2.0
Minimum Split (s)			42.0		8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (s)	0.0	0.0	42.0	73.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (%)	0%	0%	42%	73%	8%	16%	44%	32%	8%	16%	44%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			38.0	100.0								
Actuated g/C Ratio			0.38	1.00								
v/c Ratio			0.46	0.25								
Uniform Delay, d1			0.0	0.0								
Delay			0.0	0.0								
LOS			A	A								
Approach Delay		0.0		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 0.0 Intersection LOS: A
Intersection Capacity Utilization 63.2% ICU Level of Service B

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	5.0	4.0	1.0	4.0
Minimum Split (s)	16.0	42.0	20.0	16.0	15.0
Total Split (s)	16.0	42.0	20.0	16.0	15.0
Total Split (%)	16%	42%	20%	16%	15%
Yellow Time (s)	4.0	4.0	4.0	2.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

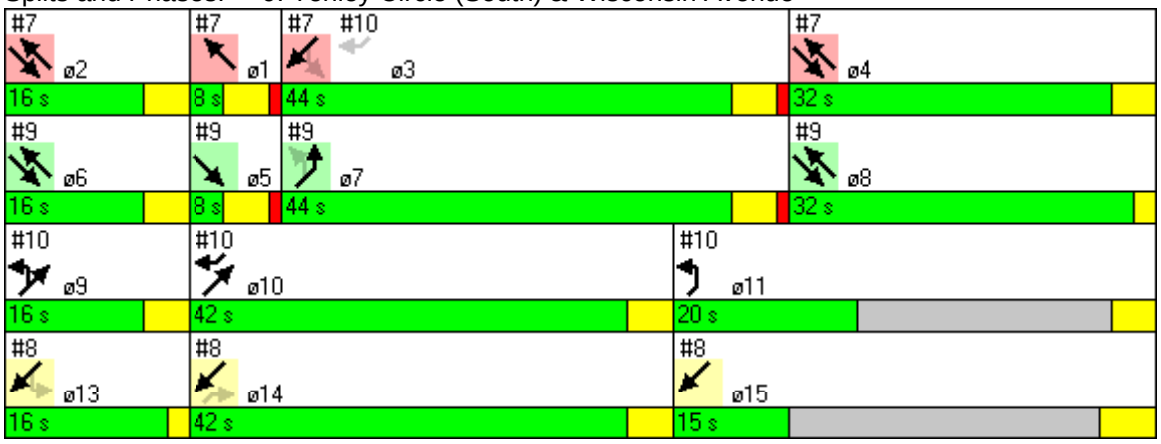
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	1727	1855	706								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				23.0	3.0	5.0	22.0	10.0	2.0	2.0	2.0	5.0
Minimum Split (s)				44.0	8.0	16.0	44.0	32.0	8.0	16.0	32.0	16.0
Total Split (s)	0.0	56.0	48.0	44.0	8.0	16.0	44.0	32.0	8.0	16.0	32.0	16.0
Total Split (%)	0%	56%	48%	44%	8%	16%	44%	32%	8%	16%	32%	16%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		52.0	44.0	40.0								
Actuated g/C Ratio		0.52	0.44	0.40								
v/c Ratio		0.71	1.07	0.60								
Uniform Delay, d1		18.2	28.0	23.5								
Delay		3.0	56.1	23.8								
LOS		A	E	C								
Approach Delay		3.0	56.1	23.8								
Approach LOS		A	E	C								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 101.8% ICU Level of Service F

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (%)	42%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

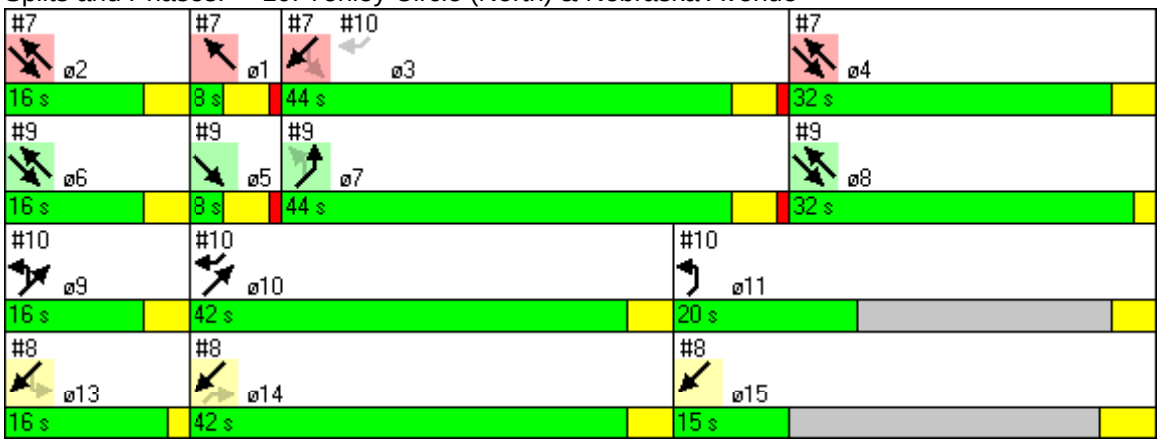
Intersection Summary

Lane Group	EBL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	456	0	768								
Turn Type				custom								
Protected Phases		9 10		10	1	2	3	4	5	6	7	8
Permitted Phases				3 10								
Detector Phases		9 10		10								
Minimum Initial (s)				5.0	3.0	5.0	22.0	10.0	2.0	2.0	23.0	2.0
Minimum Split (s)				42.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (s)	0.0	58.0	0.0	42.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (%)	0%	58%	0%	42%	8%	16%	44%	32%	8%	16%	44%	32%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)				0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag				Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		92.0		48.0								
Actuated g/C Ratio		0.92		0.48								
v/c Ratio		0.20		0.37								
Uniform Delay, d1		0.2		0.0								
Delay		0.2		0.7								
LOS		A		A								
Approach Delay		0.2	0.7									
Approach LOS		A	A									

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 0.5 Intersection LOS: A
Intersection Capacity Utilization 53.6% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø9	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	16.0	20.0	16.0	42.0	15.0
Total Split (s)	16.0	20.0	16.0	42.0	15.0
Total Split (%)	16%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

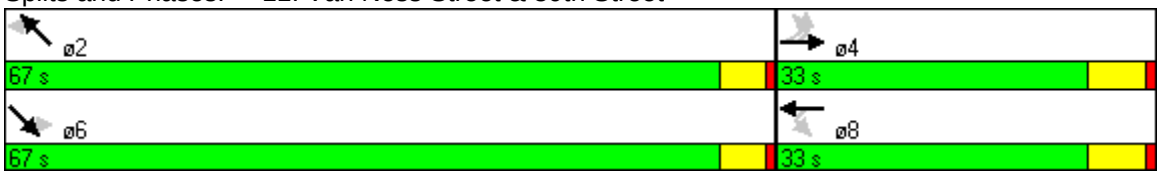
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	42	10	175	78	256	0	83	1611	21	1535
Turn Type	Perm	Perm		Perm			Perm		Perm	
Protected Phases			4		8			6		2
Permitted Phases	4	4		8			6	6	2	2
Detector Phases	4	4	4	8	8		6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0		67.0	67.0	67.0	67.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	0.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	33%	0%	67%	67%	67%	67%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max
Act Effct Green (s)			29.0	29.0	29.0			63.0		63.0
Actuated g/C Ratio			0.29	0.29	0.29			0.63		0.63
v/c Ratio			1.34	0.42	0.91			1.16		0.68
Uniform Delay, d1			35.5	28.7	34.2			18.5		11.9
Delay			156.4	30.2	49.6			96.5		6.6
LOS			F	C	D			F		A
Approach Delay			156.4		46.3			96.5		6.6
Approach LOS			F		D			F		A

Intersection Summary

Cycle Length: 100
Offset: 41 (41%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 57.8 Intersection LOS: E
Intersection Capacity Utilization 180.5% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	149	21	200	11	17	158	1999	9	1709
Turn Type	Perm		pt+ov	Perm		D.P+P		Perm	
Protected Phases		4	4 10		4	10	2 10		2
Permitted Phases	4			4		2		2	
Detector Phases	4	4	4 10	4	4	10	2 10	2	2
Minimum Initial (s)	20.0	20.0		20.0	20.0	5.0		19.0	19.0
Minimum Split (s)	26.0	26.0		26.0	26.0	20.0		54.0	54.0
Total Split (s)	26.0	26.0	46.0	26.0	26.0	20.0	74.0	54.0	54.0
Total Split (%)	26%	26%	46%	26%	26%	20%	74%	54%	54%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	0.0		1.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max		Max	Max	Max		Max	Max
Act Effct Green (s)		22.0	42.0		22.0		66.0		50.0
Actuated g/C Ratio		0.22	0.42		0.22		0.66		0.50
v/c Ratio		0.62	0.34		0.17		1.06		1.25
Uniform Delay, d1		35.2	19.0		22.7		12.7		25.0
Delay		36.2	19.4		24.9		45.3		84.0
LOS		D	B		C		D		F
Approach Delay		27.2			24.9		45.3		84.0
Approach LOS		C			C		D		F

Intersection Summary

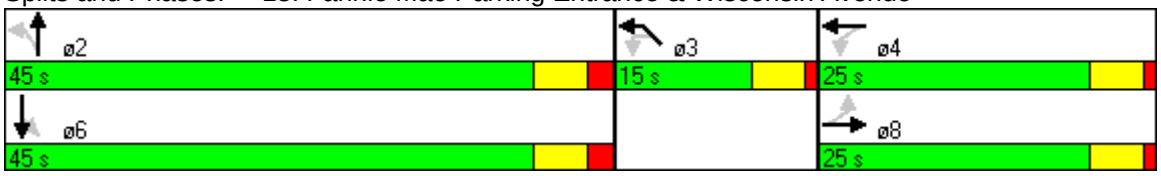
Cycle Length: 100
Offset: 53 (53%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 58.9 Intersection LOS: E
Intersection Capacity Utilization 126.1% ICU Level of Service H

Splits and Phases: 12: Upton Street & Wisconsin Avenue

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	116	0	60	0	12	1973	30	1811	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	28.0	28.0	28.0	28.0	7.0
Minimum Split (s)	22.0	22.0	22.0	22.0	45.0	45.0	45.0	45.0	15.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
Act Effct Green (s)		17.5		17.5		43.5		43.5	9.3
Actuated g/C Ratio		0.23		0.23		0.57		0.57	0.11
v/c Ratio		0.79		0.54		1.05		1.56	0.29
Uniform Delay, d1		29.2		10.1		17.7		17.7	34.8
Delay		36.8		11.6		67.8		197.6	34.1
LOS		D		B		E		F	C
Approach Delay		36.8		11.6		67.8		197.6	34.1
Approach LOS		D		B		E		F	C

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 76.9	
Natural Cycle: 135	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.56	
Intersection Signal Delay: 120.1	Intersection LOS: F
Intersection Capacity Utilization 125.8%	ICU Level of Service H

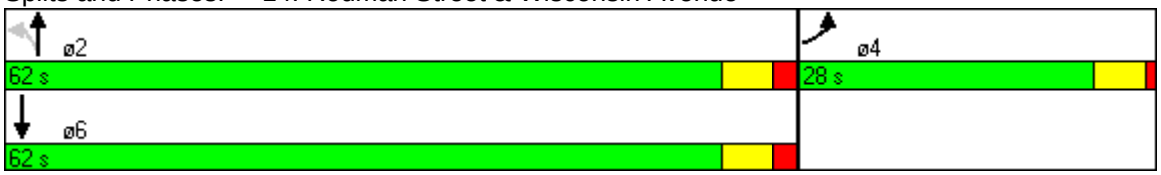
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	81	20	2037	1758
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	11.8		73.8	73.8
Actuated g/C Ratio	0.13		0.82	0.82
v/c Ratio	0.44		0.67	0.52
Uniform Delay, d1	37.7		4.0	3.1
Delay	35.8		4.7	3.6
LOS	D		A	A
Approach Delay	35.8		4.7	3.6
Approach LOS	D		A	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 79 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 4.9	Intersection LOS: A
Intersection Capacity Utilization 67.4%	ICU Level of Service B

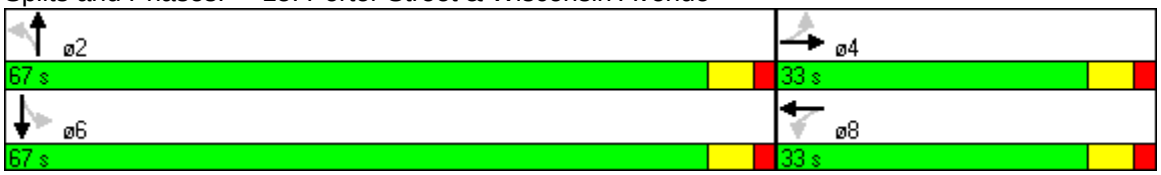
Splits and Phases: 14: Rodman Street & Wisconsin Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	53	55	180	62	11	1830	91	1758
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0		29.0		63.0		63.0
Actuated g/C Ratio		0.29		0.29		0.63		0.63
v/c Ratio		0.38		1.01		0.75		1.41dl
Uniform Delay, d1		25.6		35.5		13.0		18.5
Delay		26.4		75.5		5.8		38.4
LOS		C		E		A		D
Approach Delay		26.4		75.5		5.8		38.4
Approach LOS		C		E		A		D

Intersection Summary	
Cycle Length: 100	
Offset: 90 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 121.0%	ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 15: Porter Street & Wisconsin Avenue

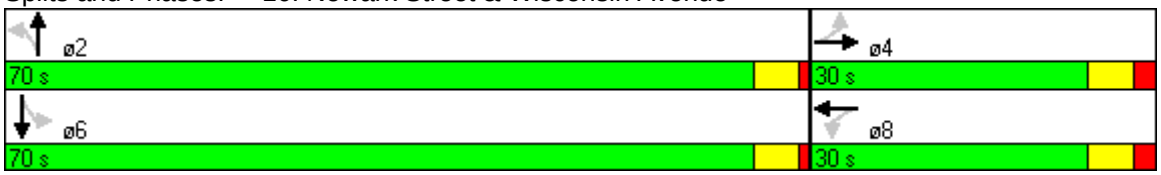


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	185	48	16	52	106	1760	24	1585
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	30.0	30.0	30.0	30.0	55.0	55.0	55.0	55.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		1.06		0.22		1.64dl		0.99
Uniform Delay, d1		37.0		25.5		17.0		16.7
Delay		86.5		26.0		9.5		25.9
LOS		F		C		A		C
Approach Delay		86.5		26.0		9.5		25.9
Approach LOS		F		C		A		C

Intersection Summary

Cycle Length: 100
Offset: 60 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 133.5% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 16: Newark Street & Wisconsin Avenue

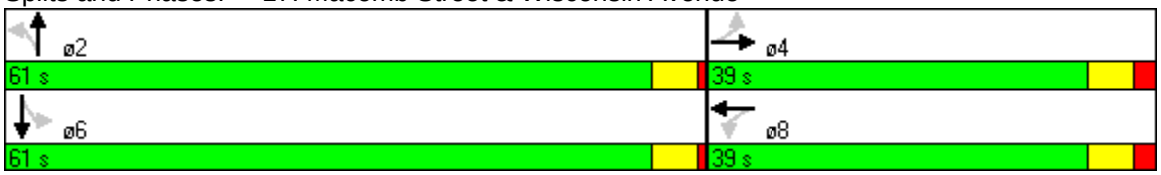


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	77	102	29	103	87	1706	29	1593
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	39.0	39.0	39.0	39.0	61.0	61.0	61.0	61.0
Total Split (s)	39.0	39.0	39.0	39.0	61.0	61.0	61.0	61.0
Total Split (%)	39%	39%	39%	39%	61%	61%	61%	61%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		35.0		35.0		57.0		57.0
Actuated g/C Ratio		0.35		0.35		0.57		0.57
v/c Ratio		0.45		0.36		1.36dl		1.21
Uniform Delay, d1		23.7		24.2		21.5		21.5
Delay		24.4		24.8		72.4		106.2
LOS		C		C		E		F
Approach Delay		24.4		24.8		72.4		106.2
Approach LOS		C		C		E		F

Intersection Summary

Cycle Length: 100
Offset: 48 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.21
Intersection Signal Delay: 82.2 Intersection LOS: F
Intersection Capacity Utilization 166.3% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 17: Macomb Street & Wisconsin Avenue

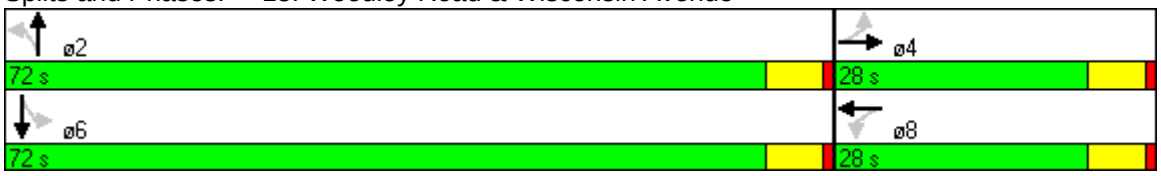


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	11	24	84	54	64	1926	54	1534
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	14.0	14.0	14.0	14.0
Minimum Split (s)	23.0	23.0	23.0	23.0	28.0	28.0	28.0	28.0
Total Split (s)	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0
Total Split (%)	28%	28%	28%	28%	72%	72%	72%	72%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		24.0		24.0		68.0		68.0
Actuated g/C Ratio		0.24		0.24		0.68		0.68
v/c Ratio		0.19		0.70		0.93		1.14
Uniform Delay, d1		30.2		34.7		13.8		16.0
Delay		30.8		37.1		38.3		65.3
LOS		C		D		D		E
Approach Delay		30.8		37.1		38.3		65.3
Approach LOS		C		D		D		E

Intersection Summary

Cycle Length: 100
Offset: 32 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 49.1 Intersection LOS: D
Intersection Capacity Utilization 124.7% ICU Level of Service H

Splits and Phases: 18: Woodley Road & Wisconsin Avenue



Lane Group	EBL	NBT	SBT	ø2	ø4	ø5
Lane Configurations						
Volume (vph)	0	2004	1645			
Turn Type						
Protected Phases		6 5	6	2	4	5
Permitted Phases						
Detector Phases		6 5	6			
Minimum Initial (s)			1.0	23.0	1.0	1.0
Minimum Split (s)			29.0	64.0	35.0	66.0
Total Split (s)	0.0	100.0	29.0	65.0	35.0	71.0
Total Split (%)	0%	100%	29%	65%	35%	71%
Yellow Time (s)			4.0	4.0	2.0	2.0
All-Red Time (s)			0.0	2.0	0.0	0.0
Lead/Lag			Lead			Lag
Lead-Lag Optimize?			Yes			Yes
Recall Mode			Max	Max	Max	Max
Act Effct Green (s)		100.0	25.0			
Actuated g/C Ratio		1.00	0.25			
v/c Ratio		0.46	1.54			
Uniform Delay, d1		0.0	37.4			
Delay		1.7	189.6			
LOS		A	F			
Approach Delay		1.7	189.6			
Approach LOS		A	F			

Intersection Summary

Cycle Length: 100
Offset: 36 (36%), Referenced to phase 1: and 5:NBT, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 87.3 Intersection LOS: F
Intersection Capacity Utilization 53.6% ICU Level of Service A

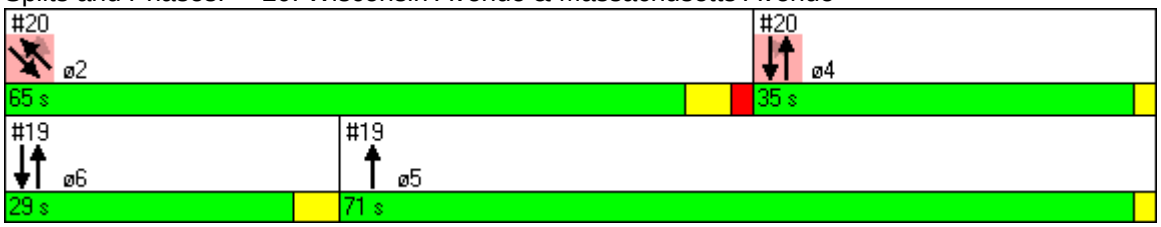
Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue

Lane Group	NBL	NBT	SBT	SEL	SET	NWT	NWR	ø5	ø6
Lane Configurations									
Volume (vph)	1	1552	1739	4	627	1308	500		
Turn Type	Perm			Perm			Perm		
Protected Phases		4	4		2	2		5	6
Permitted Phases	4			2			2		
Detector Phases	4	4	4	2	2	2	2		
Minimum Initial (s)	1.0	1.0	1.0	23.0	23.0	23.0	23.0	1.0	1.0
Minimum Split (s)	35.0	35.0	35.0	64.0	64.0	64.0	64.0	66.0	29.0
Total Split (s)	35.0	35.0	35.0	65.0	65.0	65.0	65.0	71.0	29.0
Total Split (%)	35%	35%	35%	65%	65%	65%	65%	71%	29%
Yellow Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)	0.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0
Lead/Lag								Lag	Lead
Lead-Lag Optimize?								Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0		61.0	61.0	61.0		
Actuated g/C Ratio		0.31	0.31		0.61	0.61	0.61		
v/c Ratio		1.29	1.28		0.47	0.68	0.63		
Uniform Delay, d1		34.5	34.5		10.7	12.9	12.4		
Delay		77.9	98.8		10.9	13.2	13.1		
LOS		E	F		B	B	B		
Approach Delay		77.9	98.8		10.9	13.2			
Approach LOS		E	F		B	B			

Intersection Summary

Cycle Length: 100
Offset: 36 (36%), Referenced to phase 1: and 5:NBT, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 54.8 Intersection LOS: D
Intersection Capacity Utilization 108.3% ICU Level of Service F

Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue

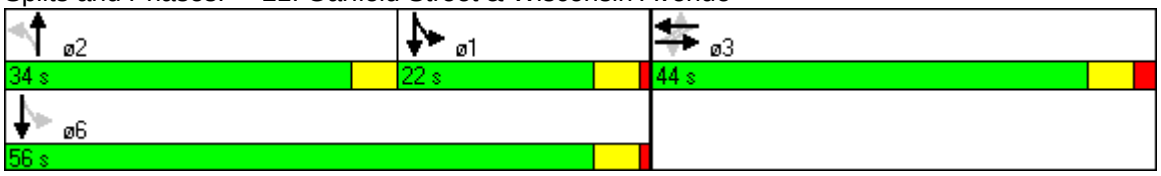


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	ø6
Lane Configurations								
Volume (vph)	40	41	147	97	1569	394	1361	
Turn Type	Perm		Perm			pm+pt		
Protected Phases		3		3	2	1	6 1	6
Permitted Phases	3		3			6 1		
Detector Phases	3	3	3	3	2	1	6 1	
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	17.0		17.0
Minimum Split (s)	38.0	38.0	38.0	38.0	34.0	22.0		22.0
Total Split (s)	44.0	44.0	44.0	44.0	34.0	22.0	78.0	56.0
Total Split (%)	44%	44%	44%	44%	34%	22%	78%	56%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0		1.0
Lead/Lag					Lead	Lag		
Lead-Lag Optimize?					Yes	Yes		
Recall Mode	Max	Max	Max	Max	Max	Max		Max
Act Effct Green (s)		40.0		40.0	30.0	52.0	52.0	
Actuated g/C Ratio		0.40		0.40	0.30	0.52	0.52	
v/c Ratio		0.16		0.48	1.32	1.17	0.87	
Uniform Delay, d1		18.0		22.1	35.0	36.0	21.0	
Delay		18.4		22.8	148.0	68.0	17.6	
LOS		B		C	F	E	B	
Approach Delay		18.4		22.8	148.0		28.9	
Approach LOS		B		C	F		C	

Intersection Summary

Cycle Length: 100
Offset: 60 (60%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 115
Control Type: Pretimed
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 81.8 Intersection LOS: F
Intersection Capacity Utilization 108.9% ICU Level of Service F

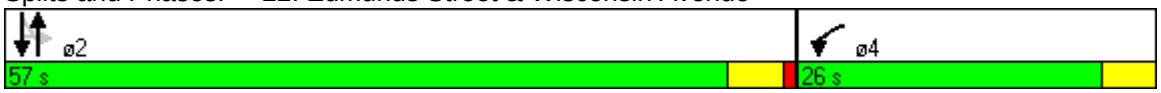
Splits and Phases: 21: Garfield Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	135	1642	1470
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	11.0	39.0	39.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	13.3	61.7	61.7
Actuated g/C Ratio	0.16	0.74	0.74
v/c Ratio	0.66	0.52	0.67
Uniform Delay, d1	30.3	4.4	5.4
Delay	29.5	5.0	6.4
LOS	C	A	A
Approach Delay	29.5	5.0	6.4
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 16 (19%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 63.3%	ICU Level of Service B

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

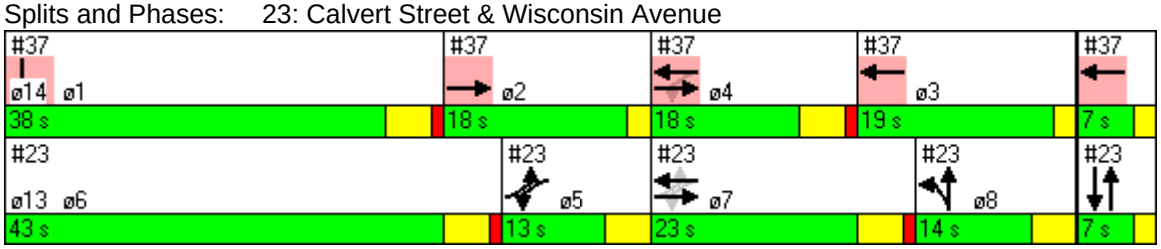


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	ø1	ø2	ø3	ø4	ø8
Lane Configurations												
Volume (vph)	202	63	120	113	1453	18	1245					
Turn Type	pm+pt		pm+pt			custom						
Protected Phases	5	7	5	7	6 8 13		6 13	1	2	3	4	8
Permitted Phases	7		7			6						
Detector Phases	5	7	5	7	6 8 13	6	6 13					
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0		6.0	6.0	4.0	6.0	2.0
Minimum Split (s)	13.0	23.0	13.0	23.0		43.0		38.0	18.0	19.0	18.0	14.0
Total Split (s)	13.0	23.0	13.0	23.0	64.0	43.0	50.0	38.0	18.0	19.0	18.0	14.0
Total Split (%)	13%	23%	13%	23%	64%	43%	50%	38%	18%	19%	18%	14%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	2.0	2.0	4.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0		1.0		1.0	0.0	0.0	1.0	0.0
Lead/Lag	Lag	Lead	Lag	Lead		Lead		Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max		Max		Max	Max	Max	Max	Max
Act Effct Green (s)	28.0	19.0	28.0	19.0	56.0		46.0					
Actuated g/C Ratio	0.28	0.19	0.28	0.19	0.56		0.46					
v/c Ratio	0.67	0.51	0.42	0.50	1.11		0.99					
Uniform Delay, d1	27.0	21.2	25.1	36.2	18.5		26.7					
Delay	11.0	10.2	25.7	36.9	69.3		43.1					
LOS	B	B	C	D	E		D					
Approach Delay		10.7		31.9	69.3		43.1					
Approach LOS		B		C	E		D					

Intersection Summary

Cycle Length: 100
Offset: 44 (44%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 51.5 Intersection LOS: D
Intersection Capacity Utilization 109.4% ICU Level of Service F

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



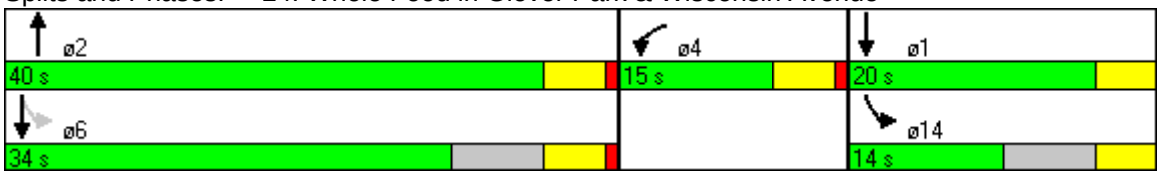
Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	7.0	7.0
Total Split (%)	7%	7%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	66	1610	107	1337		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	12.0	40.0	10.0		10.0	40.0
Total Split (s)	15.0	40.0	14.0	54.0	20.0	34.0
Total Split (%)	20%	53%	19%	72%	27%	45%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Max	None		None	Max
Act Effct Green (s)	10.1	36.0		52.0		
Actuated g/C Ratio	0.14	0.49		0.70		
v/c Ratio	0.71	1.29		1.20		
Uniform Delay, d1	15.1	18.9		5.5		
Delay	20.4	138.6		101.7		
LOS	C	F		F		
Approach Delay	20.4	138.6		101.7		
Approach LOS	C	F		F		

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 74.1	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 116.2	Intersection LOS: F
Intersection Capacity Utilization 128.8%	ICU Level of Service H

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	47	11	1686	1417
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	40.0	40.0	40.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	9.3		65.9	65.9
Actuated g/C Ratio	0.12		0.82	0.82
v/c Ratio	0.43		0.82	0.65
Uniform Delay, d1	22.9		4.7	3.3
Delay	23.5		8.9	4.1
LOS	C		A	A
Approach Delay	23.5		8.9	4.1
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 12 (15%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 79.9%	ICU Level of Service C

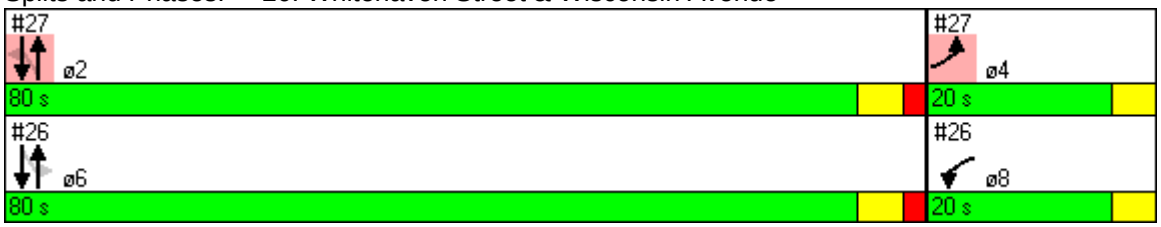
Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	142	1640	6	1377		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	20.0	60.0	60.0	60.0	60.0	20.0
Total Split (s)	20.0	80.0	80.0	80.0	80.0	20.0
Total Split (%)	20%	80%	80%	80%	80%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	16.0	76.0		76.0		
Actuated g/C Ratio	0.16	0.76		0.76		
v/c Ratio	0.88	0.53		0.63		
Uniform Delay, d1	37.2	4.8		5.5		
Delay	55.9	2.5		5.7		
LOS	E	A		A		
Approach Delay	55.9	2.5		5.7		
Approach LOS	E	A		A		

Intersection Summary

Cycle Length: 100
Offset: 75 (75%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 65.4% ICU Level of Service B

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

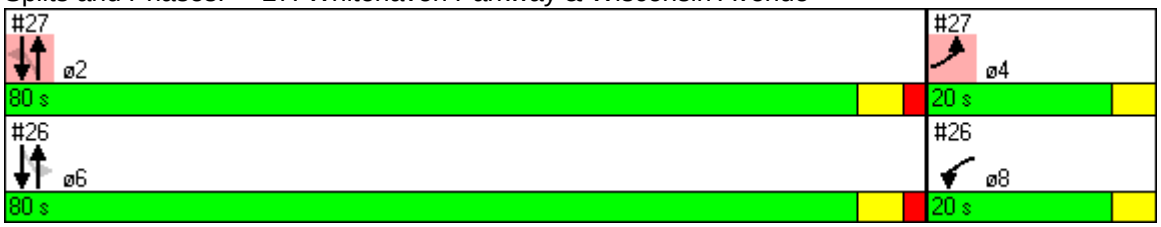


Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	200	98	1418	1393		
Turn Type		Perm				
Protected Phases	4		2	2	6	8
Permitted Phases		2				
Detector Phases	4	2	2	2		
Minimum Initial (s)	14.0	16.0	16.0	16.0	16.0	15.0
Minimum Split (s)	20.0	60.0	60.0	60.0	60.0	20.0
Total Split (s)	20.0	80.0	80.0	80.0	80.0	20.0
Total Split (%)	20%	80%	80%	80%	80%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	16.0		76.0	76.0		
Actuated g/C Ratio	0.16		0.76	0.76		
v/c Ratio	1.13		0.68	0.61		
Uniform Delay, d1	39.5		6.0	5.3		
Delay	107.3		6.2	2.4		
LOS	F		A	A		
Approach Delay	107.3		6.2	2.4		
Approach LOS	F		A	A		

Intersection Summary

Cycle Length: 100
Offset: 75 (75%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 104.6% ICU Level of Service F

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

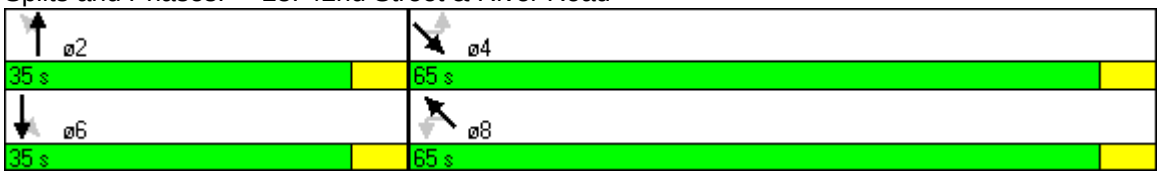


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	45	373	4	231	118	87	15	272
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	35.0	35.0	21.0	21.0	21.0	21.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0		31.0		61.0		61.0
Actuated g/C Ratio		0.31		0.31		0.61		0.61
v/c Ratio		0.96		0.72		0.31		0.27
Uniform Delay, d1		33.9		30.6		9.4		9.1
Delay		57.1		31.5		2.4		9.3
LOS		E		C		A		A
Approach Delay		57.1		31.5		2.4		9.3
Approach LOS		E		C		A		A

Intersection Summary

Cycle Length: 100
Offset: 73 (73%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 31.0 Intersection LOS: C
Intersection Capacity Utilization 90.9% ICU Level of Service E

Splits and Phases: 28: 42nd Street & River Road

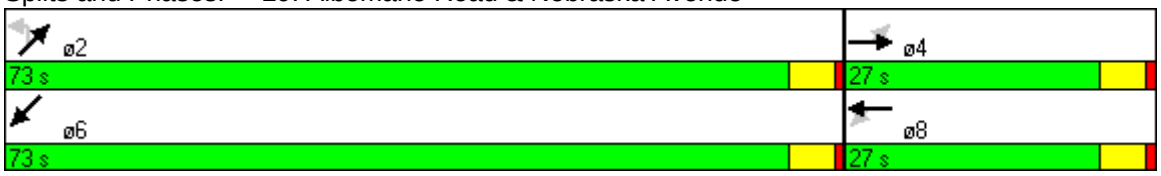


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	88	234	48	278	1	772	514
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	27.0	27.0	27.0	27.0	73.0	73.0	73.0
Total Split (s)	27.0	27.0	27.0	27.0	73.0	73.0	73.0
Total Split (%)	27%	27%	27%	27%	73%	73%	73%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	23.0	23.0	23.0		69.0	69.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.69	0.69
v/c Ratio	0.94	0.66	0.42	0.78		0.41	0.28
Uniform Delay, d1	37.9	35.0	32.8	36.1		6.7	5.9
Delay	87.6	38.6	34.7	41.2		6.8	6.0
LOS	F	D	C	D		A	A
Approach Delay		51.7		40.2		6.8	6.0
Approach LOS		D		D		A	A

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 2:NETL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 101.7% ICU Level of Service F

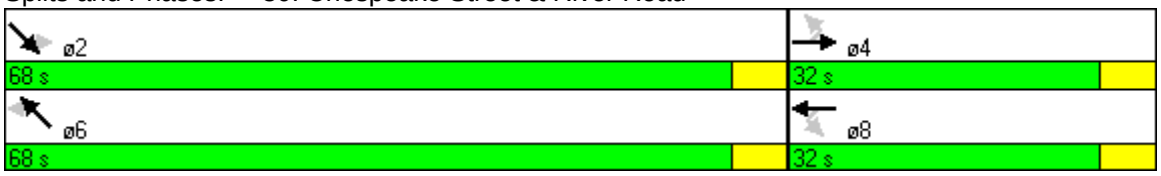
Splits and Phases: 29: Albemarle Road & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	36	28	1	26	12	543	32	402
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	25.0	25.0	25.0	25.0	27.0	27.0	58.0	58.0
Total Split (s)	32.0	32.0	32.0	32.0	68.0	68.0	68.0	68.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		64.0		64.0
Actuated g/C Ratio		0.28		0.28		0.64		0.64
v/c Ratio		0.19		0.12		0.53		0.50
Uniform Delay, d1		27.3		13.2		9.8		9.5
Delay		27.9		16.2		10.2		7.0
LOS		C		B		B		A
Approach Delay		27.9		16.2		10.2		7.0
Approach LOS		C		B		B		A

Intersection Summary	
Cycle Length: 100	
Offset: 95 (95%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 85	
Control Type: Pretimed	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 92.1%	ICU Level of Service E

Splits and Phases: 30: Chespeake Street & River Road

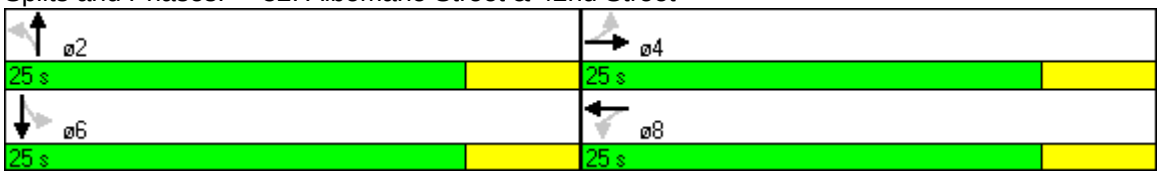


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	9	109	29	85	14	197	61	182
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.10		0.18		0.36		0.43
Uniform Delay, d1		8.8		9.1		9.9		10.2
Delay		8.9		12.7		10.3		10.8
LOS		A		B		B		B
Approach Delay		8.9		12.7		10.3		10.8
Approach LOS		A		B		B		B

Intersection Summary

Cycle Length: 50
Offset: 22 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Pretimed
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 53.4% ICU Level of Service A

Splits and Phases: 32: Albemarle Street & 42nd Street

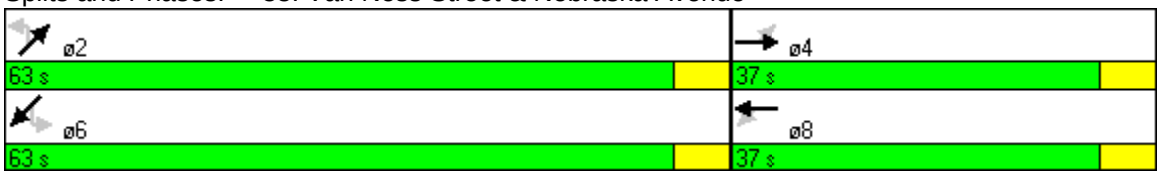


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	17	156	326	323	7	785	1	615
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	37.0	37.0	37.0	37.0	63.0	63.0	63.0	63.0
Total Split (%)	37%	37%	37%	37%	63%	63%	63%	63%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		33.0	33.0	33.0		59.0		59.0
Actuated g/C Ratio		0.33	0.33	0.33		0.59		0.59
v/c Ratio		0.34	1.08	0.59		0.55		0.34
Uniform Delay, d1		25.1	33.5	27.9		11.8		10.5
Delay		25.6	72.9	19.5		12.1		10.6
LOS		C	E	B		B		B
Approach Delay		25.6		46.2		12.1		10.6
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 100
Offset: 72 (72%), Referenced to phase 2:NETL and 6:SWTL, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 75.7% ICU Level of Service C

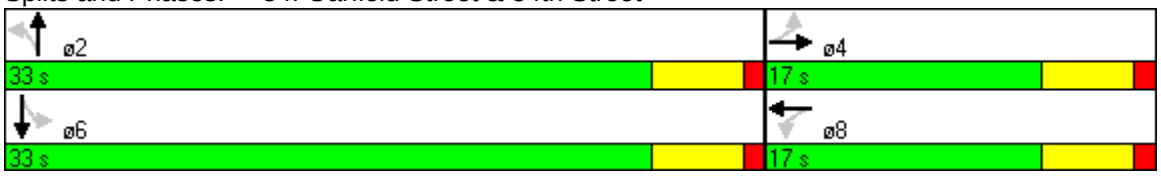
Splits and Phases: 33: Van Ness Street & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	72	201	18	306	26	316	20	244
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	24.0	24.0	24.0	24.0
Total Split (s)	17.0	17.0	17.0	17.0	33.0	33.0	33.0	33.0
Total Split (%)	34%	34%	34%	34%	66%	66%	66%	66%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		13.0		13.0		29.0		29.0
Actuated g/C Ratio		0.26		0.26		0.58		0.58
v/c Ratio		0.96		0.79		0.39		0.36
Uniform Delay, d1		18.0		17.1		5.5		4.8
Delay		52.8		39.5		5.8		4.9
LOS		D		D		A		A
Approach Delay		52.8		39.5		5.8		4.9
Approach LOS		D		D		A		A

Intersection Summary	
Cycle Length: 50	
Offset: 28 (56%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 86.0%	ICU Level of Service D

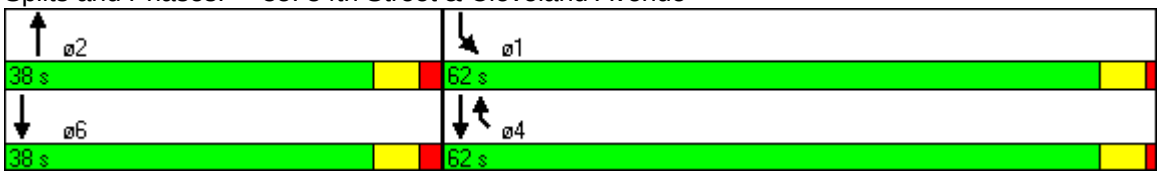
Splits and Phases: 34: Garfield Street & 34th Street



Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	379	215	448	0	266	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	21.0			21.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Coord	None			None	Max
Act Effct Green (s)	66.4	25.6	100.0		25.6	
Actuated g/C Ratio	0.66	0.26	1.00		0.26	
v/c Ratio	0.35	0.53	0.27		0.72	
Uniform Delay, d1	7.3	32.0	0.0		33.9	
Delay	7.6	30.8	0.0		40.6	
LOS	A	C	A		D	
Approach Delay	7.6		10.0	40.6		
Approach LOS	A		A	D		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 91 (91%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 47.6%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

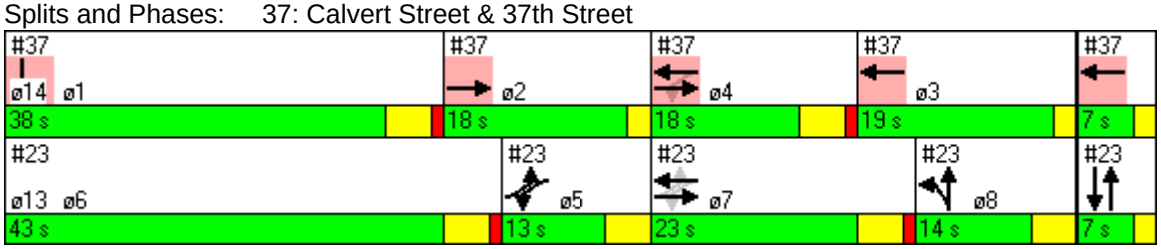


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø5	ø6	ø7	ø8	ø13
Lane Configurations												
Volume (vph)	294	42	222	0	236							
Turn Type		custom										
Protected Phases	2 4		4 3 14		1	2	3	5	6	7	8	13
Permitted Phases		4										
Detector Phases	2 4	4	4 3 14		1							
Minimum Initial (s)		6.0			6.0	6.0	4.0	6.0	6.0	6.0	2.0	3.0
Minimum Split (s)		18.0			38.0	18.0	19.0	13.0	43.0	23.0	14.0	7.0
Total Split (s)	36.0	18.0	44.0	0.0	38.0	18.0	19.0	13.0	43.0	23.0	14.0	7.0
Total Split (%)	36%	18%	44%	0%	38%	18%	19%	13%	43%	23%	14%	7%
Yellow Time (s)		4.0			4.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)		1.0			1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0
Lead/Lag		Lead			Lead	Lag	Lag	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		Max			Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	32.0		40.0		34.0							
Actuated g/C Ratio	0.32		0.40		0.34							
v/c Ratio	0.38		0.43		0.65							
Uniform Delay, d1	24.6		21.8		25.5							
Delay	24.9		19.2		26.2							
LOS	C		B		C							
Approach Delay	24.9		19.2		26.2							
Approach LOS	C		B		C							

Intersection Summary

Cycle Length: 100
Offset: 44 (44%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 61.4% ICU Level of Service B

Splits and Phases: 37: Calvert Street & 37th Street



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phases	
Minimum Initial (s)	2.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Uniform Delay, d1	
Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø11
Lane Configurations					
Volume (vph)	0	0	0	0	
Turn Type					
Protected Phases		9	10	10 11	11
Permitted Phases					
Detector Phases		9	10	10 11	
Minimum Initial (s)		6.0	1.0		6.0
Minimum Split (s)		17.0	59.0		14.0
Total Split (s)	0.0	17.0	59.0	73.0	14.0
Total Split (%)	0%	19%	66%	81%	16%
Yellow Time (s)		5.0	4.0		5.0
All-Red Time (s)		0.0	0.0		0.0
Lead/Lag		Lead	Lag		
Lead-Lag Optimize?		Yes	Yes		
Recall Mode		Max	Max		Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay		0.0	0.0	0.0	
Approach LOS		A	A	A	

Intersection Summary	
Cycle Length: 90	
Offset: 44 (49%), Referenced to phase 1: and 5:, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description	
East/West Street: *Newark Street*	North/South Street: *34th Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	24	631	14	12	512	27
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	26	685	15	13	556	29
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	9	14	16	20	21	19
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	9	15	17	21	22	20
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	26	13		41			63	
C (m) (vph)	1000	906		176			163	
v/c	0.03	0.01		0.23			0.39	
95% queue length	0.08	0.04		0.87			1.67	
Control Delay	8.7	9.0		31.6			40.4	
LOS	A	A		D			E	
Approach Delay	--	--	31.6			40.4		
Approach LOS	--	--	D			E		

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description

East/West Street: *Massachussets*	North/South Street: *38th Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*15*	*773*	*0*	*0*	*1833*	*38*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*16*	*840*	*0*	*0*	*1992*	*41*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				*14*	*0*	*55*
Peak-Hour Factor, PHF				*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*15*	*0*	*59*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*					*LTR*	
v (vph)	*16*	*0*					*74*	
C (m) (vph)	*282*	*804*					*87*	
v/c	*0.06*	*0.00*					*0.85*	
95% queue length	*0.18*	*0.00*					*4.52*	
Control Delay	*18.5*	*9.5*					*143.0*	
LOS	*C*	*A*					*F*	
Approach Delay	--	--				*143.0*		
Approach LOS	--	--				*F*		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	PM Peak

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	36	156	11	39	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	430	0	231	21	206	53
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	208		53		718		245	53
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.2		0.7		0.1	0.0
Prop. Right-Turns	0.8		0.0		0.3		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	6.10		6.10		6.10		6.10	6.10

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.18		0.05		0.64		0.22	0.05
hd, final value	6.10		6.10		6.10		6.10	6.10
x, final value	0.35		0.10		1.05		0.43	0.08
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	4.1		4.1		4.1		4.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	458		303		718		495	303
Delay	12.39		10.96		72.06		13.55	8.85
LOS	B		B		F		B	A
Approach: Delay	12.39		10.96		72.06		12.71	
LOS	B		B		F		B	
Intersection Delay	45.96							
Intersection LOS	E							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description

East/West Street: *Albemarle Street*	North/South Street: *Fort Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*38*	*191*	*50*	*7*	*184*	*140*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*41*	*207*	*54*	*7*	*199*	*152*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*18*	*94*	*16*	*124*	*96*	*106*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*19*	*102*	*17*	*134*	*104*	*115*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*41*	*7*		*138*			*353*	
C (m) (vph)	*1219*	*1315*		*444*			*496*	
v/c	*0.03*	*0.01*		*0.31*			*0.71*	
95% queue length	*0.10*	*0.02*		*1.31*			*5.63*	
Control Delay	*8.1*	*7.8*		*16.7*			*28.2*	
LOS	*A*	*A*		*C*			*D*	
Approach Delay	--	--	*16.7*			*28.2*		
Approach LOS	--	--	*C*			*D*		

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INTERSECTION CAPACITY ANALYSIS

SCENARIO 3

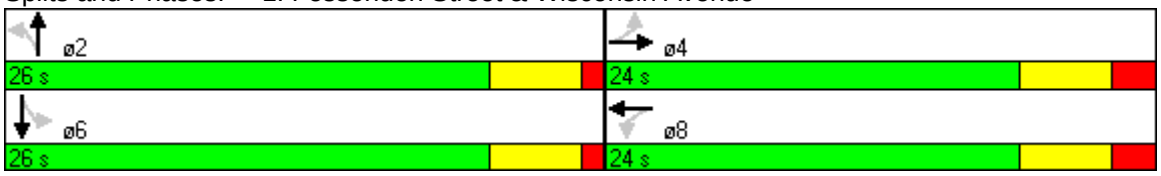
SATURDAY MID-DAY PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	31	164	205	110	9	1897	57	1885
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	11.0	11.0	11.0	11.0
Minimum Split (s)	13.0	13.0	13.0	13.0	26.0	26.0	26.0	26.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0
Total Split (%)	48%	48%	48%	48%	52%	52%	52%	52%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		20.0	20.0	20.0		22.0		22.0
Actuated g/C Ratio		0.40	0.40	0.40		0.44		0.44
v/c Ratio		0.37	0.50	0.33		1.93		2.55
Uniform Delay, d1		10.5	11.3	10.3		14.0		14.0
Delay		11.0	12.1	10.8		203.6		299.0
LOS		B	B	B		F		F
Approach Delay		11.0		11.4		203.6		299.0
Approach LOS		B		B		F		F

Intersection Summary

Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 2.55
Intersection Signal Delay: 217.2 Intersection LOS: F
Intersection Capacity Utilization 159.8% ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

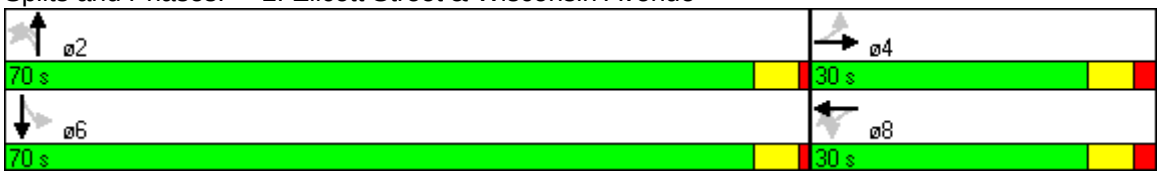


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	72	27	10	28	19	5	28	1628	12	1770	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	0.0
Total Split (%)	30%	30%	30%	30%	30%	70%	70%	70%	70%	70%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		26.0			26.0			66.0		66.0	
Actuated g/C Ratio		0.26			0.26			0.66		0.66	
v/c Ratio		0.42			0.19			1.28		1.12	
Uniform Delay, d1		29.5			25.1			17.0		16.9	
Delay		30.2			25.8			138.0		36.9	
LOS		C			C			F		D	
Approach Delay		30.2			25.8			138.0		36.9	
Approach LOS		C			C			F		D	

Intersection Summary

Cycle Length: 100
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 140
Control Type: Pretimed
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 79.5 Intersection LOS: E
Intersection Capacity Utilization 94.1% ICU Level of Service E

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	59	1717	23	1622
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.23	0.85		1.10
Uniform Delay, d1	23.0	15.7		19.5
Delay	23.5	14.1		66.0
LOS	C	B		E
Approach Delay	23.5	14.1		66.0
Approach LOS	C	B		E

Intersection Summary	
Cycle Length: 100	
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 38.9	Intersection LOS: D
Intersection Capacity Utilization 84.1%	ICU Level of Service D

Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	31	234	1683	115	1548	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		11.0		10.0
Minimum Split (s)		27.0	25.0		18.0		30.0
Total Split (s)	0.0	27.0	25.0	55.0	18.0	48.0	30.0
Total Split (%)	0%	27%	25%	55%	18%	48%	30%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		23.0	47.0	51.0	14.0	44.0	
Actuated g/C Ratio		0.23	0.47	0.51	0.14	0.44	
v/c Ratio		0.35	0.62	0.80	0.56	1.25	
Uniform Delay, d1		16.9	29.1	20.2	40.1	27.9	
Delay		14.5	29.9	20.5	36.1	126.4	
LOS		B	C	C	D	F	
Approach Delay		14.5		21.6		120.4	
Approach LOS		B		C		F	

Intersection Summary

Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 65.9 Intersection LOS: E
Intersection Capacity Utilization 90.2% ICU Level of Service E

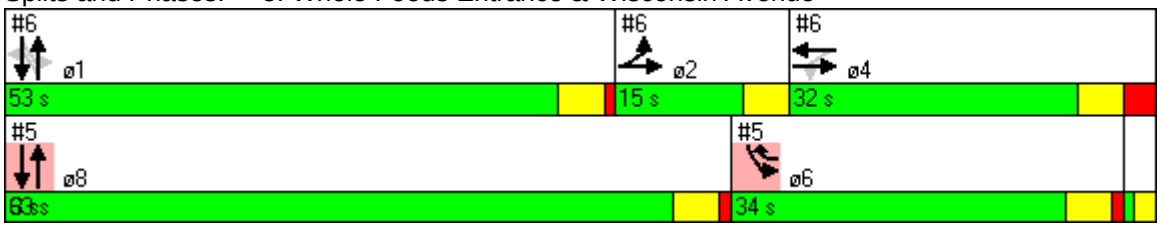
Splits and Phases: 4: Brandywine Street & Wisconsin Avenue

Lane Group	WBL	WBR	NBT	SBT	ø1	ø2	ø4	ø5	ø8
Lane Configurations									
Volume (vph)	0	74	1995	1827					
Turn Type		custom							
Protected Phases		6	5 8	5 8	1	2	4	5	8
Permitted Phases		6							
Detector Phases		6	5 8	5 8					
Minimum Initial (s)		22.0			21.0	10.0	19.0	23.0	1.0
Minimum Split (s)		34.0			53.0	15.0	32.0	59.0	7.0
Total Split (s)	0.0	34.0	66.0	66.0	53.0	15.0	32.0	63.0	3.0
Total Split (%)	0%	34%	66%	66%	53%	15%	32%	63%	3%
Yellow Time (s)		4.0			4.0	4.0	4.0	4.0	2.0
All-Red Time (s)		1.0			1.0	0.0	3.0	1.0	0.0
Lead/Lag		Lag			Lead	Lag		Lead	
Lead-Lag Optimize?		Yes			Yes	Yes		Yes	
Recall Mode		Max			Max	Max	Max	Max	Max
Act Effct Green (s)		30.0	99.0	99.0					
Actuated g/C Ratio		0.30	0.99	0.99					
v/c Ratio		0.17	0.74	1.14					
Uniform Delay, d1		6.8	0.0	10.8					
Delay		10.5	10.4	74.4					
LOS		B	B	E					
Approach Delay	10.5		10.4	74.4					
Approach LOS	B		B	E					

Intersection Summary

Cycle Length: 100
Offset: 5 (5%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 2.33
Intersection Signal Delay: 40.3 Intersection LOS: D
Intersection Capacity Utilization 139.4% ICU Level of Service H

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

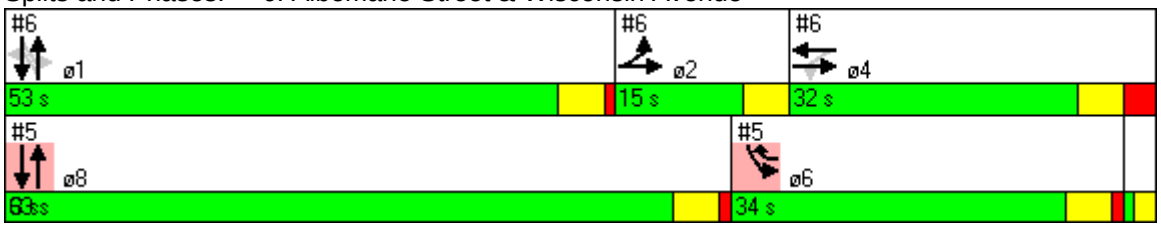


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø5	ø6	ø8
Lane Configurations											
Volume (vph)	41	111	36	152	28	1973	56	1601			
Turn Type	Prot		Perm		Perm		Perm				
Protected Phases	2	2 4		4		1		1	5	6	8
Permitted Phases			4		1		1				
Detector Phases	2	2 4	4	4	1	1	1	1			
Minimum Initial (s)	10.0		19.0	19.0	21.0	21.0	21.0	21.0	23.0	22.0	1.0
Minimum Split (s)	15.0		32.0	32.0	53.0	53.0	53.0	53.0	59.0	34.0	7.0
Total Split (s)	15.0	47.0	32.0	32.0	53.0	53.0	53.0	53.0	63.0	34.0	3.0
Total Split (%)	15%	47%	32%	32%	53%	53%	53%	53%	63%	34%	3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	43.0		28.0		49.0		49.0			
Actuated g/C Ratio	0.11	0.43		0.28		0.49		0.49			
v/c Ratio	0.28	0.21		0.70		2.33		2.23			
Uniform Delay, d1	40.8	17.9		29.7		25.5		25.4			
Delay	48.1	16.5		23.5		302.5		283.5			
LOS	D	B		C		F		F			
Approach Delay		24.3		23.5		302.5		283.5			
Approach LOS		C		C		F		F			

Intersection Summary

Cycle Length: 100
Offset: 5 (5%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 2.33
Intersection Signal Delay: 265.7 Intersection LOS: F
Intersection Capacity Utilization 168.7% ICU Level of Service H

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

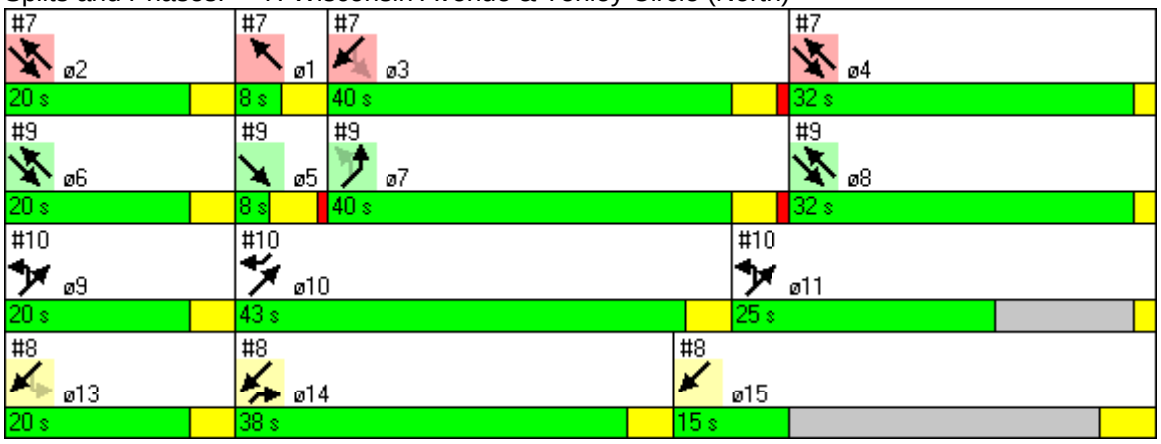


Lane Group	SET	NWT	NET	SWT	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	1522	1723	0	638								
Turn Type												
Protected Phases	2 4	2 1 4		3	1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	2 4	2 1 4		3								
Minimum Initial (s)				6.0	3.0	5.0	6.0	3.0	6.0	6.0	6.0	5.0
Minimum Split (s)				40.0	8.0	20.0	32.0	8.0	20.0	40.0	32.0	20.0
Total Split (s)	52.0	60.0	0.0	40.0	8.0	20.0	32.0	8.0	20.0	40.0	32.0	20.0
Total Split (%)	52%	60%	0%	40%	8%	20%	32%	8%	20%	40%	32%	20%
Yellow Time (s)				4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	56.0		36.0								
Actuated g/C Ratio	0.48	0.56		0.36								
v/c Ratio	0.84	1.01		0.81								
Uniform Delay, d1	22.7	22.0		28.9								
Delay	45.1	31.9		30.0								
LOS	D	C		C								
Approach Delay	45.1	31.9		30.0								
Approach LOS	D	C		C								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 36.8 Intersection LOS: D
Intersection Capacity Utilization 85.2% ICU Level of Service D

Splits and Phases: 7: Wisconsin Avenue & Tenley Circle (North)



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	6.0	6.0	6.0	4.0	4.0
Minimum Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (%)	43%	25%	20%	38%	15%
Yellow Time (s)	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

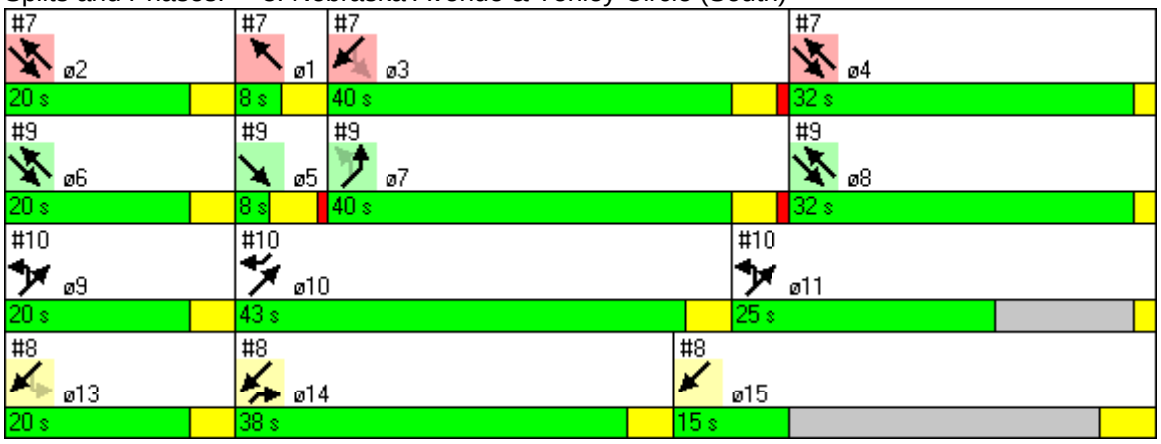
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	584	553								
Turn Type												
Protected Phases			14	13 14 15	1	2	3	4	5	6	7	8
Permitted Phases			14	13								
Detector Phases			14	13 14 15								
Minimum Initial (s)			4.0		3.0	5.0	6.0	6.0	3.0	6.0	6.0	6.0
Minimum Split (s)			38.0		8.0	20.0	40.0	32.0	8.0	20.0	40.0	32.0
Total Split (s)	0.0	0.0	38.0	73.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0	32.0
Total Split (%)	0%	0%	38%	73%	8%	20%	40%	32%	8%	20%	40%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			34.0	100.0								
Actuated g/C Ratio			0.34	1.00								
v/c Ratio			0.57	0.22								
Uniform Delay, d1			0.0	0.0								
Delay			8.3	0.0								
LOS			A	A								
Approach Delay		8.3		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 3.8 Intersection LOS: A
Intersection Capacity Utilization 68.5% ICU Level of Service B

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	6.0	6.0	6.0	4.0
Minimum Split (s)	20.0	43.0	25.0	20.0	15.0
Total Split (s)	20.0	43.0	25.0	20.0	15.0
Total Split (%)	20%	43%	25%	20%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

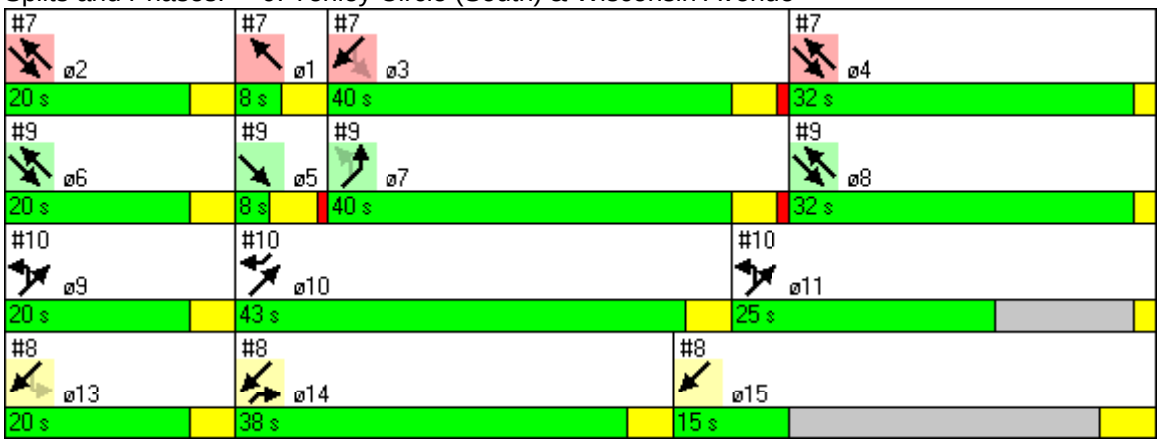
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	1713	1446	465								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				6.0	3.0	5.0	6.0	6.0	3.0	6.0	6.0	5.0
Minimum Split (s)				40.0	8.0	20.0	40.0	32.0	8.0	20.0	32.0	20.0
Total Split (s)	0.0	60.0	52.0	40.0	8.0	20.0	40.0	32.0	8.0	20.0	32.0	20.0
Total Split (%)	0%	60%	52%	40%	8%	20%	40%	32%	8%	20%	32%	20%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		56.0	48.0	36.0								
Actuated g/C Ratio		0.56	0.48	0.36								
v/c Ratio		0.65	0.72	0.67								
Uniform Delay, d1		15.3	20.6	26.6								
Delay		2.7	14.6	27.0								
LOS		A	B	C								
Approach Delay		2.7	14.6	27.0								
Approach LOS		A	B	C								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 11.9 Intersection LOS: B
Intersection Capacity Utilization 76.7% ICU Level of Service C

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	6.0	6.0	6.0	4.0	4.0
Minimum Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (%)	43%	25%	20%	38%	15%
Yellow Time (s)	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

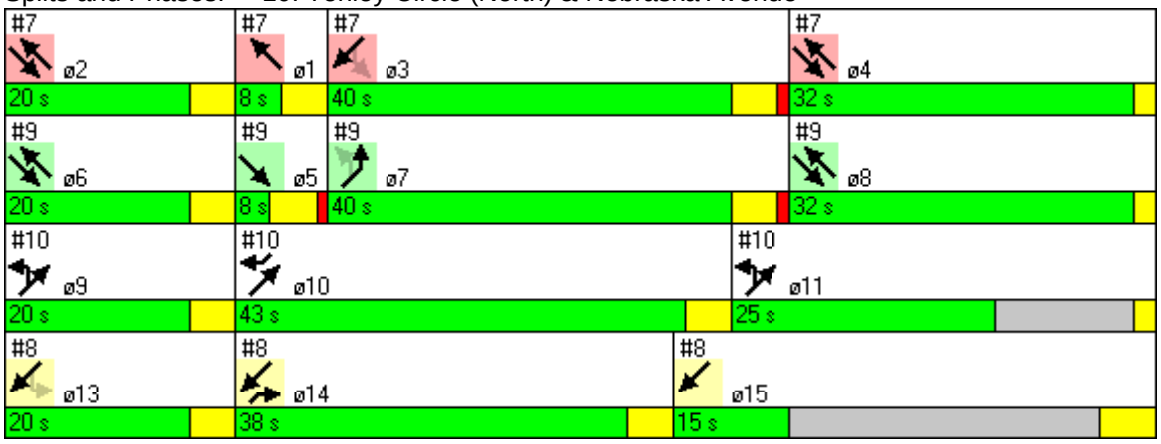
Intersection Summary

Lane Group	EBL	NEL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7
Lane Configurations												
Volume (vph)	0	138	461	0	558							
Turn Type		Prot			custom							
Protected Phases		9 119	10 11		10	1	2	3	4	5	6	7
Permitted Phases					10							
Detector Phases		9 119	10 11		10							
Minimum Initial (s)					6.0	3.0	5.0	6.0	6.0	3.0	6.0	6.0
Minimum Split (s)					43.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0
Total Split (s)	0.0	45.0	88.0	0.0	43.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0
Total Split (%)	0%	45%	88%	0%	43%	8%	20%	40%	32%	8%	20%	40%
Yellow Time (s)					4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0
All-Red Time (s)					0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0
Lead/Lag					Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		53.0	92.0		39.0							
Actuated g/C Ratio		0.53	0.92		0.39							
v/c Ratio		0.16	0.22		0.33							
Uniform Delay, d1		0.8	0.2		0.0							
Delay		2.6	0.2		2.7							
LOS		A	A		A							
Approach Delay			0.7	2.7								
Approach LOS			A	A								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 1.7 Intersection LOS: A
Intersection Capacity Utilization 43.8% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø8	ø9	ø11	ø13	ø14	ø15
Lane Configurations						
Volume (vph)						
Turn Type						
Protected Phases	8	9	11	13	14	15
Permitted Phases						
Detector Phases						
Minimum Initial (s)	6.0	5.0	6.0	6.0	4.0	4.0
Minimum Split (s)	32.0	20.0	25.0	20.0	38.0	15.0
Total Split (s)	32.0	20.0	25.0	20.0	38.0	15.0
Total Split (%)	32%	20%	25%	20%	38%	15%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Uniform Delay, d1						
Delay						
LOS						
Approach Delay						
Approach LOS						

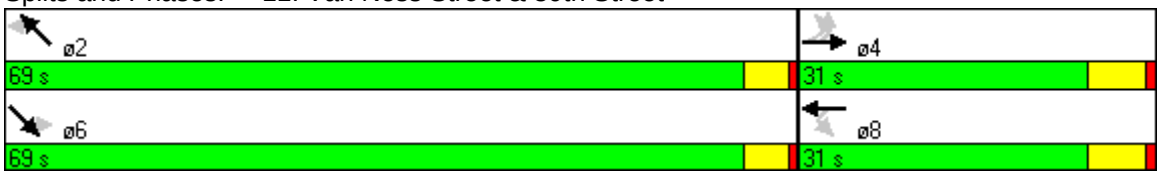
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	52	16	144	65	132	0	53	1405	45	1290
Turn Type	Perm	Perm		Perm			Perm		Perm	
Protected Phases			4		8			6		2
Permitted Phases	4	4		8			6	6	2	2
Detector Phases	4	4	4	8	8		6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	0.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	31%	0%	69%	69%	69%	69%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max
Act Effct Green (s)			27.0	27.0	27.0			65.0		65.0
Actuated g/C Ratio			0.27	0.27	0.27			0.65		0.65
v/c Ratio			1.12	0.38	0.65			0.99		0.78
Uniform Delay, d1			36.5	29.7	32.3			17.3		12.5
Delay			101.3	31.2	33.2			50.9		1.7
LOS			F	C	C			D		A
Approach Delay			101.3		32.8			50.9		1.7
Approach LOS			F		C			D		A

Intersection Summary

Cycle Length: 100
Offset: 24 (24%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 33.4 Intersection LOS: C
Intersection Capacity Utilization 137.4% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	24	15	93	10	13	81	1531	7	1520
Turn Type	Perm		pt+ov	Perm		D.P+P		Perm	
Protected Phases		4	4 10		4	10	10 2		2
Permitted Phases	4			4		2		2	
Detector Phases	4	4	4 10	4	4	10	10 2	2	2
Minimum Initial (s)	20.0	20.0		20.0	20.0	5.0		19.0	19.0
Minimum Split (s)	29.0	29.0		29.0	29.0	10.0		54.0	54.0
Total Split (s)	36.0	36.0	46.0	36.0	36.0	10.0	64.0	54.0	54.0
Total Split (%)	36%	36%	46%	36%	36%	10%	64%	54%	54%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	0.0		1.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max		Max	Max	Max		Max	Max
Act Effct Green (s)		32.0	42.0		32.0		56.0		50.0
Actuated g/C Ratio		0.32	0.42		0.32		0.56		0.50
v/c Ratio		0.09	0.16		0.15		1.68		1.24
Uniform Delay, d1		23.8	16.7		19.8		19.1		25.0
Delay		24.2	17.0		20.7		218.7		113.7
LOS		C	B		C		F		F
Approach Delay		19.1			20.7		218.7		113.7
Approach LOS		B			C		F		F

Intersection Summary

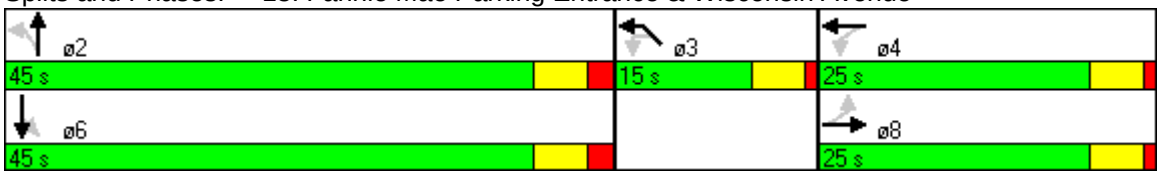
Cycle Length: 100
Offset: 26 (26%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.68
Intersection Signal Delay: 159.7 Intersection LOS: F
Intersection Capacity Utilization 125.5% ICU Level of Service H

Splits and Phases: 12: Upton Street & Wisconsin Avenue

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	5	0	37	0	8	1714	11	1642	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	1.0	1.0	28.0	28.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	45.0	45.0	45.0	45.0	12.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Coord	Coord	Coord	Coord	Max
Act Effct Green (s)		21.0		21.0		41.0		41.0	
Actuated g/C Ratio		0.25		0.25		0.48		0.48	
v/c Ratio		0.04		0.23		1.55		1.54	
Uniform Delay, d1		24.3		11.5		22.0		22.0	
Delay		24.6		14.2		204.1		201.3	
LOS		C		B		F		F	
Approach Delay		24.6		14.2		204.1		201.3	0.0
Approach LOS		C		B		F		F	A

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.55	
Intersection Signal Delay: 197.8	Intersection LOS: F
Intersection Capacity Utilization 75.8%	ICU Level of Service C

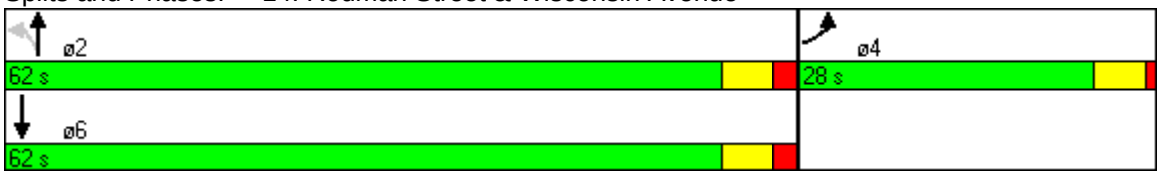
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	93	11	1523	1550
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	12.4		73.2	73.2
Actuated g/C Ratio	0.14		0.81	0.81
v/c Ratio	0.49		0.72	0.66
Uniform Delay, d1	37.5		4.6	4.1
Delay	35.4		5.9	5.1
LOS	D		A	A
Approach Delay	35.4		5.9	5.1
Approach LOS	D		A	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 65.3%	ICU Level of Service B

Splits and Phases: 14: Rodman Street & Wisconsin Avenue

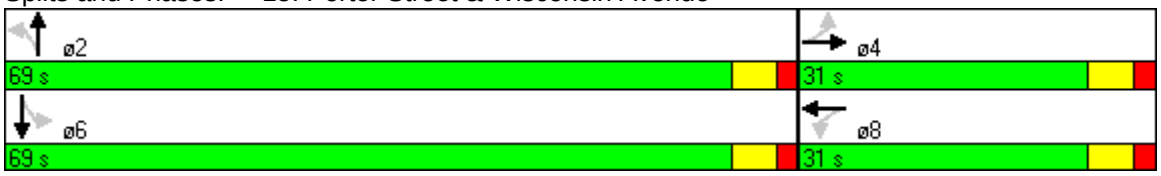


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	59	38	145	29	6	1309	83	1524
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	69%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		27.0		27.0		65.0		65.0
Actuated g/C Ratio		0.27		0.27		0.65		0.65
v/c Ratio		0.38		0.93		0.73		1.25
Uniform Delay, d1		26.8		35.5		11.6		17.5
Delay		27.6		59.8		12.2		116.1
LOS		C		E		B		F
Approach Delay		27.6		59.8		12.2		116.1
Approach LOS		C		E		B		F

Intersection Summary

Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 66.8 Intersection LOS: E
Intersection Capacity Utilization 135.6% ICU Level of Service H

Splits and Phases: 15: Porter Street & Wisconsin Avenue

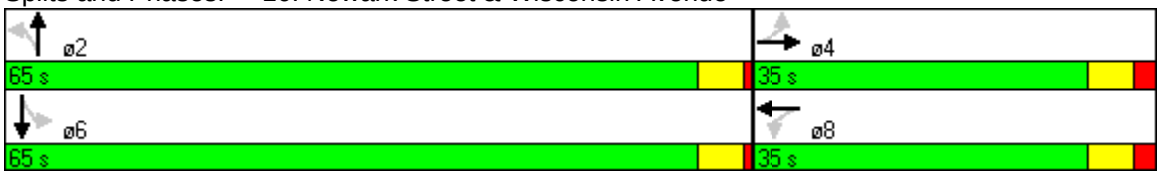


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	168	38	17	34	101	1232	9	1392
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0		31.0		61.0		61.0
Actuated g/C Ratio		0.31		0.31		0.61		0.61
v/c Ratio		0.77		0.18		1.43dl		0.87
Uniform Delay, d1		31.3		19.1		19.5		16.2
Delay		35.7		19.8		102.4		22.3
LOS		D		B		F		C
Approach Delay		35.7		19.8		102.4		22.3
Approach LOS		D		B		F		C

Intersection Summary

Cycle Length: 100
Offset: 23 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 56.7 Intersection LOS: E
Intersection Capacity Utilization 137.9% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 16: Newark Street & Wisconsin Avenue

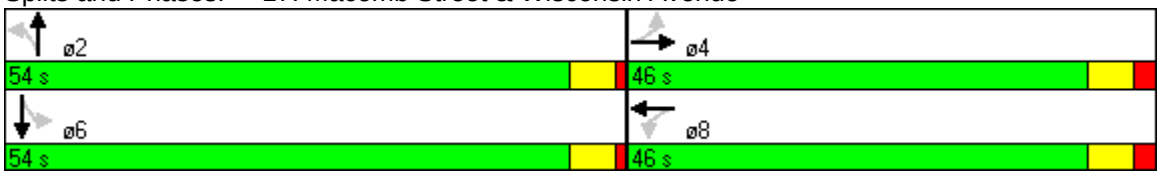


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	71	61	27	52	45	1110	13	1251
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (%)	46%	46%	46%	46%	54%	54%	54%	54%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		42.0		42.0		50.0		50.0
Actuated g/C Ratio		0.42		0.42		0.50		0.50
v/c Ratio		0.34		0.21		1.14		0.92
Uniform Delay, d1		18.0		18.4		25.0		23.2
Delay		18.5		18.8		74.4		13.4
LOS		B		B		E		B
Approach Delay		18.5		18.8		74.4		13.4
Approach LOS		B		B		E		B

Intersection Summary

Cycle Length: 100
Offset: 30 (30%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 89.8% ICU Level of Service D

Splits and Phases: 17: Macomb Street & Wisconsin Avenue

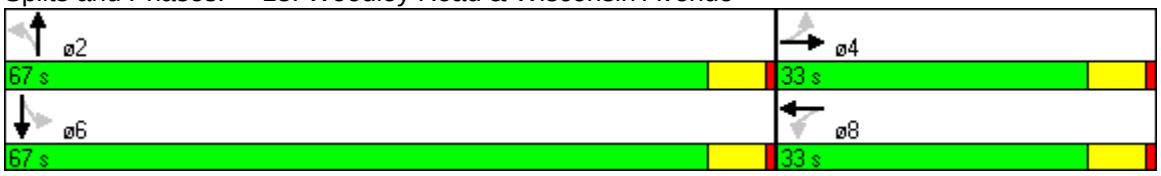


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	24	18	59	19	31	1264	35	1498
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	14.0	14.0	14.0	14.0
Minimum Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0		29.0		63.0		63.0
Actuated g/C Ratio		0.29		0.29		0.63		0.63
v/c Ratio		0.18		0.32		0.90		0.98
Uniform Delay, d1		26.6		27.8		15.7		17.9
Delay		27.1		28.4		28.1		24.6
LOS		C		C		C		C
Approach Delay		27.1		28.4		28.1		24.6
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 100
Offset: 17 (17%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 26.3 Intersection LOS: C
Intersection Capacity Utilization 97.8% ICU Level of Service E

Splits and Phases: 18: Woodley Road & Wisconsin Avenue

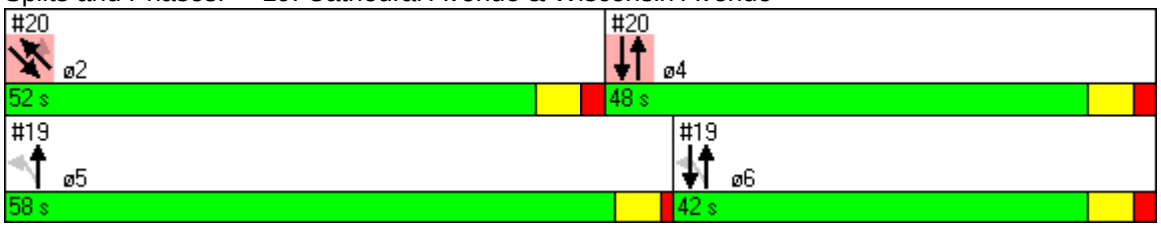


Lane Group	EBL	NBL	NBT	SBT	ø2	ø4	ø5
Lane Configurations							
Volume (vph)	0	55	1255	1482			
Turn Type		Perm					
Protected Phases			6 5	6	2	4	5
Permitted Phases		6 5					
Detector Phases		6 5	6 5	6			
Minimum Initial (s)				1.0	23.0	23.0	4.0
Minimum Split (s)				42.0	52.0	48.0	51.0
Total Split (s)	0.0	100.0	100.0	42.0	52.0	48.0	58.0
Total Split (%)	0%	100%	100%	42%	52%	48%	58%
Yellow Time (s)				4.0	4.0	4.0	4.0
All-Red Time (s)				2.0	2.0	2.0	1.0
Lead/Lag				Lag			Lead
Lead-Lag Optimize?				Yes			Yes
Recall Mode				Max	Max	Max	Max
Act Effct Green (s)			100.0	38.0			
Actuated g/C Ratio			1.00	0.38			
v/c Ratio			0.86dl	1.36			
Uniform Delay, d1			0.0	30.8			
Delay			8.9	151.6			
LOS			A	F			
Approach Delay			8.9	151.6			
Approach LOS			A	F			

Intersection Summary

Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1: and 5:NBTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 86.4 Intersection LOS: F
Intersection Capacity Utilization 87.7% ICU Level of Service D
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

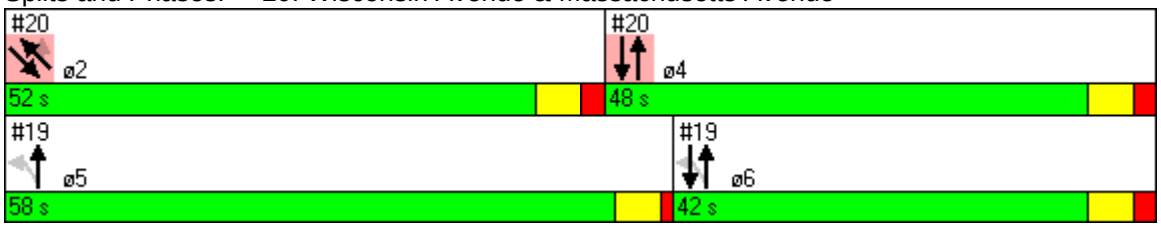
Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue



Lane Group	NBT	SBT	SET	NWT	NWR	ø5	ø6
Lane Configurations							
Volume (vph)	1079	1330	552	538	287		
Turn Type					Perm		
Protected Phases	4	4	2	2		5	6
Permitted Phases					2		
Detector Phases	4	4	2	2	2		
Minimum Initial (s)	23.0	23.0	23.0	23.0	23.0	4.0	1.0
Minimum Split (s)	48.0	48.0	52.0	52.0	52.0	51.0	42.0
Total Split (s)	48.0	48.0	52.0	52.0	52.0	58.0	42.0
Total Split (%)	48%	48%	52%	52%	52%	58%	42%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lead/Lag						Lead	Lag
Lead-Lag Optimize?						Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0	44.0	48.0	48.0	48.0		
Actuated g/C Ratio	0.44	0.44	0.48	0.48	0.48		
v/c Ratio	0.82	1.00	0.49	0.35	0.42		
Uniform Delay, d1	24.5	27.9	17.4	16.3	15.6		
Delay	6.6	14.7	17.7	16.5	16.1		
LOS	A	B	B	B	B		
Approach Delay	6.6	14.7	17.7	16.3			
Approach LOS	A	B	B	B			

Intersection Summary	
Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1: and 5:NBTL, Start of Green	
Natural Cycle: 110	
Control Type: Pretimed	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 85.0%	ICU Level of Service D

Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue

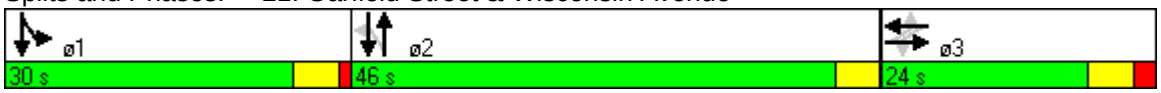


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	27	58	107	45	1110	349	1219
Turn Type	Perm		Perm			Prot	
Protected Phases		3		3	2	1	1 2
Permitted Phases	3		3				
Detector Phases	3	3	3	3	2	1	1 2
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	25.0	
Minimum Split (s)	24.0	24.0	24.0	24.0	46.0	30.0	
Total Split (s)	24.0	24.0	24.0	24.0	46.0	30.0	76.0
Total Split (%)	24%	24%	24%	24%	46%	30%	76%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0	
Lead/Lag					Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		20.0		20.0	42.0	26.0	72.0
Actuated g/C Ratio		0.20		0.20	0.42	0.26	0.72
v/c Ratio		0.35		0.72	0.99	0.88	0.58
Uniform Delay, d1		30.7		36.5	28.7	35.5	6.7
Delay		31.3		43.0	45.4	44.6	8.6
LOS		C		D	D	D	A
Approach Delay		31.3		43.0	45.4		16.4
Approach LOS		C		D	D		B

Intersection Summary

Cycle Length: 100
Offset: 20 (20%), Referenced to phase 1:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 102.8% ICU Level of Service F

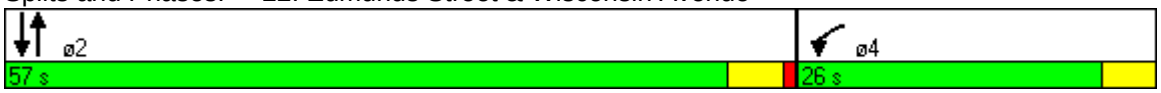
Splits and Phases: 21: Garfield Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	28	1173	1431
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	26.0	57.0	57.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	7.7	73.3	73.3
Actuated g/C Ratio	0.09	0.88	0.88
v/c Ratio	0.31	0.45	0.52
Uniform Delay, d1	22.0	1.7	1.8
Delay	23.7	2.0	2.2
LOS	C	A	A
Approach Delay	23.7	2.0	2.2
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 19 (23%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 2.5	Intersection LOS: A
Intersection Capacity Utilization 56.4%	ICU Level of Service A

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

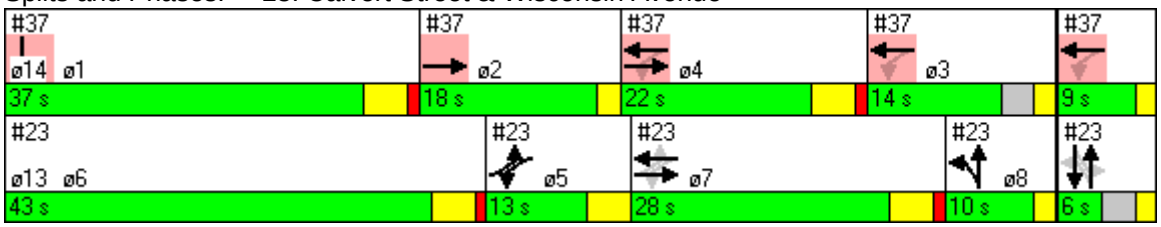


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø3	ø4
Lane Configurations												
Volume (vph)	165	89	175	99	159	1100	20	1109				
Turn Type	pm+pt		pm+pt		D.P+P		Perm					
Protected Phases	5	7	5	7	8	6 8 13		6 13	1	2	3	4
Permitted Phases	7		7		6 13		6 13					
Detector Phases	5	7	5	7	8	6 8 13	6 13	6 13				
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0				4.0	4.0	4.0	6.0
Minimum Split (s)	12.0	13.0	12.0	13.0	9.0				37.0	18.0	14.0	22.0
Total Split (s)	13.0	28.0	13.0	28.0	10.0	59.0	49.0	49.0	37.0	18.0	14.0	22.0
Total Split (%)	13%	27%	13%	27%	10%	57%	48%	48%	36%	17%	14%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0	2.0				4.0	2.0	2.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0	0.0				1.0	0.0	0.0	1.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag				Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max				Max	Max	Max	Max
Act Effct Green (s)	33.0	24.0	33.0	24.0		54.0		48.0				
Actuated g/C Ratio	0.32	0.23	0.32	0.23		0.52		0.47				
v/c Ratio	0.48	0.66	0.66	0.30		1.79		0.93				
Uniform Delay, d1	23.7	24.4	23.9	32.6		21.4		26.0				
Delay	6.5	13.9	26.7	33.2		244.1		33.3				
LOS	A	B	C	C		F		C				
Approach Delay		10.9		29.2		244.1		33.3				
Approach LOS		B		C		F		C				

Intersection Summary

Cycle Length: 103
Offset: 70 (68%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.79
Intersection Signal Delay: 123.9 Intersection LOS: F
Intersection Capacity Utilization 122.4% ICU Level of Service H

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



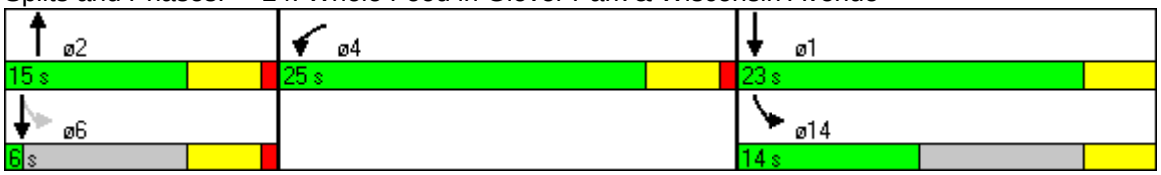
Lane Group	ø6	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	6	13	14
Permitted Phases			
Detector Phases			
Minimum Initial (s)	6.0	3.0	2.0
Minimum Split (s)	42.0	7.0	7.0
Total Split (s)	43.0	6.0	9.0
Total Split (%)	42%	6%	9%
Yellow Time (s)	4.0	2.0	2.0
All-Red Time (s)	1.0	0.0	0.0
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	Max	Max	Max
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Uniform Delay, d1			
Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	64	1429	132	1375		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	13.0	15.0	10.0		10.0	15.0
Total Split (s)	25.0	15.0	14.0	29.0	23.0	6.0
Total Split (%)	40%	24%	22%	46%	37%	10%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Coord	None		None	Coord
Act Effct Green (s)	10.9	21.1		40.1		
Actuated g/C Ratio	0.17	0.33		0.64		
v/c Ratio	0.61	1.66		1.12		
Uniform Delay, d1	7.2	20.8		6.9		
Delay	8.4	218.9		70.6		
LOS	A	F		E		
Approach Delay	8.4	218.9		70.6		
Approach LOS	A	F		E		

Intersection Summary	
Cycle Length: 63	
Actuated Cycle Length: 63	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.66	
Intersection Signal Delay: 136.4	Intersection LOS: F
Intersection Capacity Utilization 127.6%	ICU Level of Service H

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	51	18	1304	1423
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	56.0	56.0	56.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	9.5		65.7	65.7
Actuated g/C Ratio	0.12		0.82	0.82
v/c Ratio	0.45		0.70	0.65
Uniform Delay, d1	23.4		3.7	3.4
Delay	23.6		4.9	4.2
LOS	C		A	A
Approach Delay	23.6		4.9	4.2
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 56 (70%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 5.1	Intersection LOS: A
Intersection Capacity Utilization 71.5%	ICU Level of Service C

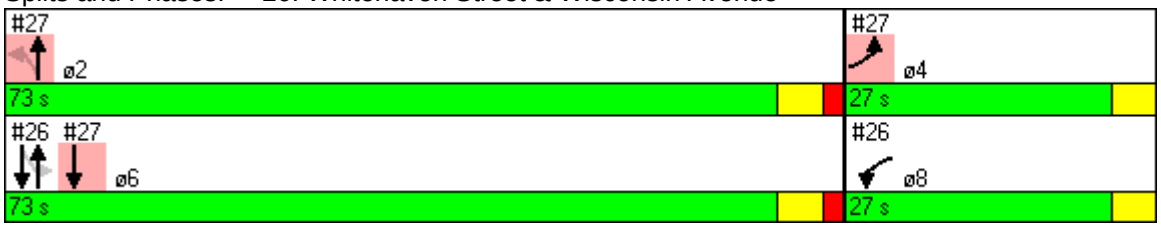
Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	22	1251	2	1263		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	27.0	73.0	73.0	73.0	73.0	27.0
Total Split (s)	27.0	73.0	73.0	73.0	73.0	27.0
Total Split (%)	27%	73%	73%	73%	73%	27%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	69.0		69.0		
Actuated g/C Ratio	0.23	0.69		0.69		
v/c Ratio	0.08	0.63		0.62		
Uniform Delay, d1	23.3	8.4		8.4		
Delay	25.4	3.8		8.6		
LOS	C	A		A		
Approach Delay	25.4	3.8		8.6		
Approach LOS	C	A		A		

Intersection Summary

Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 6.4 Intersection LOS: A
Intersection Capacity Utilization 64.5% ICU Level of Service B

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

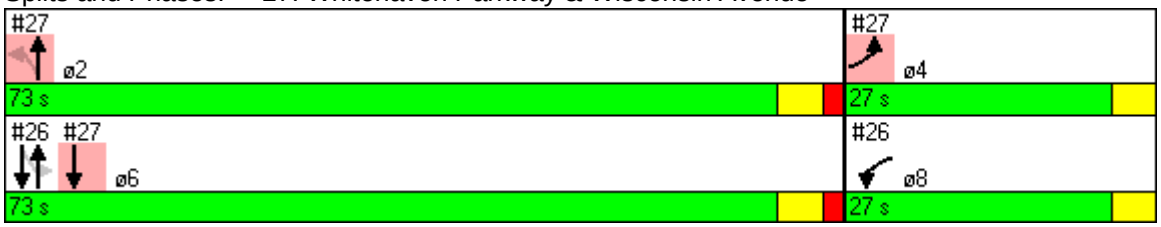


Lane Group	EBL	NBL	NBT	SBT	ø8
Lane Configurations					
Volume (vph)	188	92	1222	1311	
Turn Type		Perm			
Protected Phases	4		2	6	8
Permitted Phases		2			
Detector Phases	4	2	2	6	
Minimum Initial (s)	14.0	16.0	16.0	16.0	15.0
Minimum Split (s)	27.0	73.0	73.0	73.0	27.0
Total Split (s)	27.0	73.0	73.0	73.0	27.0
Total Split (%)	27%	73%	73%	73%	27%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	0.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0		69.0	69.0	
Actuated g/C Ratio	0.23		0.69	0.69	
v/c Ratio	0.71		1.08	0.62	
Uniform Delay, d1	32.8		15.5	8.3	
Delay	34.8		56.7	1.4	
LOS	C		E	A	
Approach Delay	34.8		56.7	1.4	
Approach LOS	C		E	A	

Intersection Summary

Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 29.3 Intersection LOS: C
Intersection Capacity Utilization 106.9% ICU Level of Service F

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

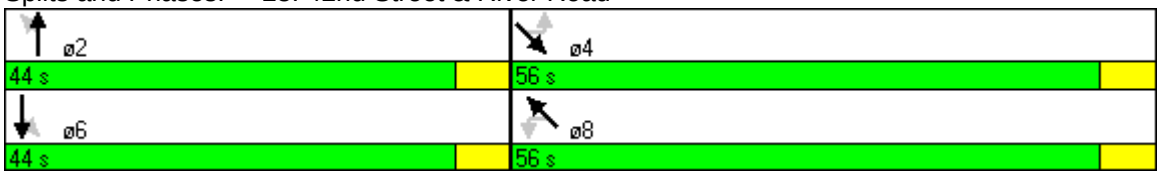


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	34	228	12	271	95	99	6	118
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	44.0	44.0	44.0	44.0	56.0	56.0	56.0	56.0
Total Split (%)	44%	44%	44%	44%	56%	56%	56%	56%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		40.0		40.0		52.0		52.0
Actuated g/C Ratio		0.40		0.40		0.52		0.52
v/c Ratio		0.50		0.66		0.30		0.14
Uniform Delay, d1		22.5		24.4		13.7		12.4
Delay		23.0		25.2		10.2		12.6
LOS		C		C		B		B
Approach Delay		23.0		25.2		10.2		12.6
Approach LOS		C		C		B		B

Intersection Summary

Cycle Length: 100
Offset: 12 (12%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 20.1 Intersection LOS: C
Intersection Capacity Utilization 84.1% ICU Level of Service D

Splits and Phases: 28: 42nd Street & River Road

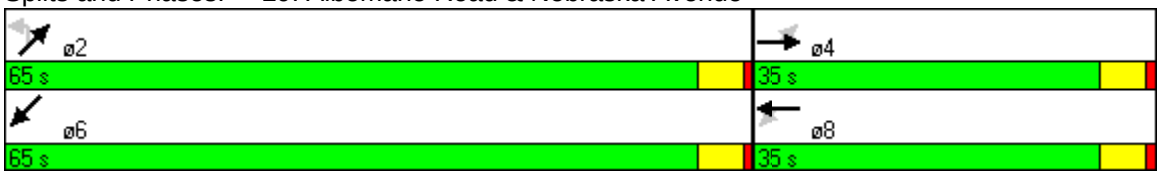


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	86	248	33	250	2	402	406
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	31.0	31.0	31.0	31.0		61.0	61.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31		0.61	0.61
v/c Ratio	0.43	0.50	0.17	0.52		0.25	0.26
Uniform Delay, d1	27.5	28.2	25.1	28.4		9.0	9.1
Delay	32.3	32.2	26.1	29.0		10.5	9.2
LOS	C	C	C	C		B	A
Approach Delay		32.2		28.7		10.5	9.2
Approach LOS		C		C		B	A

Intersection Summary

Cycle Length: 100
Offset: 74 (74%), Referenced to phase 2:NETL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 18.2 Intersection LOS: B
Intersection Capacity Utilization 101.7% ICU Level of Service F

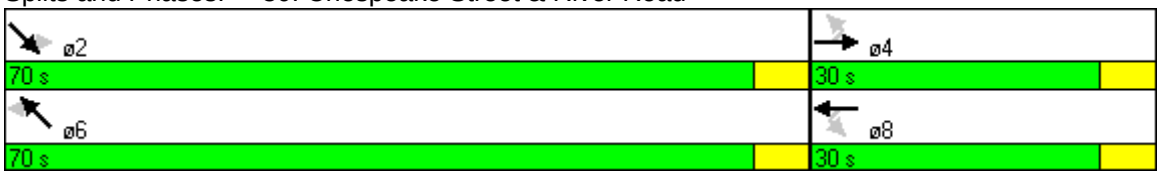
Splits and Phases: 29: Albemarle Road & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	33	24	1	27	33	275	12	311
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		0.18		0.12		0.33		0.30
Uniform Delay, d1		28.7		14.9		7.2		7.2
Delay		29.3		17.9		7.4		3.8
LOS		C		B		A		A
Approach Delay		29.3		17.9		7.4		3.8
Approach LOS		C		B		A		A

Intersection Summary	
Cycle Length: 100	
Offset: 22 (22%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 0.33	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 81.7%	ICU Level of Service D

Splits and Phases: 30: Chespeake Street & River Road

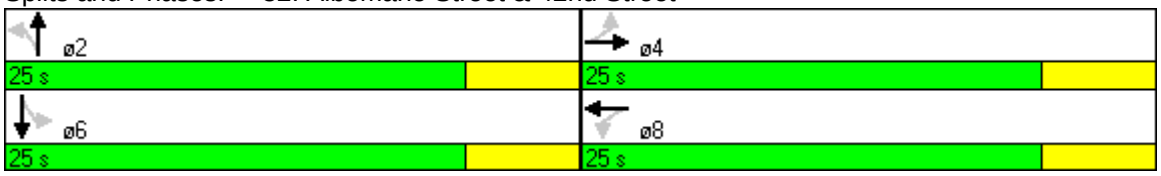


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	9	71	30	85	5	197	79	224
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.07		0.22		0.35		0.54
Uniform Delay, d1		8.6		9.3		9.8		10.8
Delay		8.8		14.6		10.2		11.5
LOS		A		B		B		B
Approach Delay		8.8		14.6		10.2		11.5
Approach LOS		A		B		B		B

Intersection Summary

Cycle Length: 50
Offset: 49 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 11.7 Intersection LOS: B
Intersection Capacity Utilization 62.6% ICU Level of Service B

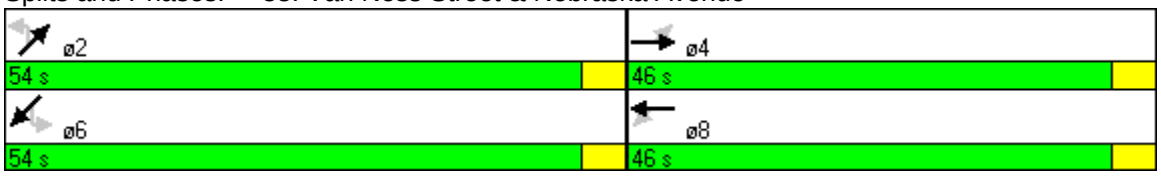
Splits and Phases: 32: Albemarle Street & 42nd Street



Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	16	127	151	136	3	565	5	385
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (%)	46%	46%	46%	46%	54%	54%	54%	54%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		42.0	42.0	42.0		50.0		50.0
Actuated g/C Ratio		0.42	0.42	0.42		0.50		0.50
v/c Ratio		0.22	0.35	0.21		0.51		0.26
Uniform Delay, d1		18.4	19.7	17.9		15.4		14.4
Delay		18.7	15.6	13.8		15.6		14.5
LOS		B	B	B		B		B
Approach Delay		18.7		14.7		15.6		14.5
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 100	
Offset: 74 (74%), Referenced to phase 2:NETL and 6:SWTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 61.6%	ICU Level of Service B

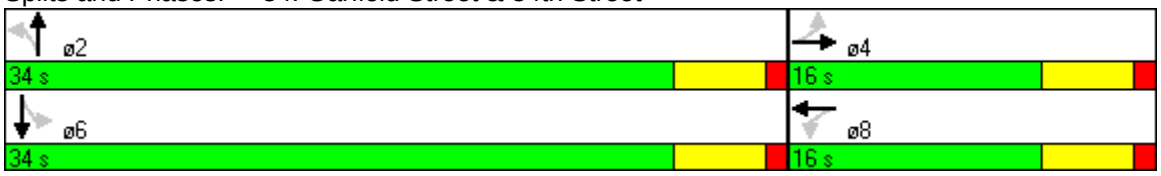
Splits and Phases: 33: Van Ness Street & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	100	167	36	188	8	293	20	317
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	29.0	29.0	29.0	29.0
Total Split (s)	16.0	16.0	16.0	16.0	34.0	34.0	34.0	34.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		12.0		12.0		30.0		30.0
Actuated g/C Ratio		0.24		0.24		0.60		0.60
v/c Ratio		1.01		0.67		0.35		0.40
Uniform Delay, d1		18.6		16.7		4.7		4.9
Delay		65.8		34.6		4.9		5.0
LOS		E		C		A		A
Approach Delay		65.8		34.6		4.9		5.0
Approach LOS		E		C		A		A

Intersection Summary	
Cycle Length: 50	
Offset: 23 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 77.6%	ICU Level of Service C

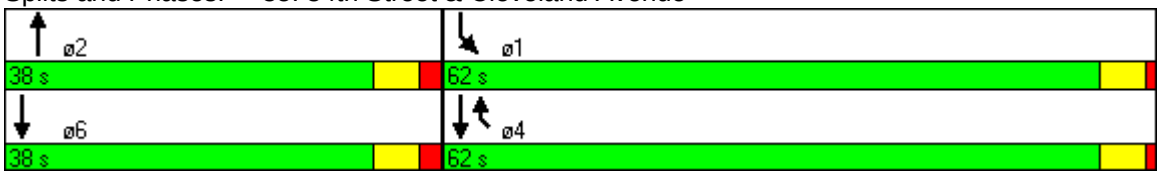
Splits and Phases: 34: Garfield Street & 34th Street



Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	356	169	375	0	171	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	22.0			22.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Coord	None			None	Max
Act Effct Green (s)	73.5	18.5	100.0		18.5	
Actuated g/C Ratio	0.74	0.19	1.00		0.19	
v/c Ratio	0.29	0.58	0.23		0.64	
Uniform Delay, d1	4.5	37.2	0.0		37.7	
Delay	4.1	35.8	0.0		31.2	
LOS	A	D	A		C	
Approach Delay	4.1		11.1	31.2		
Approach LOS	A		B	C		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 76 (76%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 39.7%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

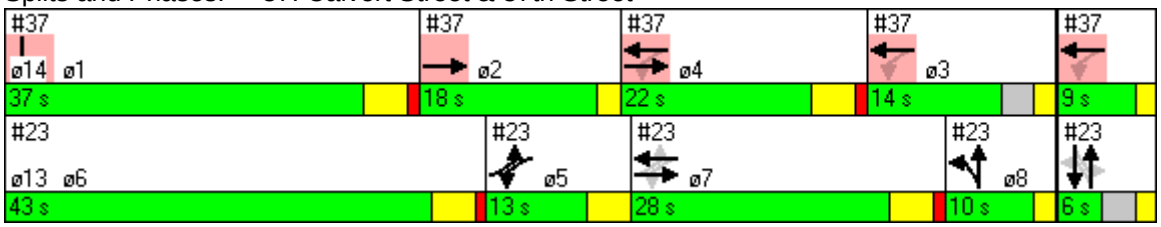


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	359	36	224	0	199							
Turn Type		Perm										
Protected Phases	2 4		4 3 14		1	2	3	4	5	6	7	8
Permitted Phases		4 3 14										
Detector Phases	2 4	4 3 14	4 3 14		1							
Minimum Initial (s)					4.0	4.0	4.0	6.0	6.0	6.0	6.0	5.0
Minimum Split (s)					37.0	18.0	14.0	22.0	12.0	42.0	13.0	9.0
Total Split (s)	40.0	45.0	45.0	0.0	37.0	18.0	14.0	22.0	13.0	43.0	28.0	10.0
Total Split (%)	39%	44%	44%	0%	36%	17%	14%	21%	13%	42%	27%	10%
Yellow Time (s)					4.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)					1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	36.1		44.0		33.0							
Actuated g/C Ratio	0.35		0.43		0.32							
v/c Ratio	0.41		0.38		0.58							
Uniform Delay, d1	24.4		20.2		26.4							
Delay	24.7		20.8		27.0							
LOS	C		C		C							
Approach Delay	24.7		20.8		27.0							
Approach LOS	C		C		C							

Intersection Summary

Cycle Length: 103
Offset: 70 (68%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.79
Intersection Signal Delay: 24.4 Intersection LOS: C
Intersection Capacity Utilization 65.4% ICU Level of Service B

Splits and Phases: 37: Calvert Street & 37th Street



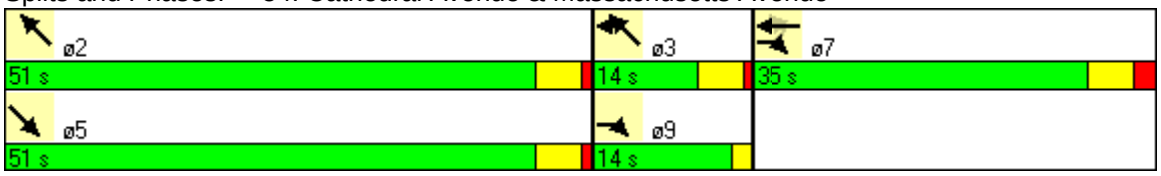
Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	6.0	9.0
Total Split (%)	6%	9%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø2	ø3	ø9
Lane Configurations							
Volume (vph)	0	0	0	0			
Turn Type							
Protected Phases		7	5	2 3	2	3	9
Permitted Phases							
Detector Phases		7	5	2 3			
Minimum Initial (s)		21.0	17.0		17.0	5.0	8.0
Minimum Split (s)		27.0	22.0		22.0	10.0	10.0
Total Split (s)	0.0	35.0	51.0	65.0	51.0	14.0	14.0
Total Split (%)	0%	35%	51%	65%	51%	14%	14%
Yellow Time (s)		4.0	4.0		4.0	4.0	2.0
All-Red Time (s)		2.0	1.0		1.0	1.0	0.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode		Max	Max		Max	Max	Max
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Uniform Delay, d1							
Delay							
LOS							
Approach Delay	0.0	0.0	0.0	0.0			
Approach LOS	A	A	A	A			

Intersection Summary	
Cycle Length: 100	
Offset: 59 (59%), Referenced to phase 2:NWT and 5:SET, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		
Project Description			
East/West Street: *Newark Street*		North/South Street: *34th Street*	
Intersection Orientation: *North-South*		Study Period (hrs): *0.25*	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	24	550	11	16	548	28
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	26	597	11	17	595	30
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	11	19	37	14	17	36
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	20	40	15	18	39
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	26	17		71			72	
C (m) (vph)	966	980		224			211	
v/c	0.03	0.02		0.32			0.34	
95% queue length	0.08	0.05		1.30			1.44	
Control Delay	8.8	8.7		28.4			30.7	
LOS	A	A		D			D	
Approach Delay	--	--	28.4			30.7		
Approach LOS	--	--	D			D		

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		

Project Description

East/West Street: *Massachussets* | North/South Street: *38th Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*10*	*517*	*0*	*0*	*571*	*36*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*10*	*561*	*0*	*0*	*620*	*39*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				*22*	*0*	*29*
Peak-Hour Factor, PHF				*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*23*	*0*	*31*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*					*LTR*	
v (vph)	*10*	*0*					*54*	
C (m) (vph)	*939*	*1020*					*404*	
v/c	*0.01*	*0.00*					*0.13*	
95% queue length	*0.03*	*0.00*					*0.46*	
Control Delay	*8.9*	*8.5*					*15.3*	
LOS	*A*	*A*					*C*	
Approach Delay	--	--				*15.3*		
Approach LOS	--	--				*C*		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	Saturday

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	57	221	18	27	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	241	0	24	29	191	62
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	301		48		287		238	62
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.4		0.9		0.1	0.0
Prop. Right-Turns	0.8		0.0		0.1		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.09		5.09		5.09		5.09	5.09

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.27		0.04		0.26		0.21	0.06
hd, final value	5.09		5.09		5.09		5.09	5.09
x, final value	0.43		0.08		0.44		0.39	0.09
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	3.1		3.1		3.1		3.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	551		298		537		488	312
Delay	11.81		9.69		12.96		12.32	8.49
LOS	B		A		B		B	A
Approach: Delay	11.81		9.69		12.96		11.53	
LOS	B		A		B		B	
Intersection Delay	11.96							
Intersection LOS	B							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		

Project Description

East/West Street: *Albemarle Street* | North/South Street: *Fort Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*29*	*142*	*26*	*11*	*168*	*110*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*31*	*154*	*28*	*11*	*182*	*119*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*11*	*79*	*12*	*184*	*70*	*78*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*11*	*85*	*13*	*199*	*76*	*84*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*31*	*11*		*109*			*359*	
C (m) (vph)	*1272*	*1405*		*509*			*534*	
v/c	*0.02*	*0.01*		*0.21*			*0.67*	
95% queue length	*0.07*	*0.02*		*0.80*			*5.01*	
Control Delay	*7.9*	*7.6*		*14.0*			*24.5*	
LOS	*A*	*A*		*B*			*C*	
Approach Delay	--	--	*14.0*			*24.5*		
Approach LOS	--	--	*B*			*C*		

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INTERSECTION CAPACITY ANALYSIS

SCENARIO 4

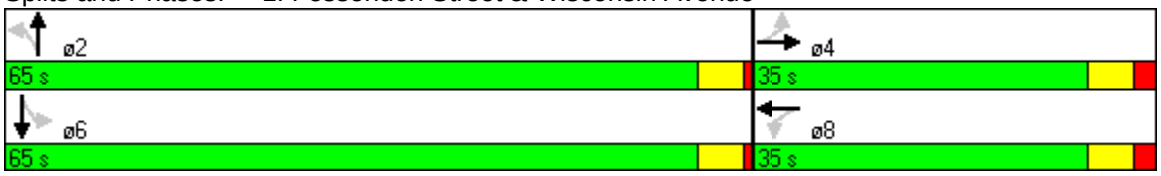
AM PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	21	146	254	52	6	1237	72	2114
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	11.0	11.0	11.0
Minimum Split (s)	27.0	27.0	27.0	27.0	55.0	55.0	55.0	55.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0	31.0		61.0		61.0
Actuated g/C Ratio		0.31	0.31	0.31		0.61		0.61
v/c Ratio		0.41	0.95	0.26		0.73		1.09
Uniform Delay, d1		26.5	33.7	15.8		13.7		19.5
Delay		27.1	64.6	16.4		9.8		63.6
LOS		C	E	B		A		E
Approach Delay		27.1		48.0		9.8		63.6
Approach LOS		C		D		A		E

Intersection Summary

Cycle Length: 100
Offset: 37 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Pretimed
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 43.6 Intersection LOS: D
Intersection Capacity Utilization 136.1% ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

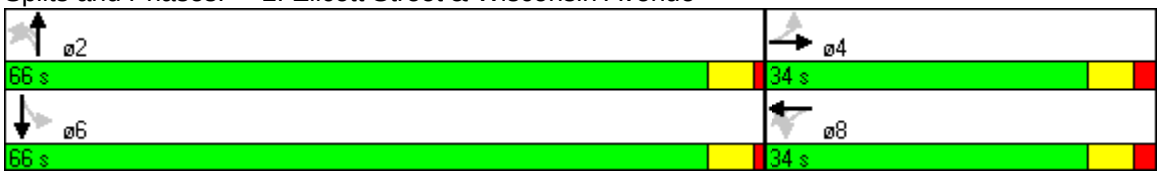


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	55	27	13	40	14	4	19	1175	15	2058	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	
Total Split (s)	34.0	34.0	34.0	34.0	34.0	66.0	66.0	66.0	66.0	66.0	0.0
Total Split (%)	34%	34%	34%	34%	34%	66%	66%	66%	66%	66%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		30.0			30.0			62.0		62.0	
Actuated g/C Ratio		0.30			0.30			0.62		0.62	
v/c Ratio		0.32			0.18			0.84		0.95	
Uniform Delay, d1		25.9			24.2			15.1		17.6	
Delay		26.5			24.8			10.7		8.9	
LOS		C			C			B		A	
Approach Delay		26.5			24.8			10.7		8.9	
Approach LOS		C			C			B		A	

Intersection Summary

Cycle Length: 100
Offset: 41 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 78.2% ICU Level of Service C

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	107	1233	20	1939
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.32	0.60		0.78
Uniform Delay, d1	22.8	12.0		14.4
Delay	23.3	12.3		5.3
LOS	C	B		A
Approach Delay	23.3	12.3		5.3
Approach LOS	C	B		A

Intersection Summary

Cycle Length: 100
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 68.8% ICU Level of Service B

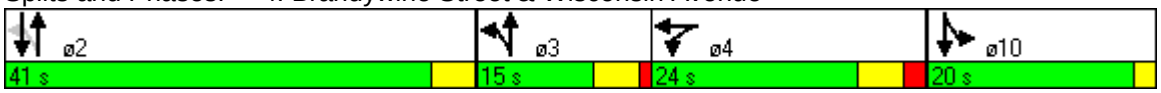
Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	65	190	1442	87	1926	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		11.0		10.0
Minimum Split (s)		24.0	15.0		20.0		41.0
Total Split (s)	0.0	24.0	15.0	56.0	20.0	61.0	41.0
Total Split (%)	0%	24%	15%	56%	20%	61%	41%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		20.0	48.0	52.0	16.0	57.0	
Actuated g/C Ratio		0.20	0.48	0.52	0.16	0.57	
v/c Ratio		0.52	0.83	0.96	0.37	0.81	
Uniform Delay, d1		31.1	34.4	22.8	37.5	17.1	
Delay		34.9	48.8	31.4	38.2	17.5	
LOS		C	D	C	D	B	
Approach Delay		34.9		33.4		18.4	
Approach LOS		C		C		B	

Intersection Summary

Cycle Length: 100
Offset: 99 (99%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 81.1% ICU Level of Service D

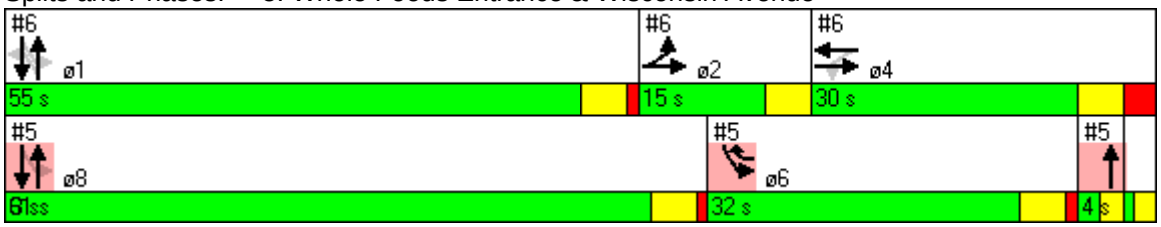
Splits and Phases: 4: Brandywine Street & Wisconsin Avenue



Lane Group	WBL	WBR	NBT	SBL	SBT	ø1	ø2	ø4	ø5	ø7	ø8
Lane Configurations											
Volume (vph)	0	21	1531	24	1887						
Turn Type		custom		pm+pt							
Protected Phases		6	5 7 8	6	5 8	1	2	4	5	7	8
Permitted Phases		6		5 8							
Detector Phases		6	5 7 8	6	5 8						
Minimum Initial (s)		22.0		22.0		21.0	10.0	19.0	23.0	2.0	1.0
Minimum Split (s)		32.0		32.0		55.0	14.0	30.0	28.0	4.0	3.0
Total Split (s)	0.0	32.0	68.0	32.0	64.0	55.0	15.0	30.0	61.0	4.0	3.0
Total Split (%)	0%	32%	68%	32%	64%	55%	15%	30%	61%	4%	3%
Yellow Time (s)		4.0		4.0		4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)		1.0		1.0		1.0	0.0	3.0	1.0	0.0	0.0
Lead/Lag		Lag		Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode		Max		Max		Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0	100.0		99.0						
Actuated g/C Ratio		0.28	1.00		0.99						
v/c Ratio		0.04	0.49		0.46						
Uniform Delay, d1		0.0	0.0		0.0						
Delay		0.0	0.0		0.0						
LOS		A	A		A						
Approach Delay	0.0		0.0		0.0						
Approach LOS	A		A		A						

Intersection Summary	
Cycle Length: 100	
Offset: 96 (96%), Referenced to phase 1:NBSB and 5:, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 71.6%	ICU Level of Service C

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

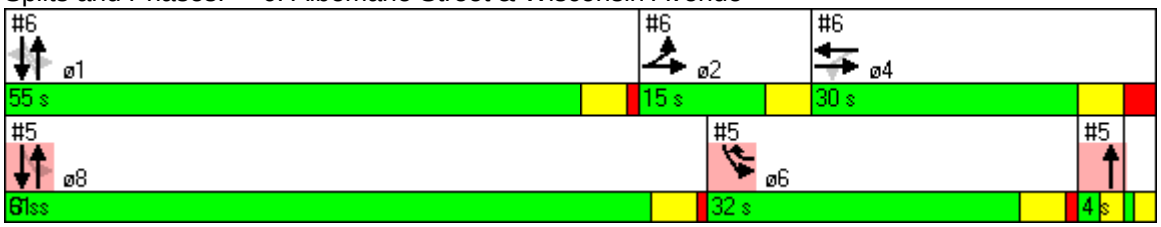


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	ø5	ø6	ø7	ø8
Lane Configurations											
Volume (vph)	74	216	77	46	1428	6	2198				
Turn Type	Prot		Perm			Perm					
Protected Phases	2	2 4		4	1		1	5	6	7	8
Permitted Phases			4			1					
Detector Phases	2	2 4	4	4	1	1	1				
Minimum Initial (s)	10.0		19.0	19.0	21.0	21.0	21.0	23.0	22.0	2.0	1.0
Minimum Split (s)	14.0		30.0	30.0	55.0	55.0	55.0	28.0	32.0	4.0	3.0
Total Split (s)	15.0	45.0	30.0	30.0	55.0	55.0	55.0	61.0	32.0	4.0	3.0
Total Split (%)	15%	45%	30%	30%	55%	55%	55%	61%	32%	4%	3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	41.0		26.0	51.0		51.0				
Actuated g/C Ratio	0.11	0.41		0.26	0.51		0.51				
v/c Ratio	0.44	0.46		0.74	0.91		1.04				
Uniform Delay, d1	41.6	21.4		27.0	22.5		24.5				
Delay	38.6	22.6		30.4	10.2		49.6				
LOS	D	C		C	B		D				
Approach Delay		25.9		30.4	10.2		49.6				
Approach LOS		C		C	B		D				

Intersection Summary

Cycle Length: 100
Offset: 96 (96%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 94.6% ICU Level of Service E

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

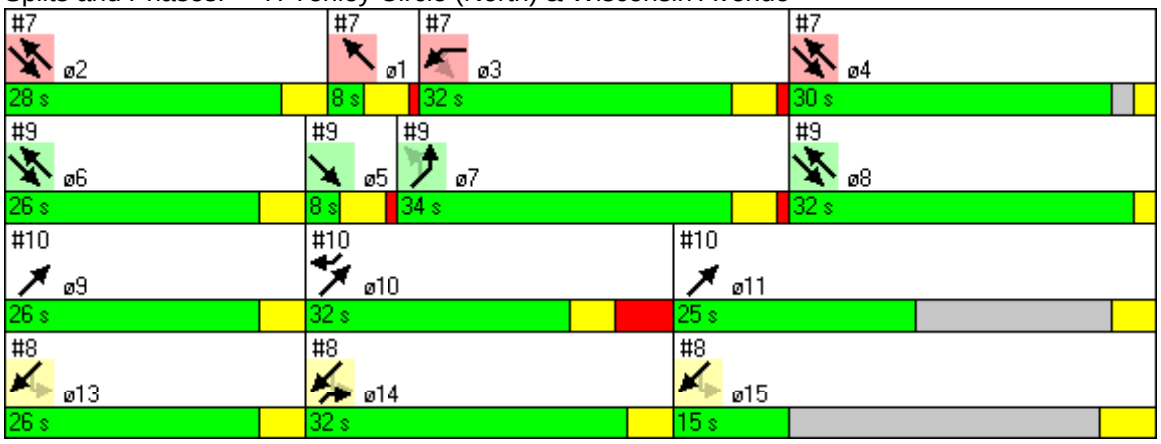


Lane Group	WBL	SET	NWT	NEL	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	892	2376	1600	0								
Turn Type												
Protected Phases	3	2 4	2 1 4		1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	3	2 4	2 1 4									
Minimum Initial (s)	17.0				1.0	5.0	10.0	3.0	1.0	19.0	23.0	5.0
Minimum Split (s)	34.0				8.0	26.0	32.0	8.0	26.0	34.0	32.0	26.0
Total Split (s)	32.0	58.0	66.0	0.0	8.0	28.0	30.0	8.0	26.0	34.0	32.0	26.0
Total Split (%)	32%	58%	66%	0%	8%	28%	30%	8%	26%	34%	32%	26%
Yellow Time (s)	4.0				4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)	1.0				1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag	Lead				Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max				Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	28.0	56.0	64.0									
Actuated g/C Ratio	0.28	0.56	0.64									
v/c Ratio	1.09	1.11	0.82									
Uniform Delay, d1	36.0	22.0	13.7									
Delay	79.4	76.1	6.7									
LOS	E	E	A									
Approach Delay	79.4	76.1	6.7									
Approach LOS	E	E	A									

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 56.6 Intersection LOS: E
Intersection Capacity Utilization 89.2% ICU Level of Service D

Splits and Phases: 7: Tenley Circle (North) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	1.0	4.0	5.0	22.0	4.0
Minimum Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (%)	32%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	5.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

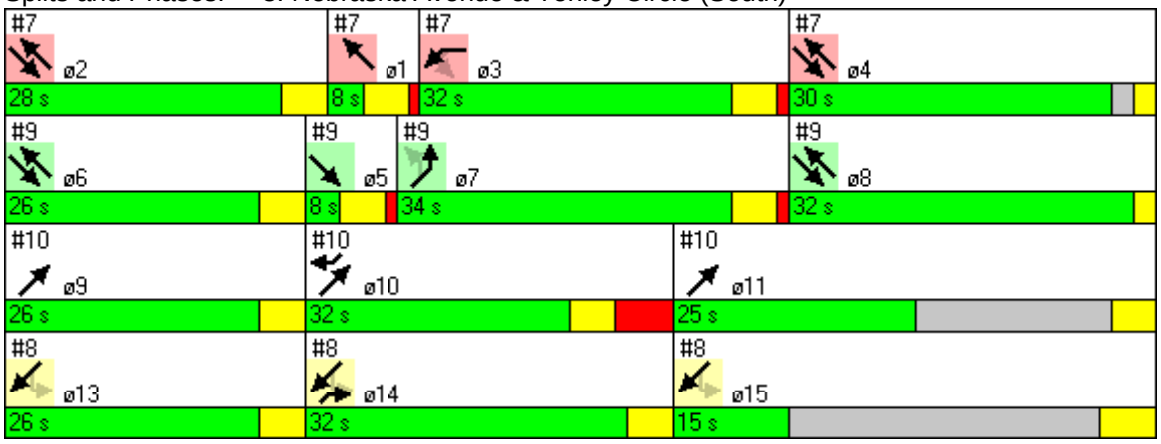
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	515	753								
Turn Type												
Protected Phases			14	13 14 15	1	2	3	4	5	6	7	8
Permitted Phases			14									
Detector Phases			14	13 14 15								
Minimum Initial (s)			22.0		1.0	5.0	17.0	10.0	3.0	1.0	19.0	23.0
Minimum Split (s)			32.0		8.0	26.0	34.0	32.0	8.0	26.0	34.0	32.0
Total Split (s)	0.0	0.0	32.0	73.0	8.0	28.0	32.0	30.0	8.0	26.0	34.0	32.0
Total Split (%)	0%	0%	32%	73%	8%	28%	32%	30%	8%	26%	34%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			28.0	100.0								
Actuated g/C Ratio			0.28	1.00								
v/c Ratio			0.57	0.31								
Uniform Delay, d1			0.0	0.0								
Delay			8.3	0.0								
LOS			A	A								
Approach Delay		8.3		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 2.9 Intersection LOS: A
Intersection Capacity Utilization 74.2% ICU Level of Service C

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	1.0	4.0	5.0	4.0
Minimum Split (s)	26.0	32.0	25.0	26.0	15.0
Total Split (s)	26.0	32.0	25.0	26.0	15.0
Total Split (%)	26%	32%	25%	26%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	0.0	5.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

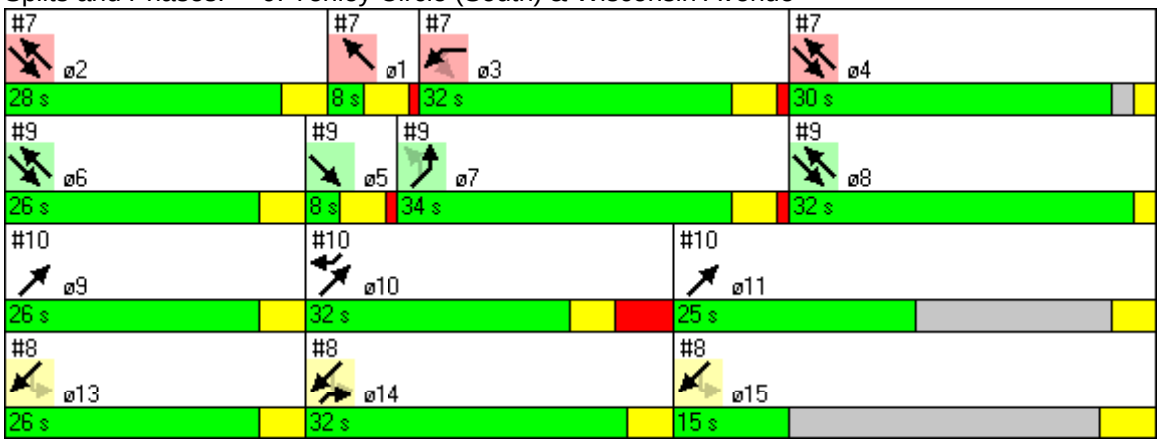
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	2666	1406	441								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				19.0	1.0	5.0	17.0	10.0	3.0	1.0	23.0	5.0
Minimum Split (s)				34.0	8.0	26.0	34.0	32.0	8.0	26.0	32.0	26.0
Total Split (s)	0.0	66.0	58.0	34.0	8.0	28.0	32.0	30.0	8.0	26.0	32.0	26.0
Total Split (%)	0%	66%	58%	34%	8%	28%	32%	30%	8%	26%	32%	26%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		62.0	54.0	30.0								
Actuated g/C Ratio		0.62	0.54	0.30								
v/c Ratio		0.92	0.67	0.78								
Uniform Delay, d1		16.8	16.6	31.9								
Delay		3.6	23.0	32.4								
LOS		A	C	C								
Approach Delay		3.6	23.0	32.4								
Approach LOS		A	C	C								

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 102.0% ICU Level of Service F

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	1.0	4.0	5.0	22.0	4.0
Minimum Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (s)	32.0	25.0	26.0	32.0	15.0
Total Split (%)	32%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	5.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

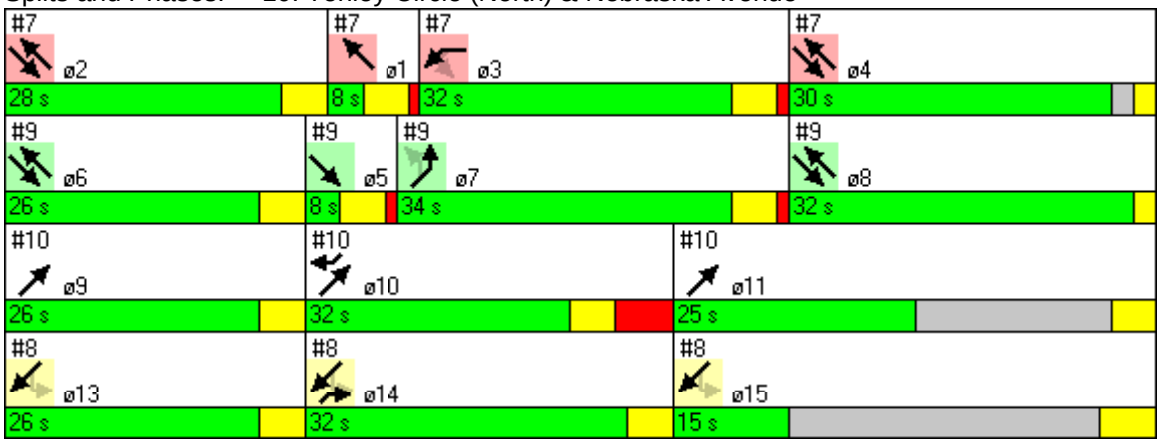
Intersection Summary

Lane Group	EBL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	456	0	768								
Turn Type				custom								
Protected Phases		9 10 11		10	1	2	3	4	5	6	7	8
Permitted Phases				10								
Detector Phases		9 10 11		10								
Minimum Initial (s)				1.0	1.0	5.0	17.0	10.0	3.0	1.0	19.0	23.0
Minimum Split (s)				32.0	8.0	26.0	34.0	32.0	8.0	26.0	34.0	32.0
Total Split (s)	0.0	83.0	0.0	32.0	8.0	28.0	32.0	30.0	8.0	26.0	34.0	32.0
Total Split (%)	0%	83%	0%	32%	8%	28%	32%	30%	8%	26%	34%	32%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)				5.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag				Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		100.0		28.0								
Actuated g/C Ratio		1.00		0.28								
v/c Ratio		0.14		0.40								
Uniform Delay, d1		0.0		0.0								
Delay		0.0		0.0								
LOS		A		A								
Approach Delay		0.0	0.0									
Approach LOS		A	A									

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 0.0 Intersection LOS: A
Intersection Capacity Utilization 35.3% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø9	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	5.0	22.0	4.0
Minimum Split (s)	26.0	25.0	26.0	32.0	15.0
Total Split (s)	26.0	25.0	26.0	32.0	15.0
Total Split (%)	26%	25%	26%	32%	15%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

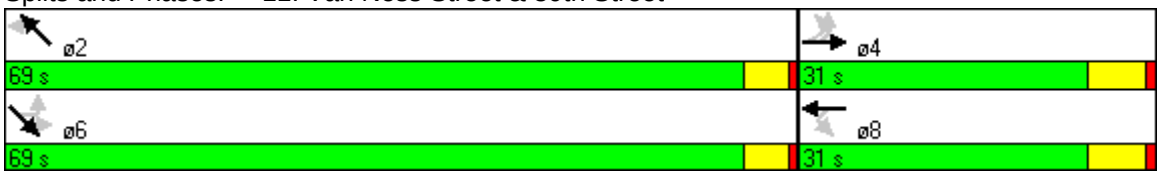
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL2	SEL	SET	NWL	NWT
Lane Configurations											
Volume (vph)	34	3	251	96	204	0	4	50	2384	18	1315
Turn Type	Perm	Perm		Perm			Perm	Perm		Perm	
Protected Phases			4		8				6		2
Permitted Phases	4	4		8			6	6	6	2	2
Detector Phases	4	4	4	8	8		6	6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		69.0	69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	0.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	31%	0%	69%	69%	69%	69%	69%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max	Max
Act Effct Green (s)			27.0	27.0	27.0				65.0		65.0
Actuated g/C Ratio			0.27	0.27	0.27				0.65		0.65
v/c Ratio			1.04	0.73	0.64				1.06		0.79
Uniform Delay, d1			36.5	33.1	32.2				17.5		12.6
Delay			70.2	47.9	33.0				41.0		10.6
LOS			E	D	C				D		B
Approach Delay			70.2		37.0				41.0		10.6
Approach LOS			E		D				D		B

Intersection Summary

Cycle Length: 100
Offset: 90 (90%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 204.1% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street

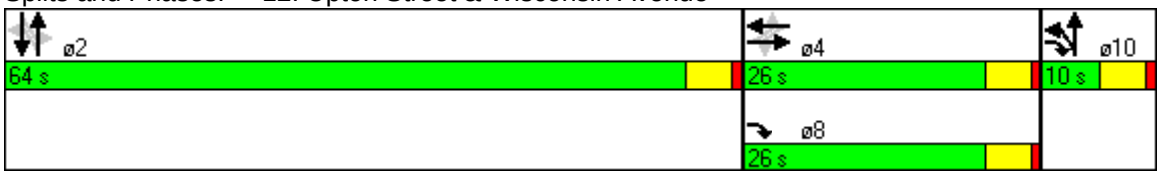


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	ø8
Lane Configurations										
Volume (vph)	11	8	235	16	54	171	1529	19	2226	
Turn Type	Perm		custom	Perm		D.P+P		Perm		
Protected Phases		4	8 10		4	10	2 10		2	8
Permitted Phases	4			4		2		2		
Detector Phases	4	4	8 10	4	4	10	2 10	2	2	
Minimum Initial (s)	10.0	10.0		10.0	10.0	4.0		19.0	19.0	10.0
Minimum Split (s)	15.0	15.0		15.0	15.0	21.0		24.0	24.0	15.0
Total Split (s)	26.0	26.0	36.0	26.0	26.0	10.0	74.0	64.0	64.0	26.0
Total Split (%)	26%	26%	36%	26%	26%	10%	74%	64%	64%	26%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max		Max	Max	Max		Max	Max	Max
Act Effct Green (s)		22.0	32.0		22.0		66.0		60.0	
Actuated g/C Ratio		0.22	0.32		0.22		0.66		0.60	
v/c Ratio		0.06	0.52		0.33		1.62		1.05	
Uniform Delay, d1		30.8	27.2		24.7		13.7		19.9	
Delay		31.2	27.9		25.4		206.6		38.1	
LOS		C	C		C		F		D	
Approach Delay		28.2			25.4		206.6		38.1	
Approach LOS		C			C		F		D	

Intersection Summary

Cycle Length: 100
Offset: 9 (9%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.62
Intersection Signal Delay: 103.1 Intersection LOS: F
Intersection Capacity Utilization 121.0% ICU Level of Service H

Splits and Phases: 12: Upton Street & Wisconsin Avenue

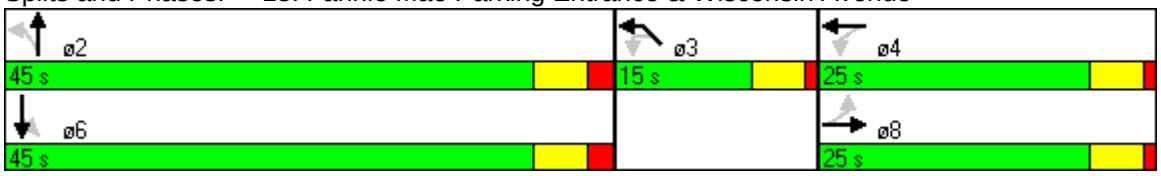


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	22	0	68	0	24	1685	9	2330	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	28.0	28.0	28.0	28.0	7.0
Minimum Split (s)	12.0	12.0	12.0	12.0	34.0	34.0	34.0	34.0	12.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
Act Effct Green (s)		12.5		12.5		48.0		48.0	8.5
Actuated g/C Ratio		0.17		0.17		0.65		0.65	0.11
v/c Ratio		0.18		0.61		1.31		1.09	0.14
Uniform Delay, d1		20.2		16.5		14.3		14.2	34.8
Delay		19.6		15.3		140.8		75.0	31.7
LOS		B		B		F		E	C
Approach Delay		19.6		15.3		140.8		75.0	31.7
Approach LOS		B		B		F		E	C

Intersection Summary

Cycle Length: 85
Actuated Cycle Length: 73.5
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 97.9 Intersection LOS: F
Intersection Capacity Utilization 99.6% ICU Level of Service E

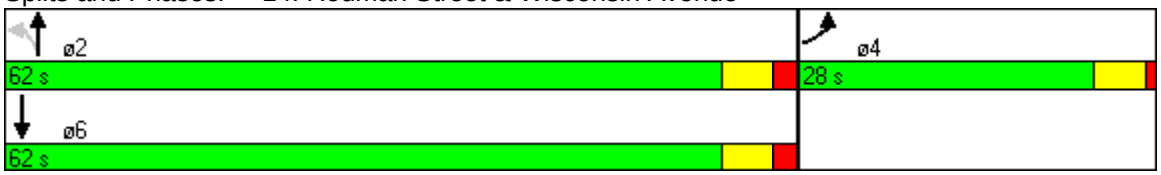
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	92	25	1699	2274
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	12.4		73.2	73.2
Actuated g/C Ratio	0.14		0.81	0.81
v/c Ratio	0.49		0.97	0.66
Uniform Delay, d1	37.5		8.9	4.1
Delay	35.4		33.2	4.9
LOS	D		C	A
Approach Delay	35.4		33.2	4.9
Approach LOS	D		C	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 76 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 85.1%	ICU Level of Service D

Splits and Phases: 14: Rodman Street & Wisconsin Avenue

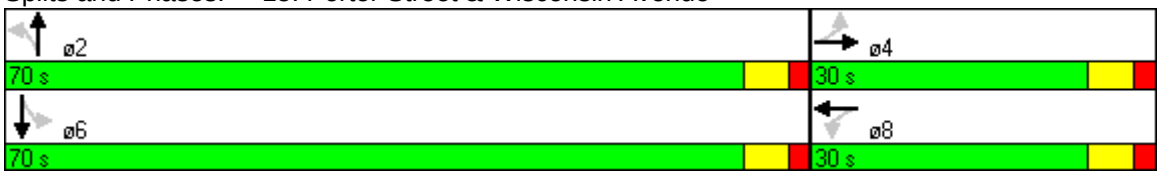


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	71	85	184	48	7	1378	59	2171
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		0.58		1.21		0.76		1.00
Uniform Delay, d1		30.8		37.0		11.5		16.9
Delay		31.8		125.6		16.8		30.4
LOS		C		F		B		C
Approach Delay		31.8		125.6		16.8		30.4
Approach LOS		C		F		B		C

Intersection Summary

Cycle Length: 100
Offset: 43 (43%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Pretimed
Maximum v/c Ratio: 1.21
Intersection Signal Delay: 33.3 Intersection LOS: C
Intersection Capacity Utilization 133.5% ICU Level of Service H

Splits and Phases: 15: Porter Street & Wisconsin Avenue

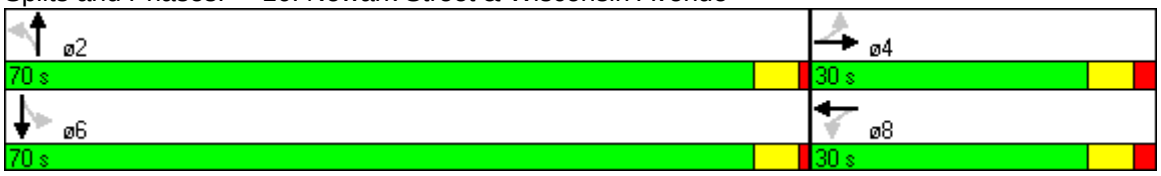


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	166	95	33	33	53	1321	40	2174
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		1.11		0.28		1.08		0.92
Uniform Delay, d1		37.0		25.0		17.0		14.7
Delay		96.6		25.7		54.5		4.5
LOS		F		C		D		A
Approach Delay		96.6		25.7		54.5		4.5
Approach LOS		F		C		D		A

Intersection Summary

Cycle Length: 100
Offset: 66 (66%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 30.6 Intersection LOS: C
Intersection Capacity Utilization 115.5% ICU Level of Service G

Splits and Phases: 16: Newark Street & Wisconsin Avenue

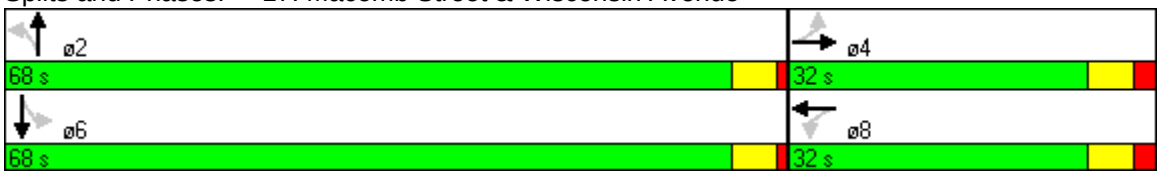


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	50	242	44	100	40	1163	62	2008
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	32.0	32.0	32.0	32.0	18.0	18.0	18.0	18.0
Total Split (s)	32.0	32.0	32.0	32.0	68.0	68.0	68.0	68.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		64.0		64.0
Actuated g/C Ratio		0.28		0.28		0.64		0.64
v/c Ratio		0.89		0.65		0.88		0.94
Uniform Delay, d1		33.8		31.7		14.9		16.1
Delay		47.0		32.9		15.4		5.6
LOS		D		C		B		A
Approach Delay		47.0		32.9		15.4		5.6
Approach LOS		D		C		B		A

Intersection Summary

Cycle Length: 100
Offset: 76 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Pretimed
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 163.0% ICU Level of Service H

Splits and Phases: 17: Macomb Street & Wisconsin Avenue

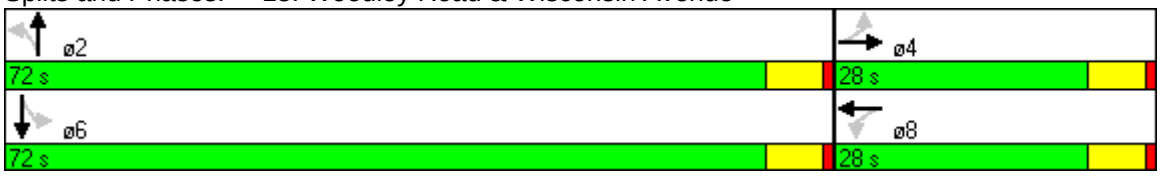


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	41	125	84	82	44	1296	113	2101
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	14.0	14.0	14.0	14.0
Minimum Split (s)	27.0	27.0	27.0	27.0	20.0	20.0	20.0	20.0
Total Split (s)	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0
Total Split (%)	28%	28%	28%	28%	72%	72%	72%	72%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		24.0		24.0		68.0		68.0
Actuated g/C Ratio		0.24		0.24		0.68		0.68
v/c Ratio		0.78		0.95		0.99		1.10
Uniform Delay, d1		35.5		37.4		15.7		16.0
Delay		41.6		69.5		27.5		54.5
LOS		D		E		C		D
Approach Delay		41.6		69.5		27.5		54.5
Approach LOS		D		E		C		D

Intersection Summary

Cycle Length: 100
Offset: 89 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 45.4 Intersection LOS: D
Intersection Capacity Utilization 160.0% ICU Level of Service H

Splits and Phases: 18: Woodley Road & Wisconsin Avenue

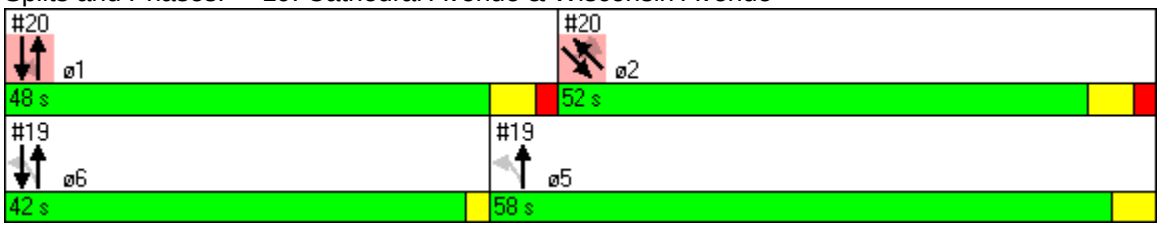


Lane Group	EBL	NBL	NBT	SBT	ø1	ø2	ø5
Lane Configurations							
Volume (vph)	0	1	1307	2211			
Turn Type		Perm					
Protected Phases			6 5	6	1	2	5
Permitted Phases		6 5					
Detector Phases		6 5	6 5	6			
Minimum Initial (s)				1.0	23.0	23.0	1.0
Minimum Split (s)				42.0	48.0	46.0	50.0
Total Split (s)	0.0	100.0	100.0	42.0	48.0	52.0	58.0
Total Split (%)	0%	100%	100%	42%	48%	52%	58%
Yellow Time (s)				2.0	4.0	4.0	4.0
All-Red Time (s)				0.0	2.0	2.0	0.0
Lead/Lag				Lead	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max
Act Effct Green (s)			100.0	38.0			
Actuated g/C Ratio			1.00	0.38			
v/c Ratio			0.45	1.34			
Uniform Delay, d1			0.0	31.0			
Delay			0.0	154.0			
LOS			A	F			
Approach Delay			0.0	154.0			
Approach LOS			A	F			

Intersection Summary

Cycle Length: 100
Offset: 18 (18%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 97.0 Intersection LOS: F
Intersection Capacity Utilization 50.1% ICU Level of Service A

Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue

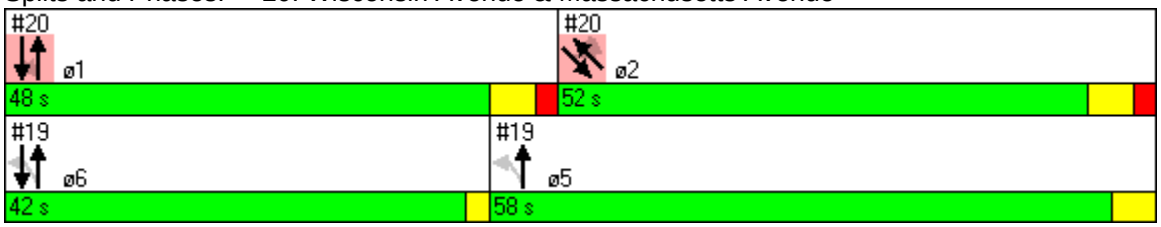


Lane Group	NBT	SBL	SBT	SEL	SET	NWT	NWR	ø5	ø6
Lane Configurations									
Volume (vph)	1007	13	2320	3	1409	627	379		
Turn Type		Perm		Perm			Perm		
Protected Phases	1		1		2	2		5	6
Permitted Phases		1		2			2		
Detector Phases	1	1	1	2	2	2	2		
Minimum Initial (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	1.0	1.0
Minimum Split (s)	48.0	48.0	48.0	46.0	46.0	46.0	46.0	50.0	42.0
Total Split (s)	48.0	48.0	48.0	52.0	52.0	52.0	52.0	58.0	42.0
Total Split (%)	48%	48%	48%	52%	52%	52%	52%	58%	42%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0		44.0		48.0	48.0	48.0		
Actuated g/C Ratio	0.44		0.44		0.48	0.48	0.48		
v/c Ratio	0.76		1.31		1.10	0.41	0.56		
Uniform Delay, d1	23.6		28.0		26.0	16.8	17.4		
Delay	16.5		80.5		71.2	17.0	18.1		
LOS	B		F		E	B	B		
Approach Delay	16.5		80.5		71.2	17.4			
Approach LOS	B		F		E	B			

Intersection Summary

Cycle Length: 100
Offset: 18 (18%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 56.4 Intersection LOS: E
Intersection Capacity Utilization 116.3% ICU Level of Service G

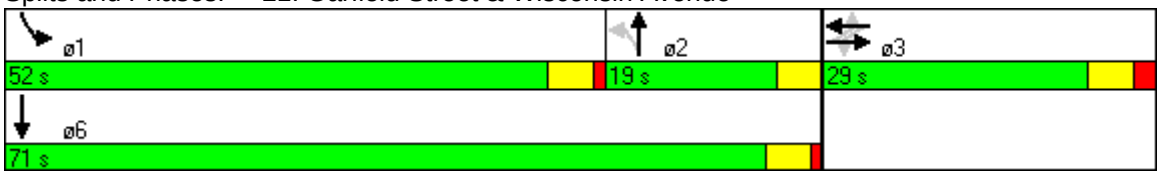
Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	48	235	140	63	945	831	1524
Turn Type	Perm		Perm			Prot	
Protected Phases		3		3	2	1	6
Permitted Phases	3		3				
Detector Phases	3	3	3	3	2	1	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	25.0	25.0
Minimum Split (s)	29.0	29.0	29.0	29.0	19.0	45.0	70.0
Total Split (s)	29.0	29.0	29.0	29.0	19.0	52.0	71.0
Total Split (%)	29%	29%	29%	29%	19%	52%	71%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0	1.0
Lead/Lag					Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		25.0		25.0	15.0	48.0	67.0
Actuated g/C Ratio		0.25		0.25	0.15	0.48	0.67
v/c Ratio		0.79		1.26	1.64	1.14	0.76
Uniform Delay, d1		34.4		36.9	42.5	26.0	11.1
Delay		39.6		142.8	219.7	68.1	23.5
LOS		D		F	F	E	C
Approach Delay		39.6		142.8	219.7		39.1
Approach LOS		D		F	F		D

Intersection Summary	
Cycle Length: 100	
Offset: 7 (7%), Referenced to phase 1:SBL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 1.64	
Intersection Signal Delay: 93.1	Intersection LOS: F
Intersection Capacity Utilization 118.2%	ICU Level of Service G

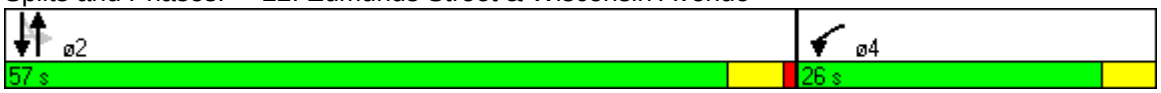
Splits and Phases: 21: Garfield Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	86	1043	1691
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	11.0	39.0	39.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	10.5	67.5	67.5
Actuated g/C Ratio	0.13	0.81	0.81
v/c Ratio	0.54	0.43	0.46
Uniform Delay, d1	30.4	2.7	2.8
Delay	28.7	3.3	3.3
LOS	C	A	A
Approach Delay	28.7	3.3	3.3
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 1 (1%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 4.3	Intersection LOS: A
Intersection Capacity Utilization 50.1%	ICU Level of Service A

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

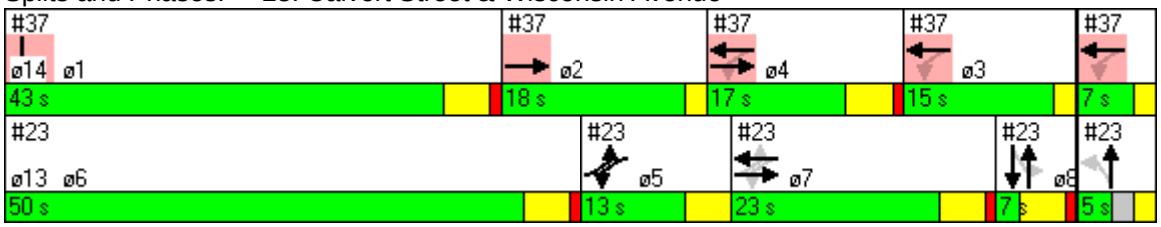


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø3	ø4
Lane Configurations												
Volume (vph)	204	161	61	36	87	889	25	1362				
Turn Type	pm+pt		pm+pt		custom		Perm					
Protected Phases	5	7	5	7		6 8 13		6 8	1	2	3	4
Permitted Phases	7		7		6 13		6 8					
Detector Phases	5	7	5	7	6 13	6 8 13	6 8	6 8				
Minimum Initial (s)	6.0	6.0	6.0	6.0					4.0	4.0	4.0	6.0
Minimum Split (s)	11.0	14.0	11.0	14.0					33.0	18.0	15.0	17.0
Total Split (s)	13.0	23.0	13.0	23.0	55.0	62.0	57.0	57.0	43.0	18.0	15.0	17.0
Total Split (%)	13%	23%	13%	23%	55%	62%	57%	57%	43%	18%	15%	17%
Yellow Time (s)	4.0	4.0	4.0	4.0					4.0	2.0	2.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0					1.0	0.0	0.0	1.0
Lead/Lag	Lag	Lead	Lag	Lead					Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max					Max	Max	Max	Max
Act Effct Green (s)	28.0	19.0	28.0	19.0		60.0		49.0				
Actuated g/C Ratio	0.28	0.19	0.28	0.19		0.60		0.49				
v/c Ratio	0.55	0.92	0.30	0.12		0.96		1.39				
Uniform Delay, d1	27.0	35.3	24.1	33.5		18.8		24.8				
Delay	4.5	40.2	24.6	34.0		30.5		161.1				
LOS	A	D	C	C		C		F				
Approach Delay		25.2		28.1		30.5		161.1				
Approach LOS		C		C		C		F				

Intersection Summary

Cycle Length: 100
Offset: 93 (93%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.39
Intersection Signal Delay: 88.9 Intersection LOS: F
Intersection Capacity Utilization 112.8% ICU Level of Service G

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



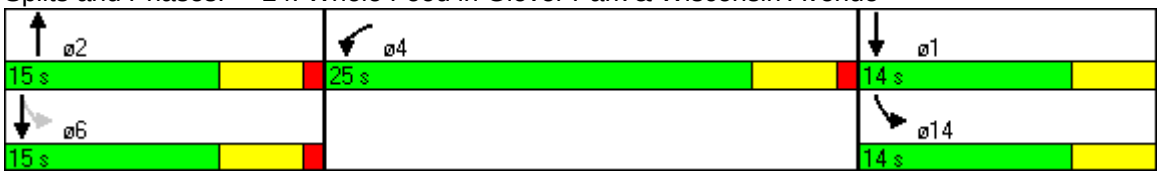
Lane Group	ø6	ø8	ø13	ø14
Lane Configurations				
Volume (vph)				
Turn Type				
Protected Phases	6	8	13	14
Permitted Phases				
Detector Phases				
Minimum Initial (s)	6.0	2.0	3.0	2.0
Minimum Split (s)	48.0	9.0	7.0	7.0
Total Split (s)	50.0	7.0	5.0	7.0
Total Split (%)	50%	7%	5%	7%
Yellow Time (s)	4.0	4.0	2.0	2.0
All-Red Time (s)	1.0	1.0	0.0	0.0
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Uniform Delay, d1				
Delay				
LOS				
Approach Delay				
Approach LOS				

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	12	1053	33	1499		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	12.0	12.0	10.0		10.0	12.0
Total Split (s)	25.0	15.0	14.0	29.0	14.0	15.0
Total Split (%)	46%	28%	26%	54%	26%	28%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Coord	None		None	Coord
Act Effct Green (s)	8.1	33.5		43.5		
Actuated g/C Ratio	0.15	0.62		0.81		
v/c Ratio	0.11	0.64		0.83		
Uniform Delay, d1	12.9	9.1		3.6		
Delay	14.7	11.9		11.0		
LOS	B	B		B		
Approach Delay	14.7	11.9		11.0		
Approach LOS	B	B		B		

Intersection Summary	
Cycle Length: 54	
Actuated Cycle Length: 54	
Offset: 39 (72%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 83.9%	ICU Level of Service D

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	26	8	1068	1506
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	40.0	40.0	40.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	8.8		66.4	66.4
Actuated g/C Ratio	0.11		0.83	0.83
v/c Ratio	0.38		0.56	0.67
Uniform Delay, d1	16.8		2.7	3.2
Delay	19.4		3.2	4.0
LOS	B		A	A
Approach Delay	19.4		3.2	4.0
Approach LOS	B		A	A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 62 (78%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 4.1	Intersection LOS: A
Intersection Capacity Utilization 69.5%	ICU Level of Service B

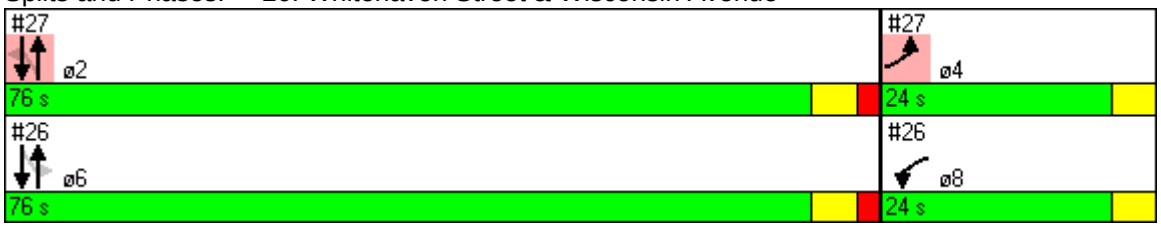
Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	48	1158	70	1472		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (%)	24%	76%	76%	76%	76%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	72.0		72.0		
Actuated g/C Ratio	0.20	0.72		0.72		
v/c Ratio	0.20	0.63		0.94		
Uniform Delay, d1	25.2	6.9		12.1		
Delay	26.7	4.1		18.4		
LOS	C	A		B		
Approach Delay	26.7	4.1		18.4		
Approach LOS	C	A		B		

Intersection Summary

Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 12.2 Intersection LOS: B
Intersection Capacity Utilization 113.2% ICU Level of Service G

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

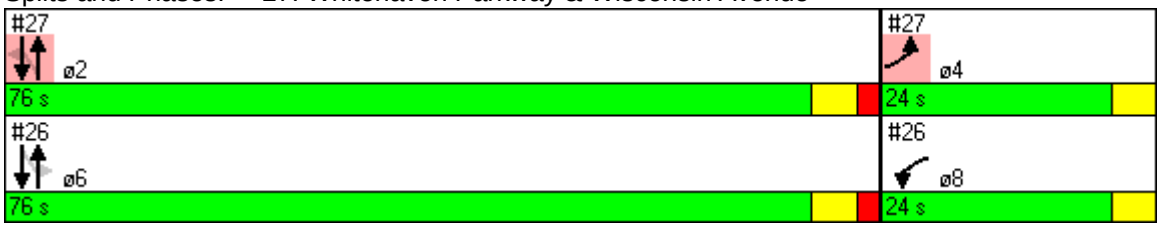


Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	224	20	1158	1451		
Turn Type		Perm				
Protected Phases	4		2	2	6	8
Permitted Phases		2				
Detector Phases	4	2	2	2		
Minimum Initial (s)	14.0	16.0	16.0	16.0	16.0	15.0
Minimum Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (s)	24.0	76.0	76.0	76.0	76.0	24.0
Total Split (%)	24%	76%	76%	76%	76%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0		72.0	72.0		
Actuated g/C Ratio	0.20		0.72	0.72		
v/c Ratio	1.17		0.66	0.64		
Uniform Delay, d1	36.2		7.4	7.3		
Delay	111.8		7.7	1.3		
LOS	F		A	A		
Approach Delay	111.8		7.7	1.3		
Approach LOS	F		A	A		

Intersection Summary

Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 75.5% ICU Level of Service C

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

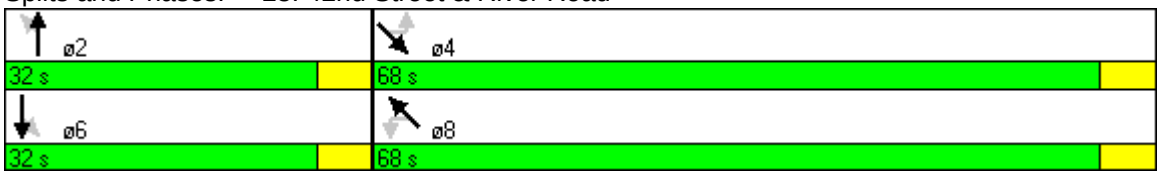


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	47	182	2	560	41	111	11	197
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.0	32.0	32.0	32.0	21.0	21.0	21.0	21.0
Total Split (s)	32.0	32.0	32.0	32.0	68.0	68.0	68.0	68.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%	68%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		64.0		64.0
Actuated g/C Ratio		0.28		0.28		0.64		0.64
v/c Ratio		1.20		1.68		0.17		0.19
Uniform Delay, d1		36.0		36.0		7.3		7.4
Delay		123.9		223.8		14.6		7.5
LOS		F		F		B		A
Approach Delay		123.9		223.8		14.6		7.5
Approach LOS		F		F		B		A

Intersection Summary

Cycle Length: 100
Offset: 9 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.68
Intersection Signal Delay: 145.8 Intersection LOS: F
Intersection Capacity Utilization 103.7% ICU Level of Service F

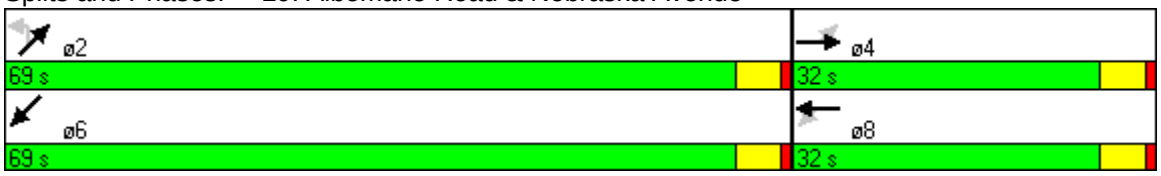
Splits and Phases: 28: 42nd Street & River Road



Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	63	289	51	234	2	426	707
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	32.0	32.0	32.0	32.0	69.0	69.0	69.0
Total Split (s)	32.0	32.0	32.0	32.0	69.0	69.0	69.0
Total Split (%)	32%	32%	32%	32%	68%	68%	68%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	28.0	28.0	28.0	28.0		65.0	65.0
Actuated g/C Ratio	0.28	0.28	0.28	0.28		0.64	0.64
v/c Ratio	0.36	0.65	0.39	0.54		0.26	0.49
Uniform Delay, d1	29.3	32.2	29.5	31.0		7.7	9.3
Delay	30.7	32.9	31.5	31.7		7.8	9.5
LOS	C	C	C	C		A	A
Approach Delay		32.5		31.7		7.8	9.5
Approach LOS		C		C		A	A

Intersection Summary	
Cycle Length: 101	
Offset: 27 (27%), Referenced to phase 2:NETL, Start of Green	
Natural Cycle: 105	
Control Type: Pretimed	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 101.7%	ICU Level of Service F

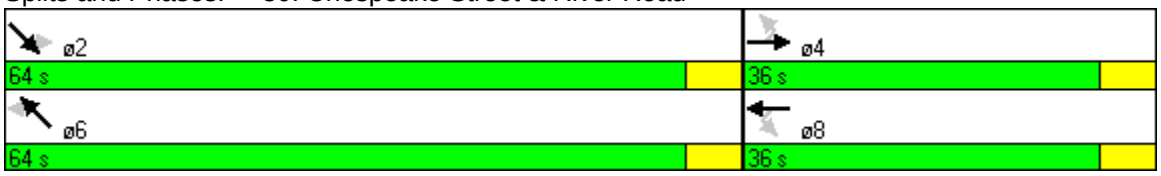
Splits and Phases: 29: Albemarle Road & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	16	45	2	38	56	622	6	216
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	36.0	36.0	36.0	36.0	27.0	27.0	64.0	64.0
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0
Total Split (%)	36%	36%	36%	36%	64%	64%	64%	64%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		32.0		32.0		60.0		60.0
Actuated g/C Ratio		0.32		0.32		0.60		0.60
v/c Ratio		0.14		0.14		0.89		0.23
Uniform Delay, d1		24.2		13.0		16.8		9.3
Delay		24.6		14.8		22.2		13.5
LOS		C		B		C		B
Approach Delay		24.6		14.8		22.2		13.5
Approach LOS		C		B		C		B

Intersection Summary	
Cycle Length: 100	
Offset: 84 (84%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 20.3	Intersection LOS: C
Intersection Capacity Utilization 136.0%	ICU Level of Service H

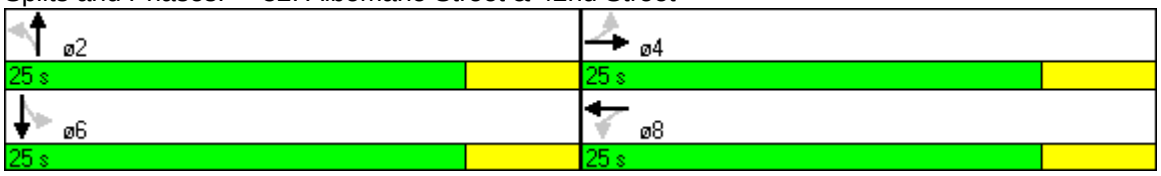
Splits and Phases: 30: Chespeake Street & River Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	195	19	92	15	171	131	185
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.17		0.12		0.35		0.61
Uniform Delay, d1		9.0		8.8		9.8		11.3
Delay		9.2		7.5		10.3		12.1
LOS		A		A		B		B
Approach Delay		9.2		7.5		10.3		12.1
Approach LOS		A		A		B		B

Intersection Summary	
Cycle Length: 50	
Offset: 8 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Pretimed	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 63.8%	ICU Level of Service B

Splits and Phases: 32: Albemarle Street & 42nd Street

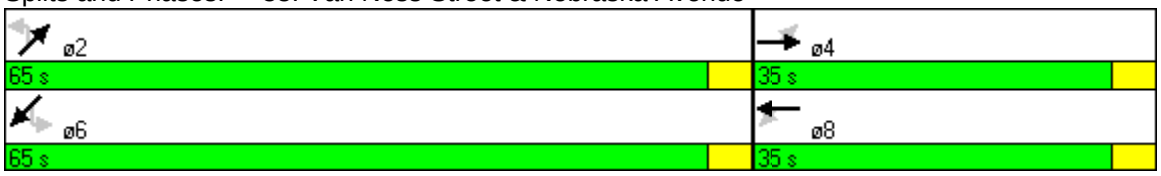


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	10	422	107	214	1	498	3	771
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0	31.0		61.0		61.0
Actuated g/C Ratio		0.31	0.31	0.31		0.61		0.61
v/c Ratio		0.86	0.88	0.42		0.43		0.42
Uniform Delay, d1		32.3	32.7	27.2		8.3		10.2
Delay		39.3	60.2	31.1		8.4		10.3
LOS		D	E	C		A		B
Approach Delay		39.3		40.7		8.4		10.3
Approach LOS		D		D		A		B

Intersection Summary

Cycle Length: 100
Offset: 65 (65%), Referenced to phase 2:NETL and 6:SWTL, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 75.0% ICU Level of Service C

Splits and Phases: 33: Van Ness Street & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	78	387	19	295	9	211	25	362
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	24.0	24.0	24.0	24.0
Total Split (s)	21.0	21.0	21.0	21.0	29.0	29.0	29.0	29.0
Total Split (%)	42%	42%	42%	42%	58%	58%	58%	58%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		17.0		17.0		25.0		25.0
Actuated g/C Ratio		0.34		0.34		0.50		0.50
v/c Ratio		1.01		0.58		0.32		0.59
Uniform Delay, d1		16.3		13.5		6.7		8.2
Delay		53.1		14.2		7.0		8.8
LOS		D		B		A		A
Approach Delay		53.1		14.2		7.0		8.8
Approach LOS		D		B		A		A

Intersection Summary

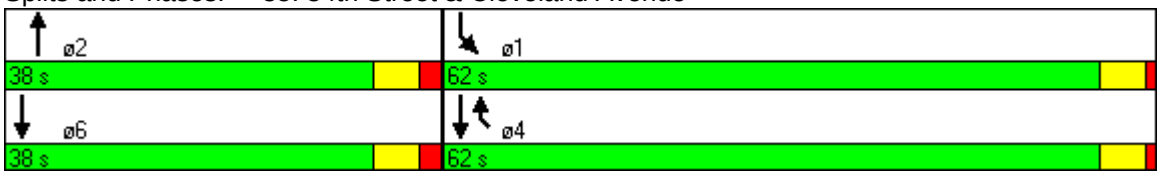
Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 110.3% ICU Level of Service G

Splits and Phases: 34: Garfield Street & 34th Street

Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	277	529	527	0	191	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	21.0			21.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	None			None	Max
Act Effct Green (s)	34.6	29.6	72.3		29.6	
Actuated g/C Ratio	0.48	0.41	1.00		0.41	
v/c Ratio	0.35	0.82	0.32		0.32	
Uniform Delay, d1	11.8	18.8	0.0		14.4	
Delay	14.5	18.5	0.0		13.8	
LOS	B	B	A		B	
Approach Delay	14.5		9.2	13.8		
Approach LOS	B		A	B		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 72.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

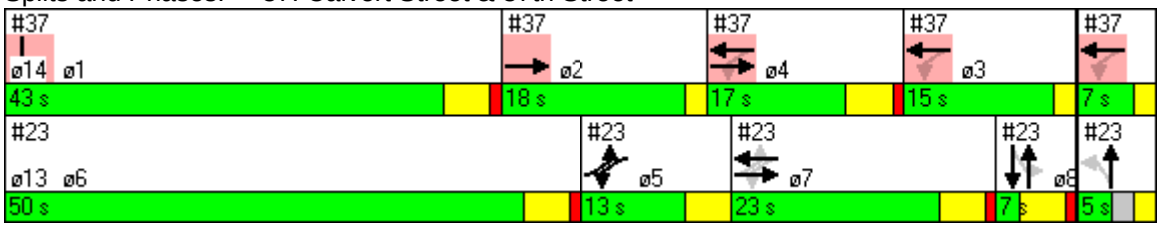


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	463	17	106	0	340							
Turn Type		Perm										
Protected Phases	2 4		4 3 14		1	2	3	4	5	6	7	8
Permitted Phases		4 3 14										
Detector Phases	2 4	4 3 14	4 3 14		1							
Minimum Initial (s)					4.0	4.0	4.0	6.0	6.0	6.0	6.0	2.0
Minimum Split (s)					33.0	18.0	15.0	17.0	11.0	48.0	14.0	9.0
Total Split (s)	35.0	39.0	39.0	0.0	43.0	18.0	15.0	17.0	13.0	50.0	23.0	7.0
Total Split (%)	35%	39%	39%	0%	43%	18%	15%	17%	13%	50%	23%	7%
Yellow Time (s)					4.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)					1.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	31.0		35.0		39.0							
Actuated g/C Ratio	0.31		0.35		0.39							
v/c Ratio	0.53		0.22		0.56							
Uniform Delay, d1	28.3		22.9		23.3							
Delay	28.6		27.2		23.9							
LOS	C		C		C							
Approach Delay	28.6		27.2		23.9							
Approach LOS	C		C		C							

Intersection Summary

Cycle Length: 100
Offset: 93 (93%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.39
Intersection Signal Delay: 26.6 Intersection LOS: C
Intersection Capacity Utilization 44.8% ICU Level of Service A

Splits and Phases: 37: Calvert Street & 37th Street



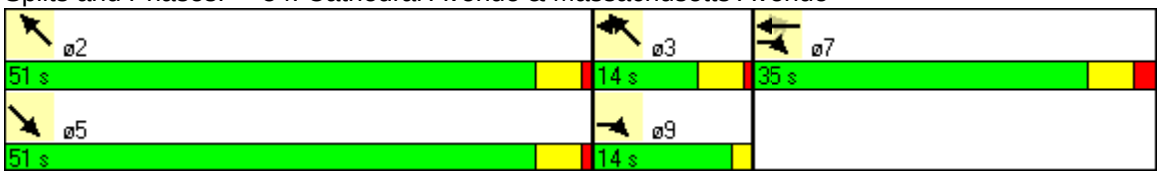
Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	5.0	7.0
Total Split (%)	5%	7%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø2	ø3	ø9
Lane Configurations							
Volume (vph)	0	0	0	0			
Turn Type							
Protected Phases		7	5	2 3	2	3	9
Permitted Phases							
Detector Phases		7	5	2 3			
Minimum Initial (s)		21.0	17.0		17.0	5.0	8.0
Minimum Split (s)		27.0	22.0		22.0	10.0	10.0
Total Split (s)	0.0	35.0	51.0	65.0	51.0	14.0	14.0
Total Split (%)	0%	35%	51%	65%	51%	14%	14%
Yellow Time (s)		4.0	4.0		4.0	4.0	2.0
All-Red Time (s)		2.0	1.0		1.0	1.0	0.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode		Max	Max		Max	Max	Max
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Uniform Delay, d1							
Delay							
LOS							
Approach Delay	0.0	0.0	0.0	0.0			
Approach LOS	A	A	A	A			

Intersection Summary	
Cycle Length: 100	
Offset: 59 (59%), Referenced to phase 2:NWT and 5:SET, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description	
East/West Street: *Newark Street*	North/South Street: *34th Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	14	593	53	13	665	47
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	15	644	57	14	722	51
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7	22	32	23	17	52
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	7	23	34	24	18	56
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	15	14		64			98	
C (m) (vph)	851	905		173			160	
v/c	0.02	0.02		0.37			0.61	
95% queue length	0.05	0.05		1.58			3.32	
Control Delay	9.3	9.0		37.5			57.8	
LOS	A	A		E			F	
Approach Delay	--	--	37.5			57.8		
Approach LOS	--	--	E			F		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description

East/West Street: *Massachussets* | North/South Street: *38th Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	9	1227	0	0	602	53
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	9	1333	0	0	654	57
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				11	0	36
Peak-Hour Factor, PHF				0.92	0.92	0.92
Hourly Flow Rate, HFR	0	0	0	11	0	39
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT					LTR	
v (vph)	9	0					50	
C (m) (vph)	898	524					360	
v/c	0.01	0.00					0.14	
95% queue length	0.03	0.00					0.48	
Control Delay	9.0	11.9					16.6	
LOS	A	B					C	
Approach Delay	--	--				16.6		
Approach LOS	--	--				C		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	AM Peak

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	165	343	9	20	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	279	0	37	41	262	23
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	551		30		343		328	23
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.3		0.9		0.1	0.0
Prop. Right-Turns	0.7		0.0		0.1		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.83		5.83		5.83		5.83	5.83

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.49		0.03		0.30		0.29	0.02
hd, final value	5.83		5.83		5.83		5.83	5.83
x, final value	0.89		0.07		0.65		0.65	0.04
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	3.8		3.8		3.8		3.8	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	608		280		503		479	273
Delay	38.79		11.39		21.59		22.42	9.52
LOS	E		B		C		C	A
Approach: Delay	38.79		11.39		21.59		21.57	
LOS	E		B		C		C	
Intersection Delay	28.78							
Intersection LOS	D							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*AM Peak*		

Project Description

East/West Street: *Albemarle Street*	North/South Street: *Fort Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*41*	*234*	*17*	*47*	*165*	*82*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*44*	*254*	*18*	*51*	*179*	*89*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*23*	*96*	*16*	*104*	*74*	*56*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*24*	*104*	*17*	*113*	*80*	*60*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*44*	*51*		*145*			*253*	
C (m) (vph)	*1307*	*1303*		*422*			*427*	
v/c	*0.03*	*0.04*		*0.34*			*0.59*	
95% queue length	*0.10*	*0.12*		*1.50*			*3.72*	
Control Delay	*7.9*	*7.9*		*17.9*			*25.0-*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*17.9*			*25.0-*		
Approach LOS	--	--	*C*			*C*		

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INTERSECTION CAPACITY ANALYSIS

SCENARIO 4

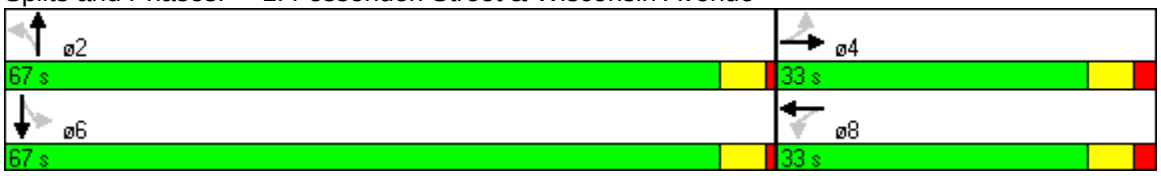
PM PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	34	181	187	167	11	2483	43	1873
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	11.0	11.0	11.0
Minimum Split (s)	27.0	27.0	27.0	27.0	55.0	55.0	55.0	55.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0	29.0	29.0		63.0		63.0
Actuated g/C Ratio		0.29	0.29	0.29		0.63		0.63
v/c Ratio		0.63	0.89	0.57		1.10		1.59
Uniform Delay, d1		29.6	33.9	29.9		18.5		18.4
Delay		30.4	58.8	30.6		59.9		202.0
LOS		C	E	C		E		F
Approach Delay		30.4		42.2		59.9		202.0
Approach LOS		C		D		E		F

Intersection Summary

Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 1.59
Intersection Signal Delay: 110.3 Intersection LOS: F
Intersection Capacity Utilization 138.7% ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

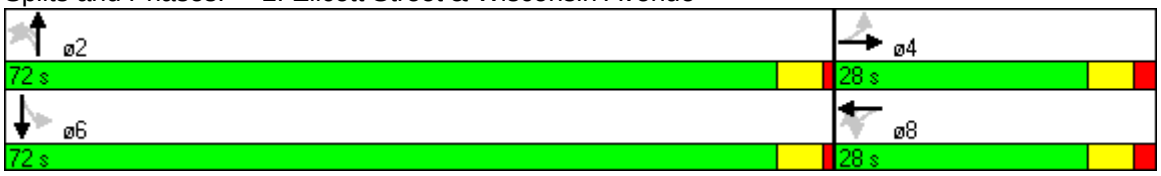


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	77	26	12	11	25	18	31	2064	9	1738	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0	72.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0	72.0	0.0
Total Split (%)	28%	28%	28%	28%	28%	72%	72%	72%	72%	72%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		24.0			24.0			68.0		68.0	
Actuated g/C Ratio		0.24			0.24			0.68		0.68	
v/c Ratio		0.46			0.17			1.02		1.08	
Uniform Delay, d1		31.4			24.4			16.0		16.0	
Delay		32.2			25.7			40.2		21.5	
LOS		C			C			D		C	
Approach Delay		32.2			25.7			40.2		21.5	
Approach LOS		C			C			D		C	

Intersection Summary

Cycle Length: 100
Offset: 29 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 91.2% ICU Level of Service E

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	54	1936	20	1799
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.19	0.66		1.13
Uniform Delay, d1	23.3	12.8		19.5
Delay	23.9	17.5		59.4
LOS	C	B		E
Approach Delay	23.9	17.5		59.4
Approach LOS	C	B		E

Intersection Summary	
Cycle Length: 100	
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 120	
Control Type: Pretimed	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 88.5%	ICU Level of Service D

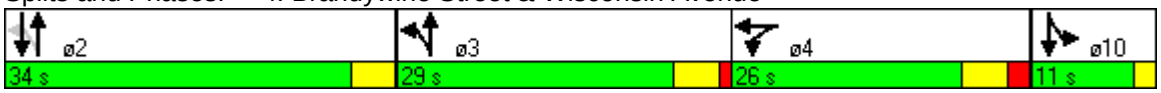
Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	71	366	2015	149	1814	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		9.0		10.0
Minimum Split (s)		26.0	27.0		11.0		34.0
Total Split (s)	0.0	26.0	29.0	63.0	11.0	45.0	34.0
Total Split (%)	0%	26%	29%	63%	11%	45%	34%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		22.0	55.0	59.0	7.0	41.0	
Actuated g/C Ratio		0.22	0.55	0.59	0.07	0.41	
v/c Ratio		0.46	0.83	0.82	1.45	1.53	
Uniform Delay, d1		33.8	30.2	16.3	46.5	29.5	
Delay		24.6	37.0	16.6	188.0	194.9	
LOS		C	D	B	F	F	
Approach Delay		24.6		19.7		194.4	
Approach LOS		C		B		F	

Intersection Summary

Cycle Length: 100
Offset: 96 (96%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.53
Intersection Signal Delay: 95.7 Intersection LOS: F
Intersection Capacity Utilization 101.7% ICU Level of Service F

Splits and Phases: 4: Brandywine Street & Wisconsin Avenue

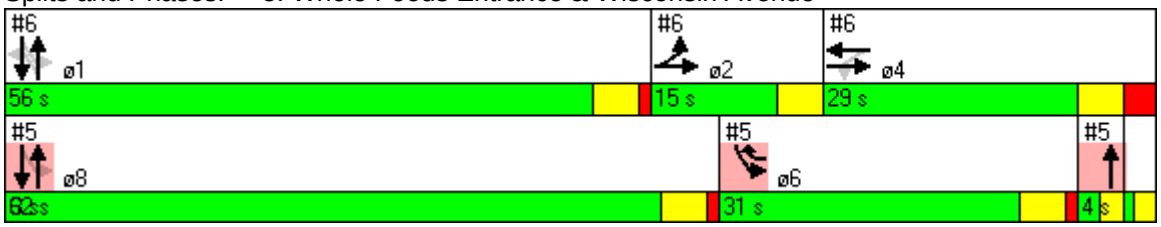


Lane Group	WBL	WBR	NBT	SBL	SBT	ø1	ø2	ø4	ø5	ø7	ø8
Lane Configurations											
Volume (vph)	0	159	2228	135	1725						
Turn Type		custom		pm+pt							
Protected Phases		6	5 7 8	6	5 8	1	2	4	5	7	8
Permitted Phases		6		5 8							
Detector Phases		6	5 7 8	6	5 8						
Minimum Initial (s)		22.0		22.0		21.0	9.0	19.0	23.0	2.0	1.0
Minimum Split (s)		27.0		27.0		56.0	13.0	29.0	62.0	4.0	3.0
Total Split (s)	0.0	31.0	69.0	31.0	65.0	56.0	15.0	29.0	62.0	4.0	3.0
Total Split (%)	0%	31%	69%	31%	65%	56%	15%	29%	62%	4%	3%
Yellow Time (s)		4.0		4.0		4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)		1.0		1.0		1.0	0.0	3.0	1.0	0.0	0.0
Lead/Lag		Lag		Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode		Max		Max		Max	Max	Max	Max	Max	Max
Act Effct Green (s)		27.0	100.0		99.0						
Actuated g/C Ratio		0.27	1.00		0.99						
v/c Ratio		0.38	0.51		0.98						
Uniform Delay, d1		24.6	0.0		6.6						
Delay		25.2	0.3		17.5						
LOS		C	A		B						
Approach Delay	25.2		0.3		17.5						
Approach LOS	C		A		B						

Intersection Summary

Cycle Length: 100
Offset: 84 (84%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.81
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 128.4% ICU Level of Service H

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

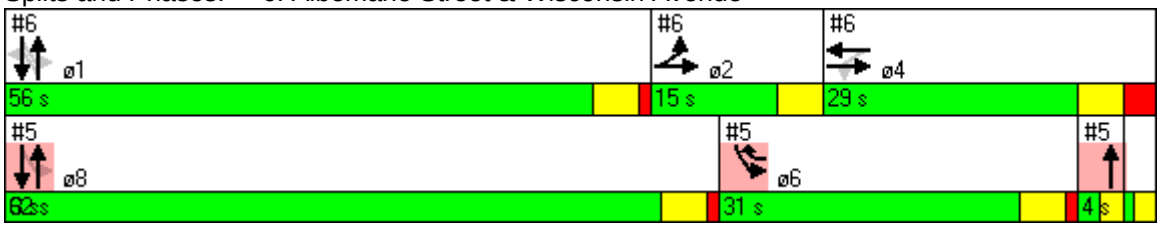


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	63	141	62	134	3	2284	23	1986				
Turn Type	Prot		Perm		Perm		Perm					
Protected Phases	2	2 4		4		1		1	5	6	7	8
Permitted Phases			4		1		1					
Detector Phases	2	2 4	4	4	1	1	1	1				
Minimum Initial (s)	9.0		19.0	19.0	21.0	21.0	21.0	21.0	23.0	22.0	2.0	1.0
Minimum Split (s)	13.0		29.0	29.0	56.0	56.0	56.0	56.0	62.0	27.0	4.0	3.0
Total Split (s)	15.0	44.0	29.0	29.0	56.0	56.0	56.0	56.0	62.0	31.0	4.0	3.0
Total Split (%)	15%	44%	29%	29%	56%	56%	56%	56%	62%	31%	4%	3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	40.0		25.0		52.0		52.0				
Actuated g/C Ratio	0.11	0.40		0.25		0.52		0.52				
v/c Ratio	0.37	0.34		0.92		1.18		1.81				
Uniform Delay, d1	41.3	20.8		33.0		23.9		23.9				
Delay	40.7	20.6		49.2		96.8		244.0				
LOS	D	C		D		F		F				
Approach Delay		25.4		49.2		96.8		244.0				
Approach LOS		C		D		F		F				

Intersection Summary

Cycle Length: 100
Offset: 84 (84%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.81
Intersection Signal Delay: 150.6 Intersection LOS: F
Intersection Capacity Utilization 123.6% ICU Level of Service H

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

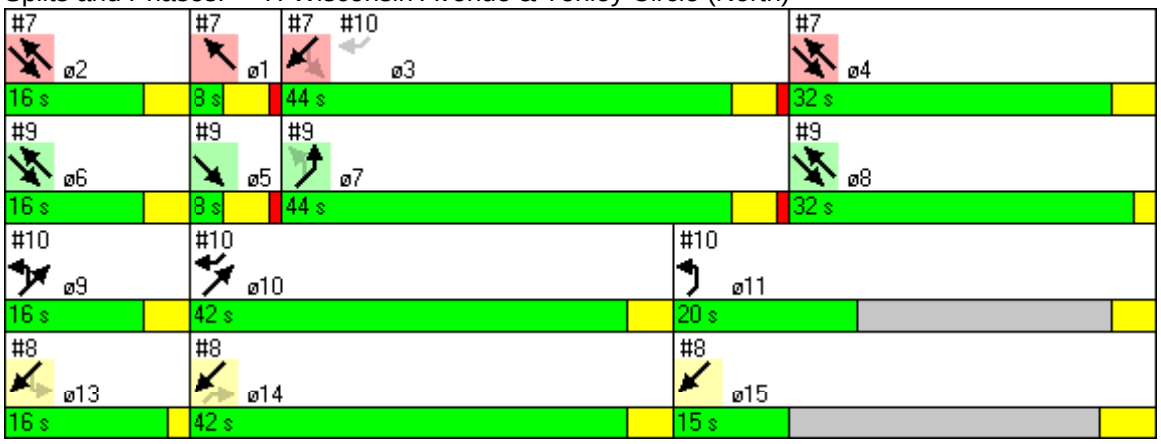


Lane Group	SET	NWT	NET	SWT	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	1684	2258	0	764								
Turn Type												
Protected Phases	2 4	2 4 1		3	1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	2 4	2 4 1		3								
Minimum Initial (s)				22.0	3.0	5.0	10.0	2.0	2.0	23.0	2.0	5.0
Minimum Split (s)				44.0	8.0	16.0	32.0	8.0	16.0	44.0	32.0	16.0
Total Split (s)	48.0	56.0	0.0	44.0	8.0	16.0	32.0	8.0	16.0	44.0	32.0	16.0
Total Split (%)	48%	56%	0%	44%	8%	16%	32%	8%	16%	44%	32%	16%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0	52.0		40.0								
Actuated g/C Ratio	0.44	0.52		0.40								
v/c Ratio	1.03	0.99		0.84								
Uniform Delay, d1	28.0	23.8		27.2								
Delay	50.9	8.1		29.0								
LOS	D	A		C								
Approach Delay	50.9	8.1		29.0								
Approach LOS	D	A		C								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 87.9% ICU Level of Service D

Splits and Phases: 7: Wisconsin Avenue & Tenley Circle (North)



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (%)	42%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

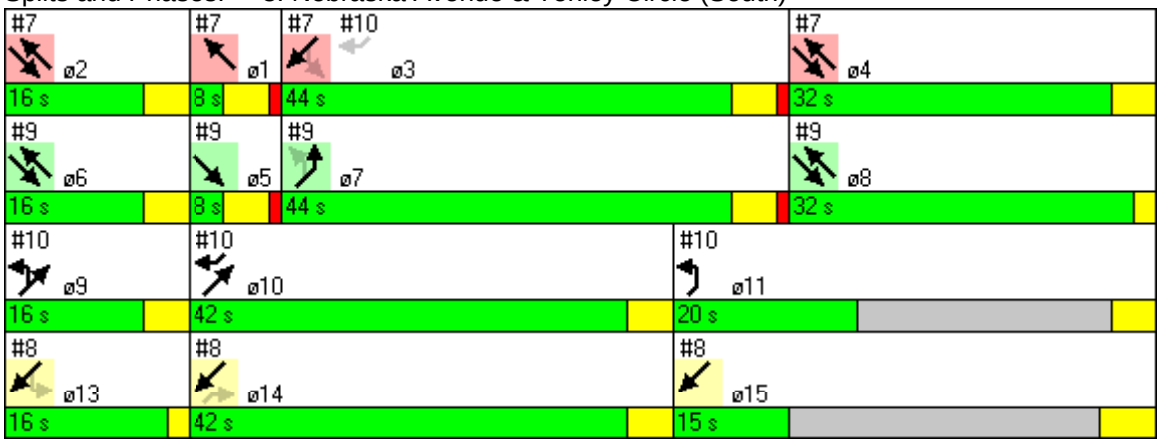
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	789	589								
Turn Type												
Protected Phases			13	14 15	1	2	3	4	5	6	7	8
Permitted Phases			14	13								
Detector Phases			14	13 14 15								
Minimum Initial (s)			4.0		3.0	5.0	22.0	10.0	2.0	2.0	23.0	2.0
Minimum Split (s)			42.0		8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (s)	0.0	0.0	42.0	73.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (%)	0%	0%	42%	73%	8%	16%	44%	32%	8%	16%	44%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			38.0	100.0								
Actuated g/C Ratio			0.38	1.00								
v/c Ratio			0.46	0.25								
Uniform Delay, d1			0.0	0.0								
Delay			0.0	0.0								
LOS			A	A								
Approach Delay		0.0		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 0.0 Intersection LOS: A
Intersection Capacity Utilization 63.2% ICU Level of Service B

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	5.0	4.0	1.0	4.0
Minimum Split (s)	16.0	42.0	20.0	16.0	15.0
Total Split (s)	16.0	42.0	20.0	16.0	15.0
Total Split (%)	16%	42%	20%	16%	15%
Yellow Time (s)	4.0	4.0	4.0	2.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

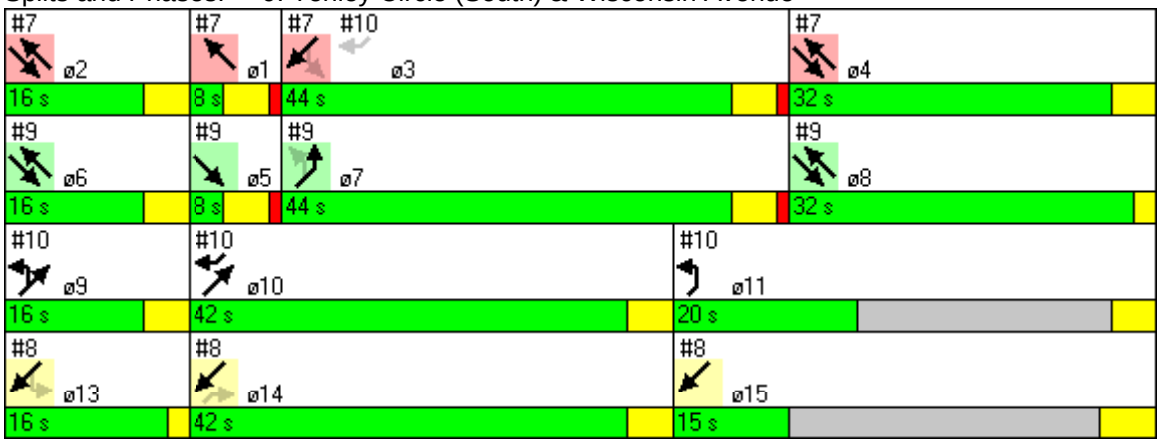
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	1882	1962	706								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				23.0	3.0	5.0	22.0	10.0	2.0	2.0	2.0	5.0
Minimum Split (s)				44.0	8.0	16.0	44.0	32.0	8.0	16.0	32.0	16.0
Total Split (s)	0.0	56.0	48.0	44.0	8.0	16.0	44.0	32.0	8.0	16.0	32.0	16.0
Total Split (%)	0%	56%	48%	44%	8%	16%	44%	32%	8%	16%	32%	16%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		52.0	44.0	40.0								
Actuated g/C Ratio		0.52	0.44	0.40								
v/c Ratio		0.77	1.12	0.61								
Uniform Delay, d1		19.3	28.0	23.8								
Delay		2.8	76.0	24.0								
LOS		A	E	C								
Approach Delay		2.8	76.0	24.0								
Approach LOS		A	E	C								

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 38.7 Intersection LOS: D
Intersection Capacity Utilization 104.2% ICU Level of Service F

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (s)	42.0	20.0	16.0	42.0	15.0
Total Split (%)	42%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

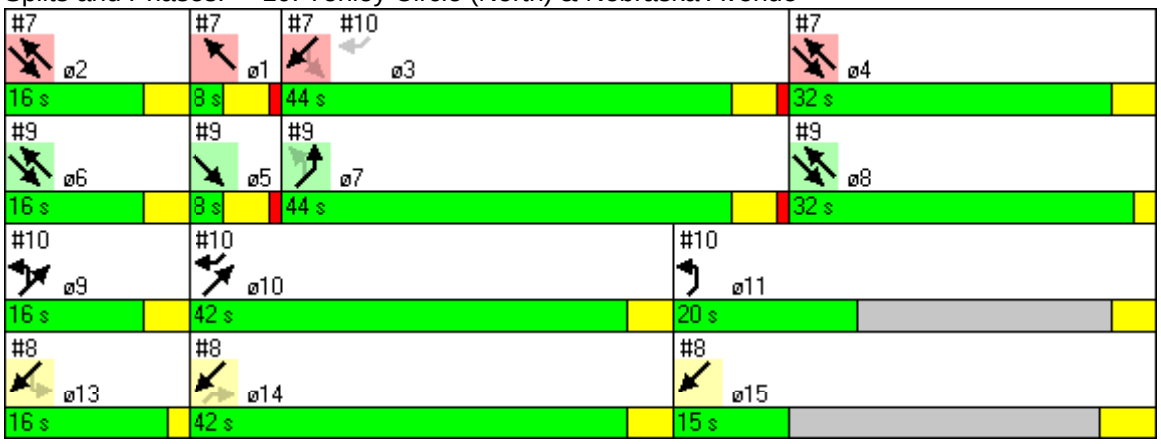
Intersection Summary

Lane Group	EBL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	456	0	768								
Turn Type				custom								
Protected Phases		9 10		10	1	2	3	4	5	6	7	8
Permitted Phases				3 10								
Detector Phases		9 10		10								
Minimum Initial (s)				5.0	3.0	5.0	22.0	10.0	2.0	2.0	23.0	2.0
Minimum Split (s)				42.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (s)	0.0	58.0	0.0	42.0	8.0	16.0	44.0	32.0	8.0	16.0	44.0	32.0
Total Split (%)	0%	58%	0%	42%	8%	16%	44%	32%	8%	16%	44%	32%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)				0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag				Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		92.0		48.0								
Actuated g/C Ratio		0.92		0.48								
v/c Ratio		0.20		0.37								
Uniform Delay, d1		0.2		0.0								
Delay		0.2		0.7								
LOS		A		A								
Approach Delay		0.2	0.7									
Approach LOS		A	A									

Intersection Summary

Cycle Length: 100
Offset: 1 (1%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 0.5 Intersection LOS: A
Intersection Capacity Utilization 53.6% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø9	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	4.0	1.0	4.0	4.0
Minimum Split (s)	16.0	20.0	16.0	42.0	15.0
Total Split (s)	16.0	20.0	16.0	42.0	15.0
Total Split (%)	16%	20%	16%	42%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

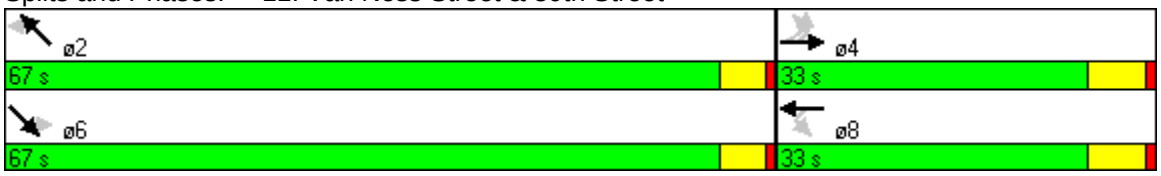
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	45	10	175	79	256	0	91	1745	20	1603
Turn Type	Perm	Perm		Perm			Perm		Perm	
Protected Phases			4		8			6		2
Permitted Phases	4	4		8			6	6	2	2
Detector Phases	4	4	4	8	8		6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0		67.0	67.0	67.0	67.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	0.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	33%	0%	67%	67%	67%	67%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max
Act Effct Green (s)			29.0	29.0	29.0			63.0		63.0
Actuated g/C Ratio			0.29	0.29	0.29			0.63		0.63
v/c Ratio			1.45	0.43	0.93			1.26		0.70
Uniform Delay, d1			35.5	28.8	34.5			18.5		12.2
Delay			180.6	30.3	53.0			127.8		6.9
LOS			F	C	D			F		A
Approach Delay			180.6		49.1			127.8		6.9
Approach LOS			F		D			F		A

Intersection Summary

Cycle Length: 100
Offset: 41 (41%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.45
Intersection Signal Delay: 73.6 Intersection LOS: E
Intersection Capacity Utilization 185.5% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	157	21	203	11	17	162	2107	10	1863
Turn Type	Perm		pt+ov	Perm		D.P+P		Perm	
Protected Phases		4	4 10		4	10	2 10		2
Permitted Phases	4			4		2		2	
Detector Phases	4	4	4 10	4	4	10	2 10	2	2
Minimum Initial (s)	20.0	20.0		20.0	20.0	5.0		19.0	19.0
Minimum Split (s)	26.0	26.0		26.0	26.0	20.0		54.0	54.0
Total Split (s)	26.0	26.0	46.0	26.0	26.0	20.0	74.0	54.0	54.0
Total Split (%)	26%	26%	46%	26%	26%	20%	74%	54%	54%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	0.0		1.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max		Max	Max	Max		Max	Max
Act Effct Green (s)		22.0	42.0		22.0		66.0		50.0
Actuated g/C Ratio		0.22	0.42		0.22		0.66		0.50
v/c Ratio		0.66	0.34		0.17		1.11		1.40
Uniform Delay, d1		35.5	19.2		24.4		12.7		25.0
Delay		37.3	19.7		26.4		65.3		118.9
LOS		D	B		C		E		F
Approach Delay		27.9			26.4		65.3		118.9
Approach LOS		C			C		E		F

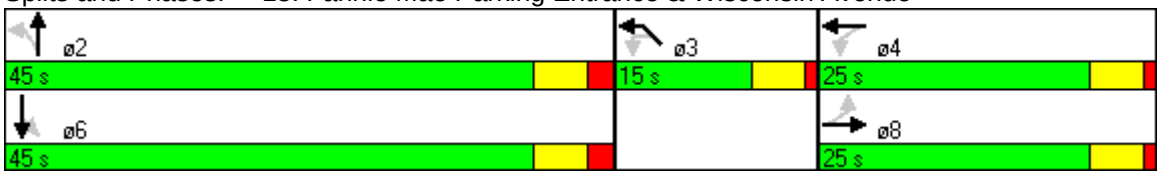
Intersection Summary	
Cycle Length: 100	
Offset: 53 (53%), Referenced to phase 2:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 83.7	Intersection LOS: F
Intersection Capacity Utilization 133.8%	ICU Level of Service H

Splits and Phases: 12: Upton Street & Wisconsin Avenue

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	118	0	62	0	12	2063	33	1932	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	28.0	28.0	28.0	28.0	7.0
Minimum Split (s)	22.0	22.0	22.0	22.0	45.0	45.0	45.0	45.0	15.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
Act Effct Green (s)		17.7		17.7		43.2		43.2	9.3
Actuated g/C Ratio		0.23		0.23		0.56		0.56	0.11
v/c Ratio		0.80		0.56		1.10		1.76	0.29
Uniform Delay, d1		29.2		10.4		17.8		17.8	34.8
Delay		38.5		11.9		81.2		234.9	34.1
LOS		D		B		F		F	C
Approach Delay		38.5		11.9		81.2		234.9	34.1
Approach LOS		D		B		F		F	C

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 76.9	
Natural Cycle: 135	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.76	
Intersection Signal Delay: 143.7	Intersection LOS: F
Intersection Capacity Utilization 134.8%	ICU Level of Service H

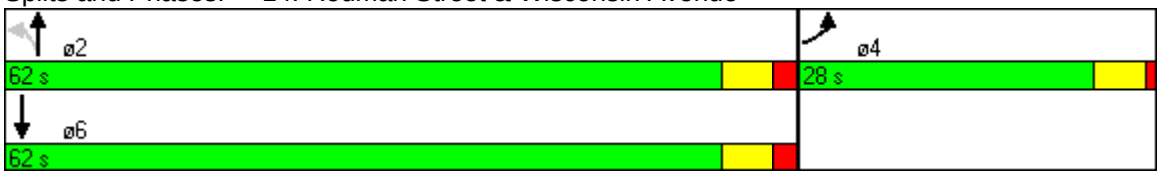
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	85	20	2128	1880
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	11.9		73.7	73.7
Actuated g/C Ratio	0.13		0.82	0.82
v/c Ratio	0.45		0.70	0.55
Uniform Delay, d1	37.7		4.3	3.3
Delay	35.7		5.2	3.8
LOS	D		A	A
Approach Delay	35.7		5.2	3.8
Approach LOS	D		A	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 79 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 5.3	Intersection LOS: A
Intersection Capacity Utilization 69.6%	ICU Level of Service B

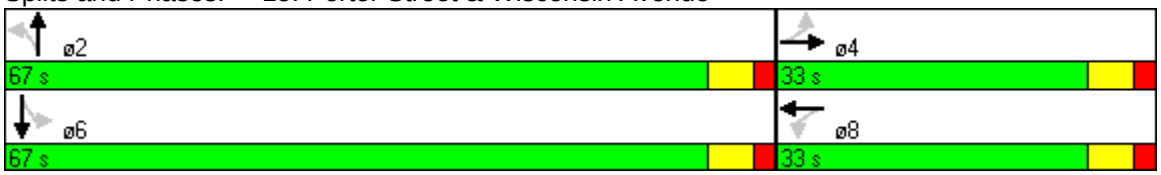
Splits and Phases: 14: Rodman Street & Wisconsin Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	54	55	182	62	11	1911	96	1871
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0		29.0		63.0		63.0
Actuated g/C Ratio		0.29		0.29		0.63		0.63
v/c Ratio		0.38		1.03		0.79		1.49dl
Uniform Delay, d1		25.7		35.5		13.6		18.5
Delay		26.5		79.8		13.9		64.0
LOS		C		E		B		E
Approach Delay		26.5		79.8		13.9		64.0
Approach LOS		C		E		B		E

Intersection Summary	
Cycle Length: 100	
Offset: 90 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 41.8	Intersection LOS: D
Intersection Capacity Utilization 125.6%	ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 15: Porter Street & Wisconsin Avenue

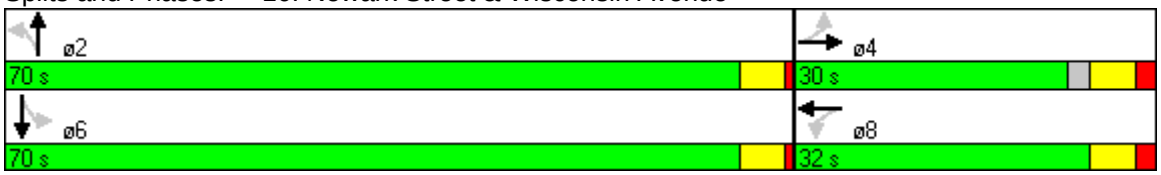


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	188	48	16	52	108	1841	25	1697
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	30.0	30.0	30.0	30.0	55.0	55.0	55.0	55.0
Total Split (s)	30.0	30.0	32.0	32.0	70.0	70.0	70.0	70.0
Total Split (%)	29%	29%	31%	31%	69%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.1		28.1		66.0		66.0
Actuated g/C Ratio		0.28		0.28		0.65		0.65
v/c Ratio		1.02		0.21		1.70dl		1.09
Uniform Delay, d1		37.0		25.9		18.0		18.0
Delay		76.7		26.5		61.8		63.5
LOS		E		C		E		E
Approach Delay		76.7		26.5		61.8		63.5
Approach LOS		E		C		E		E

Intersection Summary

Cycle Length: 102
Offset: 60 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 63.1 Intersection LOS: E
Intersection Capacity Utilization 137.3% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 16: Newark Street & Wisconsin Avenue

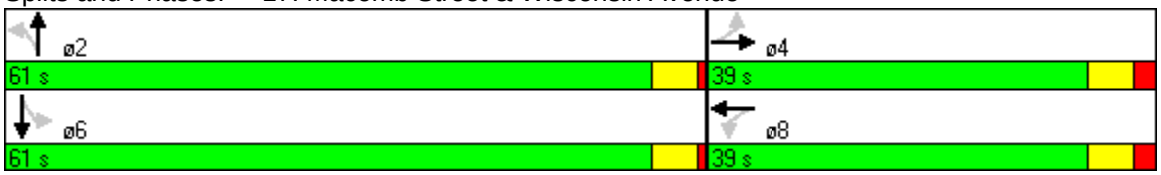


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	79	102	30	103	90	1784	32	1701
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	39.0	39.0	39.0	39.0	61.0	61.0	61.0	61.0
Total Split (s)	39.0	39.0	39.0	39.0	61.0	61.0	61.0	61.0
Total Split (%)	39%	39%	39%	39%	61%	61%	61%	61%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		35.0		35.0		57.0		57.0
Actuated g/C Ratio		0.35		0.35		0.57		0.57
v/c Ratio		0.46		0.37		1.40dl		1.35
Uniform Delay, d1		24.0		24.2		21.5		21.5
Delay		24.7		24.8		91.0		147.6
LOS		C		C		F		F
Approach Delay		24.7		24.8		91.0		147.6
Approach LOS		C		C		F		F

Intersection Summary

Cycle Length: 100
Offset: 48 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.35
Intersection Signal Delay: 109.4 Intersection LOS: F
Intersection Capacity Utilization 169.8% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 17: Macomb Street & Wisconsin Avenue

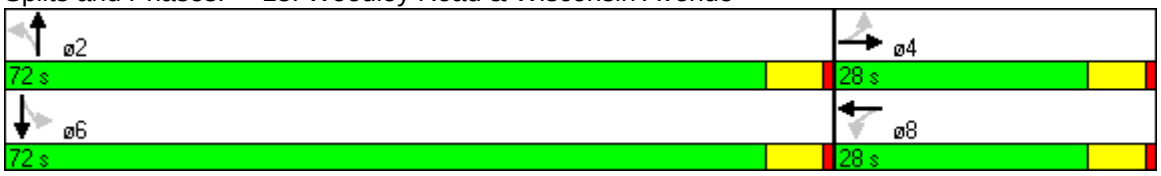


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	11	24	85	54	65	1998	55	1626
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	17.0	17.0	17.0	17.0	14.0	14.0	14.0	14.0
Minimum Split (s)	23.0	23.0	23.0	23.0	28.0	28.0	28.0	28.0
Total Split (s)	28.0	28.0	28.0	28.0	72.0	72.0	72.0	72.0
Total Split (%)	28%	28%	28%	28%	72%	72%	72%	72%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		24.0		24.0		68.0		68.0
Actuated g/C Ratio		0.24		0.24		0.68		0.68
v/c Ratio		0.19		0.71		0.98		1.22
Uniform Delay, d1		30.2		34.8		15.4		16.0
Delay		30.8		37.8		45.0		65.3
LOS		C		D		D		E
Approach Delay		30.8		37.8		45.0		65.3
Approach LOS		C		D		D		E

Intersection Summary

Cycle Length: 100
Offset: 32 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 52.8 Intersection LOS: D
Intersection Capacity Utilization 129.2% ICU Level of Service H

Splits and Phases: 18: Woodley Road & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT	ø2	ø4	ø5
Lane Configurations							
Volume (vph)	0	6	1918	1747			
Turn Type		D.Pm					
Protected Phases			6 5	6	2	4	5
Permitted Phases		6					
Detector Phases		6	6 5	6			
Minimum Initial (s)		1.0		1.0	23.0	1.0	1.0
Minimum Split (s)		29.0		29.0	64.0	35.0	66.0
Total Split (s)	0.0	29.0	100.0	29.0	65.0	35.0	71.0
Total Split (%)	0%	29%	100%	29%	65%	35%	71%
Yellow Time (s)		4.0		4.0	4.0	2.0	2.0
All-Red Time (s)		0.0		0.0	2.0	0.0	0.0
Lead/Lag		Lead		Lead			Lag
Lead-Lag Optimize?		Yes		Yes			Yes
Recall Mode		Max		Max	Max	Max	Max
Act Effct Green (s)			100.0	25.0			
Actuated g/C Ratio			1.00	0.25			
v/c Ratio			0.47	1.63			
Uniform Delay, d1			0.0	37.4			
Delay			2.2	181.7			
LOS			A	F			
Approach Delay			2.2	181.7			
Approach LOS			A	F			

Intersection Summary	
Cycle Length: 100	
Offset: 36 (36%), Referenced to phase 1: and 5:NBT, Start of Green	
Natural Cycle: 110	
Control Type: Pretimed	
Maximum v/c Ratio: 1.63	
Intersection Signal Delay: 88.5	Intersection LOS: F
Intersection Capacity Utilization 53.3%	ICU Level of Service A

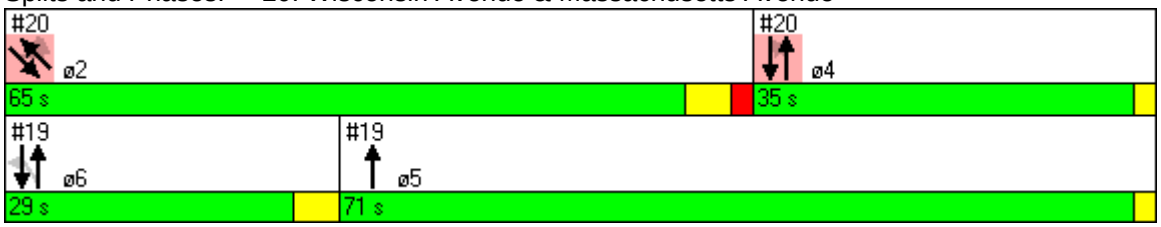
Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue

Lane Group	NBL	NBT	SBT	SEL	SET	NWT	NWR	ø5	ø6
Lane Configurations									
Volume (vph)	1	1632	1841	4	627	1308	511		
Turn Type	Perm			Perm			Perm		
Protected Phases		4	4		2	2		5	6
Permitted Phases	4			2			2		
Detector Phases	4	4	4	2	2	2	2		
Minimum Initial (s)	1.0	1.0	1.0	23.0	23.0	23.0	23.0	1.0	1.0
Minimum Split (s)	35.0	35.0	35.0	64.0	64.0	64.0	64.0	66.0	29.0
Total Split (s)	35.0	35.0	35.0	65.0	65.0	65.0	65.0	71.0	29.0
Total Split (%)	35%	35%	35%	65%	65%	65%	65%	71%	29%
Yellow Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)	0.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0
Lead/Lag								Lag	Lead
Lead-Lag Optimize?								Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0	31.0		61.0	61.0	61.0		
Actuated g/C Ratio		0.31	0.31		0.61	0.61	0.61		
v/c Ratio		1.36	1.36		0.48	0.68	0.65		
Uniform Delay, d1		34.5	34.5		10.7	12.9	12.6		
Delay		89.9	108.9		10.9	13.2	13.3		
LOS		F	F		B	B	B		
Approach Delay		89.9	108.9		10.9	13.2			
Approach LOS		F	F		B	B			

Intersection Summary

Cycle Length: 100
Offset: 36 (36%), Referenced to phase 1: and 5:NBT, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 62.0 Intersection LOS: E
Intersection Capacity Utilization 111.0% ICU Level of Service G

Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	41	41	153	97	1647	413	1449
Turn Type	Perm		Perm			D.P+P	
Protected Phases		3		3	2	1	1 2
Permitted Phases	3		3			2	
Detector Phases	3	3	3	3	2	1	1 2
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	17.0	
Minimum Split (s)	38.0	38.0	38.0	38.0	34.0	22.0	
Total Split (s)	44.0	44.0	44.0	44.0	34.0	22.0	56.0
Total Split (%)	44%	44%	44%	44%	34%	22%	56%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0	
Lead/Lag					Lead	Lag	
Lead-Lag Optimize?					Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		40.0		40.0	30.0	48.0	52.0
Actuated g/C Ratio		0.40		0.40	0.30	0.48	0.52
v/c Ratio		0.17		0.50	1.38	1.22	0.92
Uniform Delay, d1		18.0		22.3	35.0	35.7	22.1
Delay		18.5		23.0	165.1	85.5	20.8
LOS		B		C	F	F	C
Approach Delay		18.5		23.0	165.1		35.2
Approach LOS		B		C	F		D

Intersection Summary

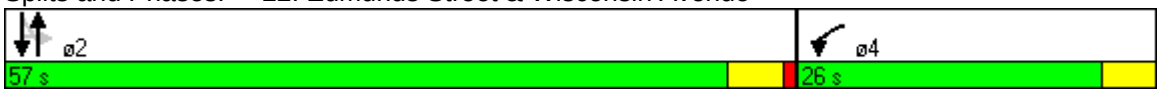
Cycle Length: 100
Offset: 60 (60%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 135
Control Type: Pretimed
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 92.2 Intersection LOS: F
Intersection Capacity Utilization 113.6% ICU Level of Service G

Splits and Phases: 21: Garfield Street & Wisconsin Avenue

Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	140	1725	1543
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	11.0	39.0	39.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	13.6	61.4	61.4
Actuated g/C Ratio	0.16	0.74	0.74
v/c Ratio	0.67	0.55	0.70
Uniform Delay, d1	30.2	4.7	5.9
Delay	29.4	5.4	7.0
LOS	C	A	A
Approach Delay	29.4	5.4	7.0
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 16 (19%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 65.7%	ICU Level of Service B

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

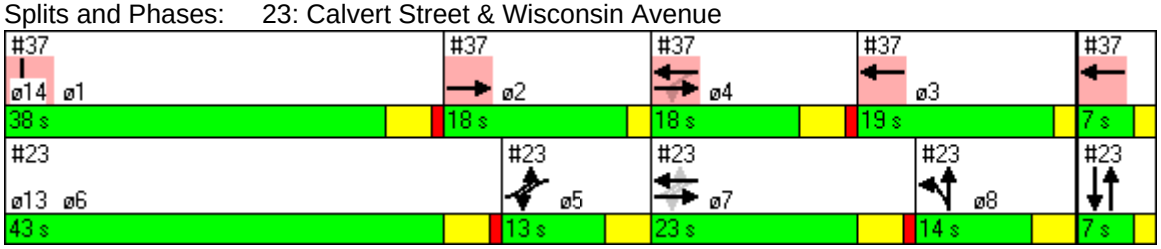


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	ø1	ø2	ø3	ø4	ø8
Lane Configurations												
Volume (vph)	209	63	123	113	1519	17	1313					
Turn Type	pm+pt		pm+pt			custom						
Protected Phases	5	7	5	7	6 8 13		6 13	1	2	3	4	8
Permitted Phases	7		7			6						
Detector Phases	5	7	5	7	6 8 13	6	6 13					
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0		6.0	6.0	4.0	6.0	2.0
Minimum Split (s)	13.0	23.0	13.0	23.0		43.0		38.0	18.0	19.0	18.0	14.0
Total Split (s)	13.0	23.0	13.0	23.0	64.0	43.0	50.0	38.0	18.0	19.0	18.0	14.0
Total Split (%)	13%	23%	13%	23%	64%	43%	50%	38%	18%	19%	18%	14%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	2.0	2.0	4.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0		1.0		1.0	0.0	0.0	1.0	0.0
Lead/Lag	Lag	Lead	Lag	Lead		Lead		Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max		Max		Max	Max	Max	Max	Max
Act Effct Green (s)	28.0	19.0	28.0	19.0	56.0		46.0					
Actuated g/C Ratio	0.28	0.19	0.28	0.19	0.56		0.46					
v/c Ratio	0.69	0.51	0.43	0.50	1.16		1.03					
Uniform Delay, d1	27.3	21.0	25.1	36.2	18.5		27.0					
Delay	12.9	10.1	25.8	36.9	86.4		53.8					
LOS	B	B	C	D	F		D					
Approach Delay		11.6		31.9	86.4		53.8					
Approach LOS		B		C	F		D					

Intersection Summary

Cycle Length: 100
Offset: 44 (44%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 63.6 Intersection LOS: E
Intersection Capacity Utilization 113.5% ICU Level of Service G

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	7.0	7.0
Total Split (%)	7%	7%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	68	1675	111	1416		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	12.0	40.0	10.0		10.0	40.0
Total Split (s)	15.0	40.0	14.0	54.0	14.0	40.0
Total Split (%)	22%	58%	20%	78%	20%	58%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Max	None		None	Max
Act Effct Green (s)	9.9	36.0		46.0		
Actuated g/C Ratio	0.15	0.53		0.68		
v/c Ratio	0.68	1.23		1.42		
Uniform Delay, d1	12.5	15.8		6.6		
Delay	16.2	112.0		161.6		
LOS	B	F		F		
Approach Delay	16.2	112.0		161.6		
Approach LOS	B	F		F		

Intersection Summary	
Cycle Length: 69	
Actuated Cycle Length: 67.9	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 128.6	Intersection LOS: F
Intersection Capacity Utilization 134.2%	ICU Level of Service H

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	49	11	1752	1506
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	40.0	40.0	40.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	9.5		65.7	65.7
Actuated g/C Ratio	0.12		0.82	0.82
v/c Ratio	0.44		0.85	0.69
Uniform Delay, d1	25.1		5.3	3.6
Delay	25.0		11.5	4.6
LOS	C		B	A
Approach Delay	25.0		11.5	4.6
Approach LOS	C		B	A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 12 (15%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 82.3%	ICU Level of Service D

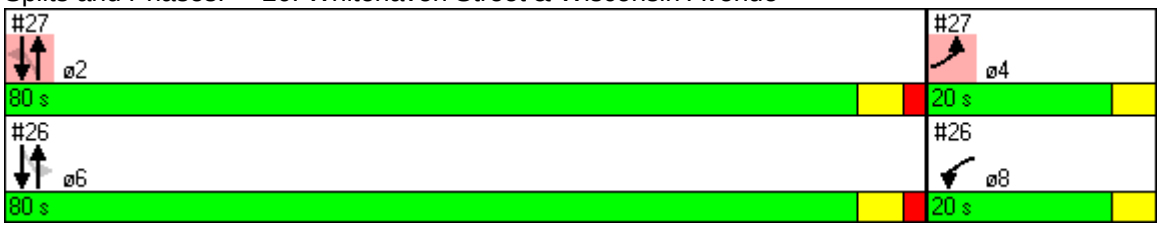
Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	142	1701	6	1471		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	20.0	60.0	60.0	60.0	60.0	20.0
Total Split (s)	20.0	80.0	80.0	80.0	80.0	20.0
Total Split (%)	20%	80%	80%	80%	80%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	16.0	76.0		76.0		
Actuated g/C Ratio	0.16	0.76		0.76		
v/c Ratio	0.90	0.54		0.67		
Uniform Delay, d1	37.1	4.9		5.9		
Delay	58.6	2.6		6.1		
LOS	E	A		A		
Approach Delay	58.6	2.6		6.1		
Approach LOS	E	A		A		

Intersection Summary

Cycle Length: 100
Offset: 75 (75%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 8.1 Intersection LOS: A
Intersection Capacity Utilization 68.8% ICU Level of Service B

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

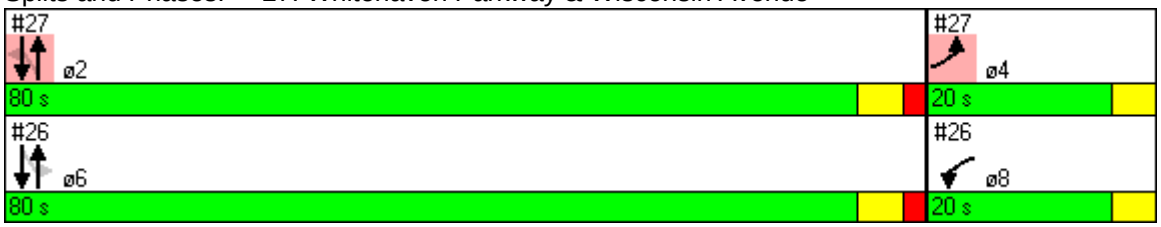


Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	210	98	1469	1477		
Turn Type		Perm				
Protected Phases	4		2	2	6	8
Permitted Phases		2				
Detector Phases	4	2	2	2		
Minimum Initial (s)	14.0	16.0	16.0	16.0	16.0	15.0
Minimum Split (s)	20.0	60.0	60.0	60.0	60.0	20.0
Total Split (s)	20.0	80.0	80.0	80.0	80.0	20.0
Total Split (%)	20%	80%	80%	80%	80%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	16.0		76.0	76.0		
Actuated g/C Ratio	0.16		0.76	0.76		
v/c Ratio	1.17		0.71	0.65		
Uniform Delay, d1	39.6		6.3	5.6		
Delay	117.8		6.6	2.3		
LOS	F		A	A		
Approach Delay	117.8		6.6	2.3		
Approach LOS	F		A	A		

Intersection Summary

Cycle Length: 100
Offset: 75 (75%), Referenced to phase 2:NBSB and 6:, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 109.2% ICU Level of Service F

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

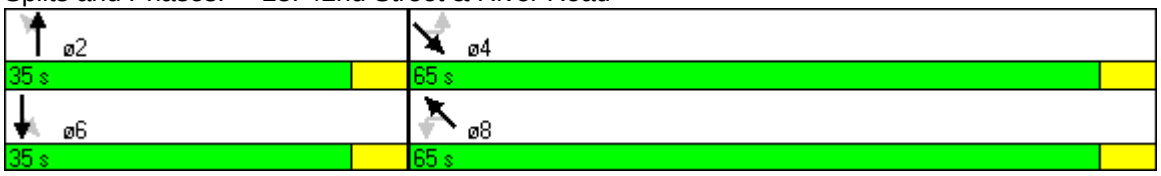


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	45	378	4	234	118	87	15	172
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	35.0	35.0	35.0	35.0	21.0	21.0	21.0	21.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0		31.0		61.0		61.0
Actuated g/C Ratio		0.31		0.31		0.61		0.61
v/c Ratio		0.97		0.72		0.30		0.18
Uniform Delay, d1		34.1		30.6		9.3		8.5
Delay		59.0		31.8		2.7		8.7
LOS		E		C		A		A
Approach Delay		59.0		31.8		2.7		8.7
Approach LOS		E		C		A		A

Intersection Summary

Cycle Length: 100
Offset: 73 (73%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 85.5% ICU Level of Service D

Splits and Phases: 28: 42nd Street & River Road

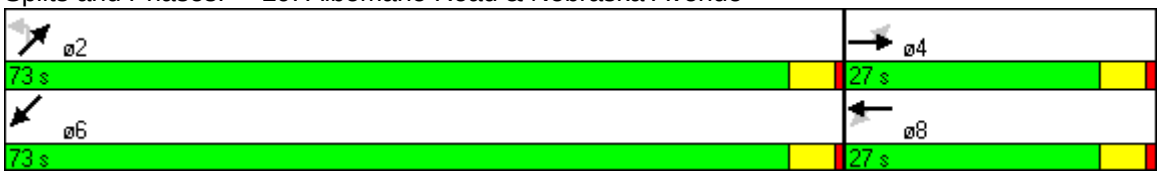


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	88	234	48	278	1	772	514
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	27.0	27.0	27.0	27.0	73.0	73.0	73.0
Total Split (s)	27.0	27.0	27.0	27.0	73.0	73.0	73.0
Total Split (%)	27%	27%	27%	27%	73%	73%	73%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	23.0	23.0	23.0		69.0	69.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.69	0.69
v/c Ratio	0.94	0.66	0.42	0.78		0.41	0.28
Uniform Delay, d1	37.9	35.0	32.8	36.1		6.7	5.9
Delay	85.8	38.6	34.7	41.2		6.8	6.0
LOS	F	D	C	D		A	A
Approach Delay		51.2		40.2		6.8	6.0
Approach LOS		D		D		A	A

Intersection Summary

Cycle Length: 100
Offset: 33 (33%), Referenced to phase 2:NETL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 101.7% ICU Level of Service F

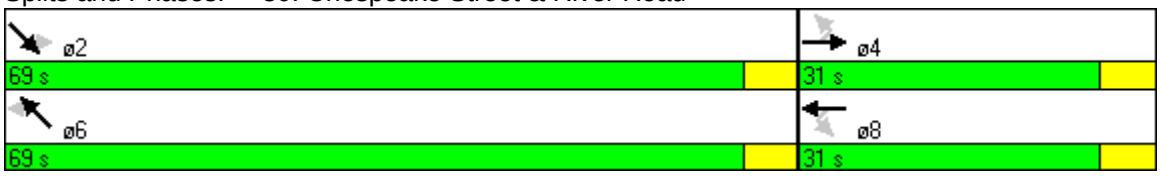
Splits and Phases: 29: Albemarle Road & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	36	28	1	26	12	549	33	406
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	25.0	25.0	25.0	25.0	27.0	27.0	58.0	58.0
Total Split (s)	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	69%	69%	69%	69%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		27.0		27.0		65.0		65.0
Actuated g/C Ratio		0.27		0.27		0.65		0.65
v/c Ratio		0.19		0.12		0.53		0.50
Uniform Delay, d1		28.1		13.6		9.3		9.1
Delay		28.6		16.6		9.7		7.4
LOS		C		B		A		A
Approach Delay		28.6		16.6		9.7		7.4
Approach LOS		C		B		A		A

Intersection Summary	
Cycle Length: 100	
Offset: 95 (95%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 85	
Control Type: Pretimed	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 96.2%	ICU Level of Service E

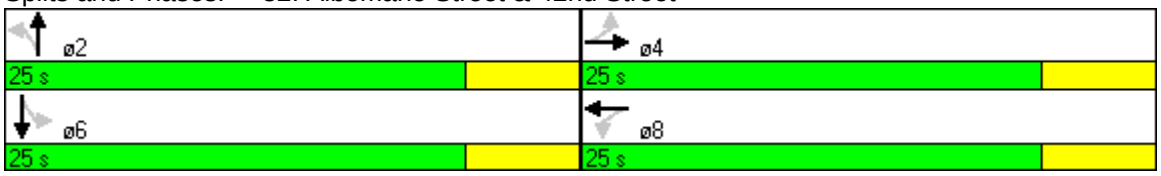
Splits and Phases: 30: Chespeake Street & River Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	9	109	29	85	14	197	61	182
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.10		0.18		0.36		0.43
Uniform Delay, d1		8.8		9.1		9.9		10.2
Delay		8.9		12.5		10.3		10.8
LOS		A		B		B		B
Approach Delay		8.9		12.5		10.3		10.8
Approach LOS		A		B		B		B

Intersection Summary	
Cycle Length: 50	
Offset: 22 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 53.4%	ICU Level of Service A

Splits and Phases: 32: Albemarle Street & 42nd Street

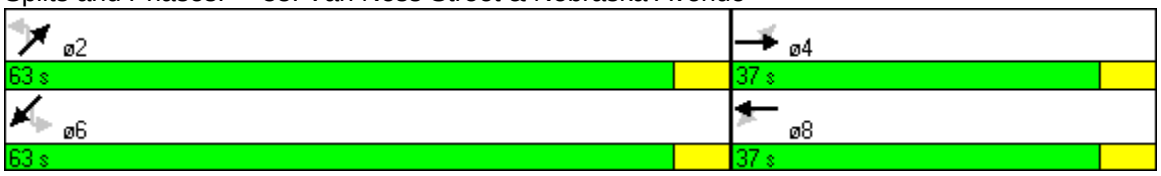


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	17	156	326	323	7	785	1	615
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	37.0	37.0	37.0	37.0	63.0	63.0	63.0	63.0
Total Split (%)	37%	37%	37%	37%	63%	63%	63%	63%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		33.0	33.0	33.0		59.0		59.0
Actuated g/C Ratio		0.33	0.33	0.33		0.59		0.59
v/c Ratio		0.34	1.08	0.59		0.55		0.34
Uniform Delay, d1		25.1	33.5	27.9		11.8		10.5
Delay		25.6	70.7	19.6		12.1		10.6
LOS		C	E	B		B		B
Approach Delay		25.6		45.2		12.1		10.6
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 100
Offset: 72 (72%), Referenced to phase 2:NETL and 6:SWTL, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 75.7% ICU Level of Service C

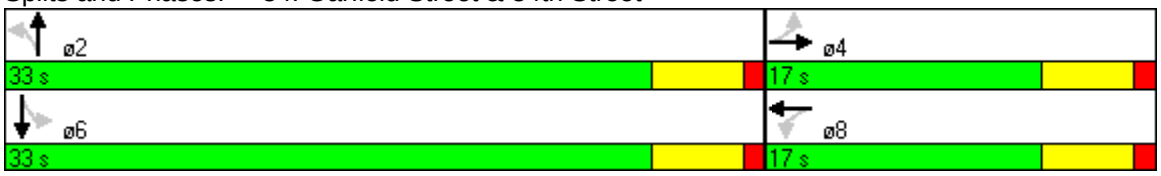
Splits and Phases: 33: Van Ness Street & Nebraska Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	72	201	18	306	26	316	20	244
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	24.0	24.0	24.0	24.0
Total Split (s)	17.0	17.0	17.0	17.0	33.0	33.0	33.0	33.0
Total Split (%)	34%	34%	34%	34%	66%	66%	66%	66%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		13.0		13.0		29.0		29.0
Actuated g/C Ratio		0.26		0.26		0.58		0.58
v/c Ratio		0.96		0.79		0.39		0.36
Uniform Delay, d1		18.0		17.1		5.5		4.8
Delay		52.8		39.5		5.8		4.9
LOS		D		D		A		A
Approach Delay		52.8		39.5		5.8		4.9
Approach LOS		D		D		A		A

Intersection Summary	
Cycle Length: 50	
Offset: 28 (56%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 86.0%	ICU Level of Service D

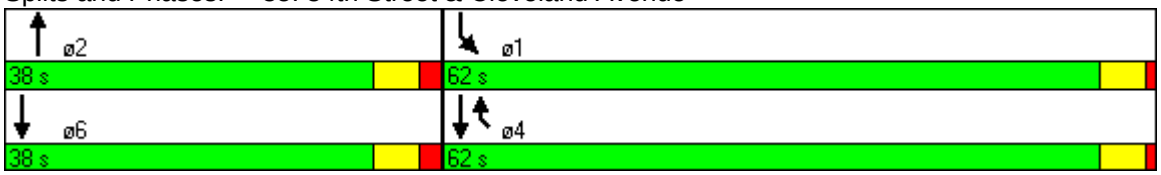
Splits and Phases: 34: Garfield Street & 34th Street



Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	379	215	448	0	266	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	21.0			21.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Coord	None			None	Max
Act Effct Green (s)	66.4	25.6	100.0		25.6	
Actuated g/C Ratio	0.66	0.26	1.00		0.26	
v/c Ratio	0.35	0.53	0.27		0.72	
Uniform Delay, d1	7.3	32.0	0.0		33.9	
Delay	7.6	30.8	0.0		40.6	
LOS	A	C	A		D	
Approach Delay	7.6		10.0	40.6		
Approach LOS	A		A	D		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 91 (91%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 47.6%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

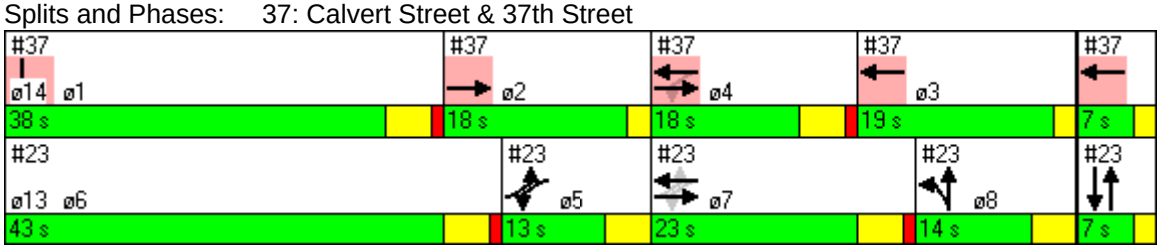


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø5	ø6	ø7	ø8	ø13
Lane Configurations												
Volume (vph)	297	35	187	0	164							
Turn Type		custom										
Protected Phases	2 4		4 3 14		1	2	3	5	6	7	8	13
Permitted Phases		4										
Detector Phases	2 4	4	4 3 14		1							
Minimum Initial (s)		6.0			6.0	6.0	4.0	6.0	6.0	6.0	2.0	3.0
Minimum Split (s)		18.0			38.0	18.0	19.0	13.0	43.0	23.0	14.0	7.0
Total Split (s)	36.0	18.0	44.0	0.0	38.0	18.0	19.0	13.0	43.0	23.0	14.0	7.0
Total Split (%)	36%	18%	44%	0%	38%	18%	19%	13%	43%	23%	14%	7%
Yellow Time (s)		4.0			4.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)		1.0			1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0
Lead/Lag		Lead			Lead	Lag	Lag	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		Max			Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	32.0		40.0		34.0							
Actuated g/C Ratio	0.32		0.40		0.34							
v/c Ratio	0.39		0.36		0.45							
Uniform Delay, d1	24.7		21.0		22.6							
Delay	25.0		18.3		23.1							
LOS	C		B		C							
Approach Delay	25.0		18.3		23.1							
Approach LOS	C		B		C							

Intersection Summary

Cycle Length: 100
Offset: 44 (44%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 51.7% ICU Level of Service A

Splits and Phases: 37: Calvert Street & 37th Street



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phases	
Minimum Initial (s)	2.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Uniform Delay, d1	
Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø11
Lane Configurations					
Volume (vph)	0	0	0	0	
Turn Type					
Protected Phases		9	10	10 11	11
Permitted Phases					
Detector Phases		9	10	10 11	
Minimum Initial (s)		6.0	1.0		6.0
Minimum Split (s)		17.0	59.0		14.0
Total Split (s)	0.0	17.0	59.0	73.0	14.0
Total Split (%)	0%	19%	66%	81%	16%
Yellow Time (s)		5.0	4.0		5.0
All-Red Time (s)		0.0	0.0		0.0
Lead/Lag		Lead	Lag		
Lead-Lag Optimize?		Yes	Yes		
Recall Mode		Max	Max		Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay		0.0	0.0	0.0	
Approach LOS		A	A	A	

Intersection Summary	
Cycle Length: 90	
Offset: 44 (49%), Referenced to phase 1: and 5:, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description	
East/West Street: *Newark Street*	North/South Street: *34th Street*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	24	631	14	12	512	27
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	26	685	15	13	556	29
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	9	14	16	20	21	19
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	9	15	17	21	22	20
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	26	13		41			63	
C (m) (vph)	1000	906		176			163	
v/c	0.03	0.01		0.23			0.39	
95% queue length	0.08	0.04		0.87			1.67	
Control Delay	8.7	9.0		31.6			40.4	
LOS	A	A		D			E	
Approach Delay	--	--	31.6			40.4		
Approach LOS	--	--	D			E		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description

East/West Street: *Massachussets*	North/South Street: *38th Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*15*	*773*	*0*	*0*	*1833*	*38*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*16*	*840*	*0*	*0*	*1992*	*41*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				*14*	*0*	*55*
Peak-Hour Factor, PHF				*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*15*	*0*	*59*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*					*LTR*	
v (vph)	*16*	*0*					*74*	
C (m) (vph)	*282*	*804*					*87*	
v/c	*0.06*	*0.00*					*0.85*	
95% queue length	*0.18*	*0.00*					*4.52*	
Control Delay	*18.5*	*9.5*					*143.0*	
LOS	*C*	*A*					*F*	
Approach Delay	--	--				*143.0*		
Approach LOS	--	--				*F*		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	PM Peak

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	36	156	11	39	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	430	0	231	21	206	53
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	208		53		718		245	53
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.2		0.7		0.1	0.0
Prop. Right-Turns	0.8		0.0		0.3		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	6.10		6.10		6.10		6.10	6.10

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.18		0.05		0.64		0.22	0.05
hd, final value	6.10		6.10		6.10		6.10	6.10
x, final value	0.35		0.10		1.05		0.43	0.08
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	4.1		4.1		4.1		4.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	458		303		718		495	303
Delay	12.39		10.96		72.06		13.55	8.85
LOS	B		B		F		B	A
Approach: Delay	12.39		10.96		72.06		12.71	
LOS	B		B		F		B	
Intersection Delay	45.96							
Intersection LOS	E							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*PM Peak*		

Project Description

East/West Street: *Albemarle Street*	North/South Street: *Fort Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*38*	*191*	*50*	*7*	*184*	*140*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*41*	*207*	*54*	*7*	*199*	*152*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*18*	*94*	*16*	*124*	*96*	*106*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*19*	*102*	*17*	*134*	*104*	*115*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*41*	*7*		*138*			*353*	
C (m) (vph)	*1219*	*1315*		*444*			*496*	
v/c	*0.03*	*0.01*		*0.31*			*0.71*	
95% queue length	*0.10*	*0.02*		*1.31*			*5.63*	
Control Delay	*8.1*	*7.8*		*16.7*			*28.2*	
LOS	*A*	*A*		*C*			*D*	
Approach Delay	--	--	*16.7*			*28.2*		
Approach LOS	--	--	*C*			*D*		

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INTERSECTION CAPACITY ANALYSIS

SCENARIO 4

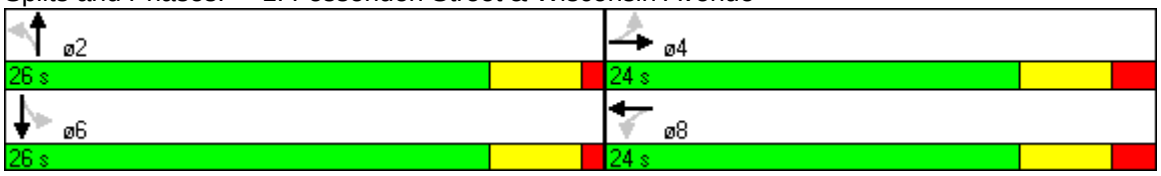
SATURDAY MID-DAY PEAK

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	31	164	228	110	10	2059	57	2030
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	11.0	11.0	11.0	11.0
Minimum Split (s)	13.0	13.0	13.0	13.0	26.0	26.0	26.0	26.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0
Total Split (%)	48%	48%	48%	48%	52%	52%	52%	52%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		20.0	20.0	20.0		22.0		22.0
Actuated g/C Ratio		0.40	0.40	0.40		0.44		0.44
v/c Ratio		0.39	0.56	0.33		2.11		2.74
Uniform Delay, d1		10.6	11.6	10.3		14.0		14.0
Delay		11.1	12.6	10.8		203.6		311.3
LOS		B	B	B		F		F
Approach Delay		11.1		11.7		203.6		311.3
Approach LOS		B		B		F		F

Intersection Summary

Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 2.74
Intersection Signal Delay: 223.3 Intersection LOS: F
Intersection Capacity Utilization 169.1% ICU Level of Service H

Splits and Phases: 1: Fessenden Street & Wisconsin Avenue

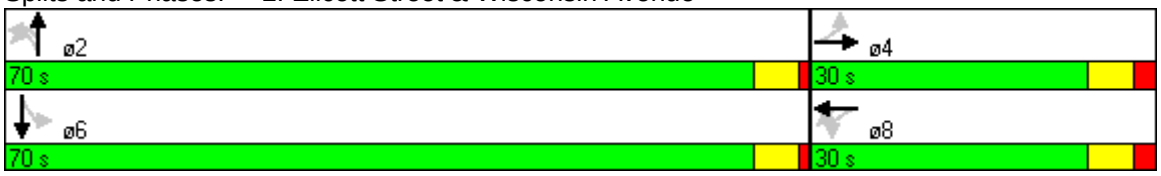


Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NBT	SBL	SBT	NEL
Lane Configurations											
Volume (vph)	76	27	9	32	19	5	33	1808	14	1932	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		8	8		2	2		6		
Detector Phases	4	4	8	8	8	2	2	2	6	6	
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	16.0	16.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0	70.0	0.0
Total Split (%)	30%	30%	30%	30%	30%	70%	70%	70%	70%	70%	0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		26.0			26.0			66.0		66.0	
Actuated g/C Ratio		0.26			0.26			0.66		0.66	
v/c Ratio		0.44			0.20			1.52		1.31	
Uniform Delay, d1		29.9			25.4			17.0		17.0	
Delay		30.6			26.0			197.6		63.3	
LOS		C			C			F		E	
Approach Delay		30.6			26.0			197.6		63.3	
Approach LOS		C			C			F		E	

Intersection Summary

Cycle Length: 100
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.52
Intersection Signal Delay: 119.6 Intersection LOS: F
Intersection Capacity Utilization 107.3% ICU Level of Service F

Splits and Phases: 2: Elicott Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	63	1922	23	1819
Turn Type			Perm	
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phases	8	2	6	6
Minimum Initial (s)	19.0	15.0	15.0	15.0
Minimum Split (s)	35.0	62.0	62.0	62.0
Total Split (s)	35.0	65.0	65.0	65.0
Total Split (%)	35%	65%	65%	65%
Yellow Time (s)	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	31.0	61.0		61.0
Actuated g/C Ratio	0.31	0.61		0.61
v/c Ratio	0.25	0.95		1.39
Uniform Delay, d1	24.5	18.0		19.5
Delay	25.0	20.7		120.4
LOS	C	C		F
Approach Delay	25.0	20.7		120.4
Approach LOS	C	C		F

Intersection Summary	
Cycle Length: 100	
Offset: 45 (45%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 68.0	Intersection LOS: E
Intersection Capacity Utilization 91.5%	ICU Level of Service E

Splits and Phases: 3: Davenport Street & Wisconsin Avenue

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations							
Volume (vph)	0	31	238	1878	129	1756	
Turn Type			custom		Prot		
Protected Phases		4	3	2 3	10	2 10	2
Permitted Phases			2				
Detector Phases		4	3	2 3	10	2 10	
Minimum Initial (s)		17.0	9.0		11.0		10.0
Minimum Split (s)		27.0	25.0		18.0		30.0
Total Split (s)	0.0	27.0	25.0	55.0	18.0	48.0	30.0
Total Split (%)	0%	27%	25%	55%	18%	48%	30%
Yellow Time (s)		4.0	4.0		2.0		4.0
All-Red Time (s)		2.0	1.0		0.0		0.0
Lead/Lag		Lag	Lead				
Lead-Lag Optimize?		Yes	Yes				
Recall Mode		Max	Max		Max		Max
Act Effct Green (s)		23.0	47.0	51.0	14.0	44.0	
Actuated g/C Ratio		0.23	0.47	0.51	0.14	0.44	
v/c Ratio		0.37	0.63	0.89	0.62	1.42	
Uniform Delay, d1		17.2	29.3	21.9	40.5	27.9	
Delay		14.5	30.1	23.4	37.3	132.0	
LOS		B	C	C	D	F	
Approach Delay		14.5		24.1		125.8	
Approach LOS		B		C		F	

Intersection Summary

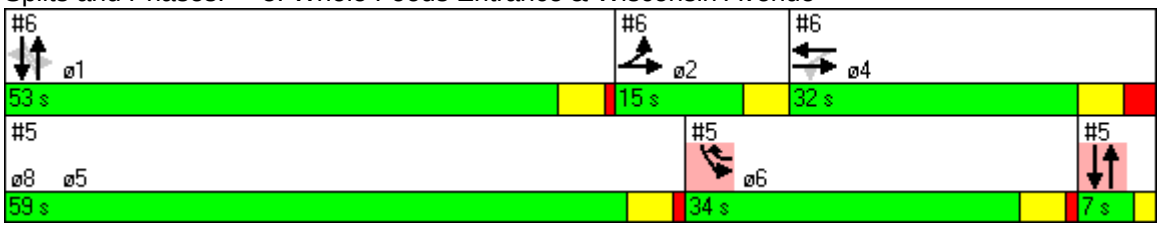
Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 70.3 Intersection LOS: E
Intersection Capacity Utilization 96.9% ICU Level of Service E

Splits and Phases: 4: Brandywine Street & Wisconsin Avenue

Lane Group	WBL	WBR	NBT	SBT	ø1	ø2	ø4	ø5	ø8
Lane Configurations									
Volume (vph)	0	84	2252	1999					
Turn Type		custom							
Protected Phases		6	5 8	5 8	1	2	4	5	8
Permitted Phases		6							
Detector Phases		6	5 8	5 8					
Minimum Initial (s)		22.0			21.0	10.0	19.0	23.0	1.0
Minimum Split (s)		34.0			53.0	15.0	32.0	59.0	7.0
Total Split (s)	0.0	34.0	66.0	66.0	53.0	15.0	32.0	59.0	7.0
Total Split (%)	0%	34%	66%	66%	53%	15%	32%	59%	7%
Yellow Time (s)		4.0			4.0	4.0	4.0	4.0	2.0
All-Red Time (s)		1.0			1.0	0.0	3.0	1.0	0.0
Lead/Lag		Lag			Lead	Lag		Lead	
Lead-Lag Optimize?		Yes			Yes	Yes		Yes	
Recall Mode		Max			Max	Max	Max	Max	Max
Act Effct Green (s)		30.0	62.0	92.0					
Actuated g/C Ratio		0.30	0.62	0.92					
v/c Ratio		0.21	1.33	1.31					
Uniform Delay, d1		24.6	18.9	11.9					
Delay		25.2	61.5	132.7					
LOS		C	E	F					
Approach Delay	25.2		61.5	132.7					
Approach LOS	C		E	F					

Intersection Summary	
Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 1:NBSB and 5:, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
Maximum v/c Ratio: 2.64	
Intersection Signal Delay: 93.6	Intersection LOS: F
Intersection Capacity Utilization 154.0%	ICU Level of Service H

Splits and Phases: 5: Whole Foods Entrance & Wisconsin Avenue

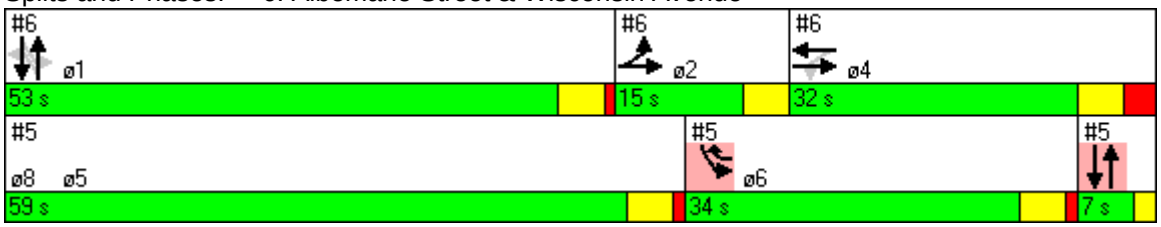


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø5	ø6	ø8
Lane Configurations											
Volume (vph)	46	111	36	152	29	2209	63	1753			
Turn Type	Prot		Perm		Perm		Perm				
Protected Phases	2	2 4		4		1		1	5	6	8
Permitted Phases			4		1		1				
Detector Phases	2	2 4	4	4	1	1	1	1			
Minimum Initial (s)	10.0		19.0	19.0	21.0	21.0	21.0	21.0	23.0	22.0	1.0
Minimum Split (s)	15.0		32.0	32.0	53.0	53.0	53.0	53.0	59.0	34.0	7.0
Total Split (s)	15.0	47.0	32.0	32.0	53.0	53.0	53.0	53.0	59.0	34.0	7.0
Total Split (%)	15%	47%	32%	32%	53%	53%	53%	53%	59%	34%	7%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	0.0		3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag	Lag				Lead	Lead	Lead	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max		Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	43.0		28.0		49.0		49.0			
Actuated g/C Ratio	0.11	0.43		0.28		0.49		0.49			
v/c Ratio	0.31	0.22		0.73		2.64		2.50			
Uniform Delay, d1	40.9	17.9		29.7		25.4		25.3			
Delay	48.3	16.6		24.8		316.6		269.0			
LOS	D	B		C		F		F			
Approach Delay		25.0		24.8		316.6		269.0			
Approach LOS		C		C		F		F			

Intersection Summary

Cycle Length: 100
Offset: 5 (5%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 2.64
Intersection Signal Delay: 268.5 Intersection LOS: F
Intersection Capacity Utilization 182.8% ICU Level of Service H

Splits and Phases: 6: Albemarle Street & Wisconsin Avenue

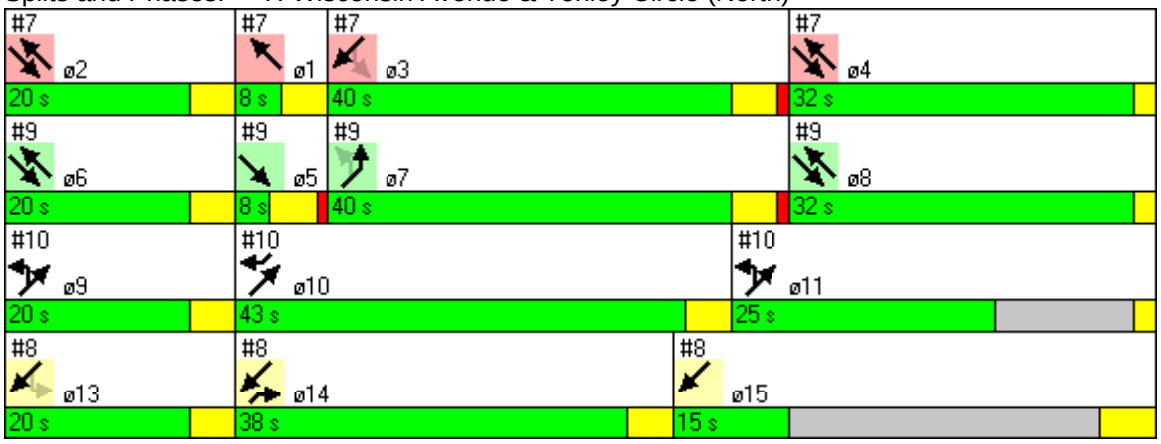


Lane Group	SET	NWT	NET	SWT	ø1	ø2	ø4	ø5	ø6	ø7	ø8	ø9
Lane Configurations												
Volume (vph)	1665	1904	0	703								
Turn Type												
Protected Phases	2 4	2 1 4		3	1	2	4	5	6	7	8	9
Permitted Phases												
Detector Phases	2 4	2 1 4		3								
Minimum Initial (s)				6.0	3.0	5.0	6.0	3.0	6.0	6.0	6.0	5.0
Minimum Split (s)				40.0	8.0	20.0	32.0	8.0	20.0	40.0	32.0	20.0
Total Split (s)	52.0	60.0	0.0	40.0	8.0	20.0	32.0	8.0	20.0	40.0	32.0	20.0
Total Split (%)	52%	60%	0%	40%	8%	20%	32%	8%	20%	40%	32%	20%
Yellow Time (s)				4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	56.0		36.0								
Actuated g/C Ratio	0.48	0.56		0.36								
v/c Ratio	0.92	1.12		0.88								
Uniform Delay, d1	24.3	22.0		29.9								
Delay	46.9	66.7		33.5								
LOS	D	E		C								
Approach Delay	46.9	66.7		33.5								
Approach LOS	D	E		C								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 52.2 Intersection LOS: D
Intersection Capacity Utilization 92.8% ICU Level of Service E

Splits and Phases: 7: Wisconsin Avenue & Tenley Circle (North)



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	6.0	6.0	6.0	4.0	4.0
Minimum Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (%)	43%	25%	20%	38%	15%
Yellow Time (s)	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

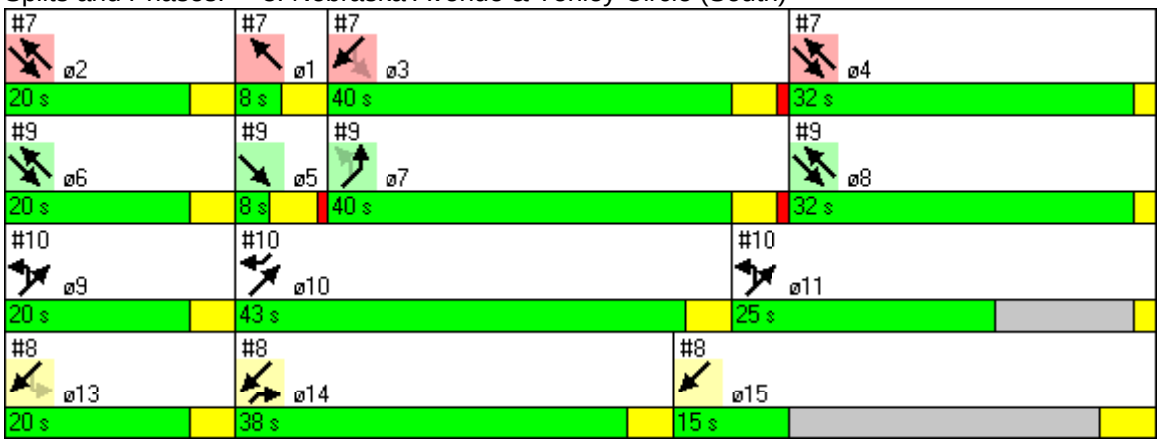
Intersection Summary

Lane Group	WBL	NET	NER	SWT	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	0	0	584	553								
Turn Type												
Protected Phases			14	13 14 15	1	2	3	4	5	6	7	8
Permitted Phases			14	13								
Detector Phases			14	13 14 15								
Minimum Initial (s)			4.0		3.0	5.0	6.0	6.0	3.0	6.0	6.0	6.0
Minimum Split (s)			38.0		8.0	20.0	40.0	32.0	8.0	20.0	40.0	32.0
Total Split (s)	0.0	0.0	38.0	73.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0	32.0
Total Split (%)	0%	0%	38%	73%	8%	20%	40%	32%	8%	20%	40%	32%
Yellow Time (s)			4.0		4.0	4.0	4.0	2.0	4.0	4.0	4.0	2.0
All-Red Time (s)			0.0		0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Lead/Lag			Lag		Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			Max		Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)			34.0	100.0								
Actuated g/C Ratio			0.34	1.00								
v/c Ratio			0.57	0.22								
Uniform Delay, d1			0.0	0.0								
Delay			8.3	0.0								
LOS			A	A								
Approach Delay		8.3		0.0								
Approach LOS		A		A								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 3.8 Intersection LOS: A
Intersection Capacity Utilization 68.5% ICU Level of Service B

Splits and Phases: 8: Nebraska Avenue & Tenley Circle (South)



Lane Group	ø9	ø10	ø11	ø13	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	9	10	11	13	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	5.0	6.0	6.0	6.0	4.0
Minimum Split (s)	20.0	43.0	25.0	20.0	15.0
Total Split (s)	20.0	43.0	25.0	20.0	15.0
Total Split (%)	20%	43%	25%	20%	15%
Yellow Time (s)	4.0	4.0	2.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

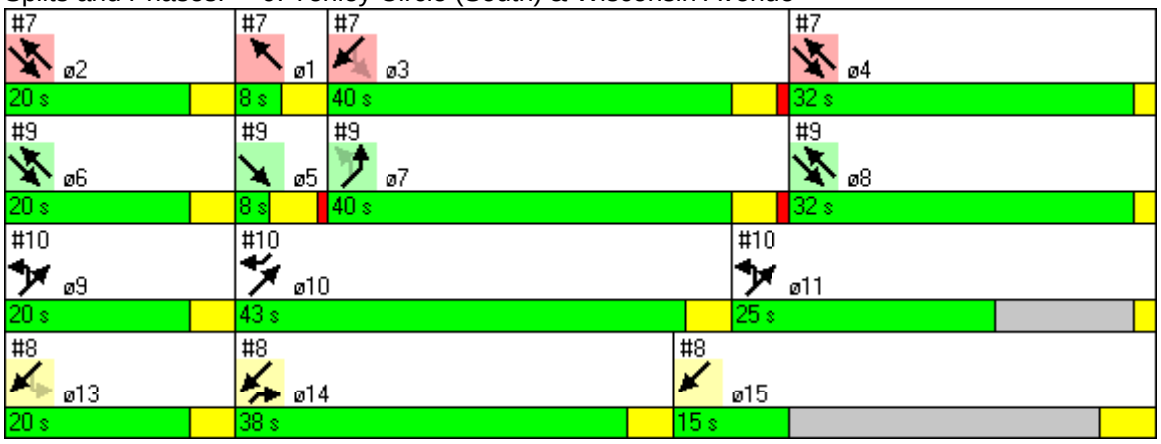
Intersection Summary

Lane Group	SBL	SET	NWT	NEL	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø9
Lane Configurations												
Volume (vph)	0	1862	1605	465								
Turn Type												
Protected Phases		6 5 8	6 8	7	1	2	3	4	5	6	8	9
Permitted Phases				7								
Detector Phases		6 5 8	6 8	7								
Minimum Initial (s)				6.0	3.0	5.0	6.0	6.0	3.0	6.0	6.0	5.0
Minimum Split (s)				40.0	8.0	20.0	40.0	32.0	8.0	20.0	32.0	20.0
Total Split (s)	0.0	60.0	52.0	40.0	8.0	20.0	40.0	32.0	8.0	20.0	32.0	20.0
Total Split (%)	0%	60%	52%	40%	8%	20%	40%	32%	8%	20%	32%	20%
Yellow Time (s)				4.0	4.0	4.0	4.0	2.0	4.0	4.0	2.0	4.0
All-Red Time (s)				1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
Lead/Lag				Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode				Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		56.0	48.0	36.0								
Actuated g/C Ratio		0.56	0.48	0.36								
v/c Ratio		0.71	0.79	0.70								
Uniform Delay, d1		16.1	21.8	27.1								
Delay		2.5	15.8	27.5								
LOS		A	B	C								
Approach Delay		2.5	15.8	27.5								
Approach LOS		A	B	C								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 12.2 Intersection LOS: B
Intersection Capacity Utilization 80.7% ICU Level of Service D

Splits and Phases: 9: Tenley Circle (South) & Wisconsin Avenue



Lane Group	ø10	ø11	ø13	ø14	ø15
Lane Configurations					
Volume (vph)					
Turn Type					
Protected Phases	10	11	13	14	15
Permitted Phases					
Detector Phases					
Minimum Initial (s)	6.0	6.0	6.0	4.0	4.0
Minimum Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (s)	43.0	25.0	20.0	38.0	15.0
Total Split (%)	43%	25%	20%	38%	15%
Yellow Time (s)	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Uniform Delay, d1					
Delay					
LOS					
Approach Delay					
Approach LOS					

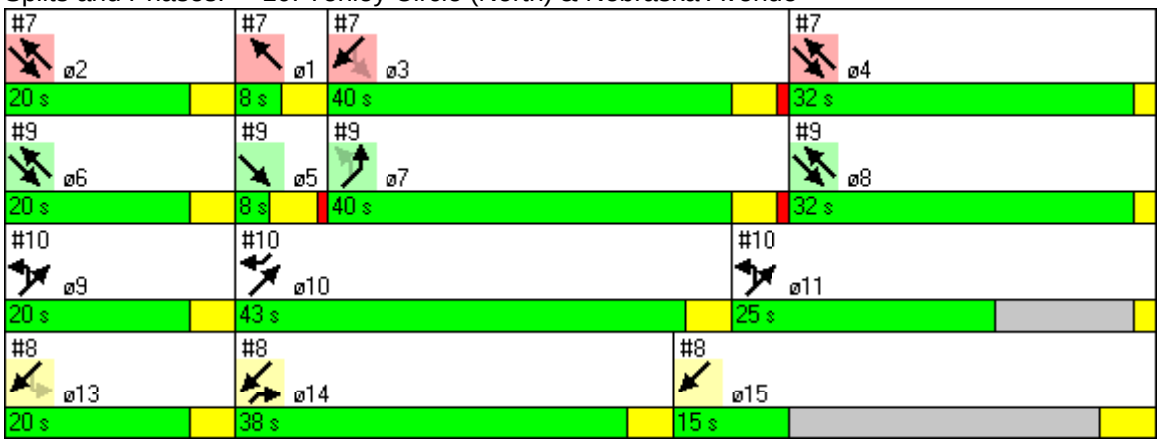
Intersection Summary

Lane Group	EBL	NEL	NET	SWT	SWR	ø1	ø2	ø3	ø4	ø5	ø6	ø7
Lane Configurations												
Volume (vph)	0	138	461	0	558							
Turn Type		Prot			custom							
Protected Phases		9 119	10 11		10	1	2	3	4	5	6	7
Permitted Phases					10							
Detector Phases		9 119	10 11		10							
Minimum Initial (s)					6.0	3.0	5.0	6.0	6.0	3.0	6.0	6.0
Minimum Split (s)					43.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0
Total Split (s)	0.0	45.0	88.0	0.0	43.0	8.0	20.0	40.0	32.0	8.0	20.0	40.0
Total Split (%)	0%	45%	88%	0%	43%	8%	20%	40%	32%	8%	20%	40%
Yellow Time (s)					4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0
All-Red Time (s)					0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0
Lead/Lag					Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		53.0	92.0		39.0							
Actuated g/C Ratio		0.53	0.92		0.39							
v/c Ratio		0.16	0.22		0.33							
Uniform Delay, d1		0.8	0.2		0.0							
Delay		2.6	0.2		2.7							
LOS		A	A		A							
Approach Delay			0.7	2.7								
Approach LOS			A	A								

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 5:SET, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 1.7 Intersection LOS: A
Intersection Capacity Utilization 43.8% ICU Level of Service A

Splits and Phases: 10: Tenley Circle (North) & Nebraska Avenue



Lane Group	ø8	ø9	ø11	ø13	ø14	ø15
Lane Configurations						
Volume (vph)						
Turn Type						
Protected Phases	8	9	11	13	14	15
Permitted Phases						
Detector Phases						
Minimum Initial (s)	6.0	5.0	6.0	6.0	4.0	4.0
Minimum Split (s)	32.0	20.0	25.0	20.0	38.0	15.0
Total Split (s)	32.0	20.0	25.0	20.0	38.0	15.0
Total Split (%)	32%	20%	25%	20%	38%	15%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag	Lag	Lead		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Uniform Delay, d1						
Delay						
LOS						
Approach Delay						
Approach LOS						

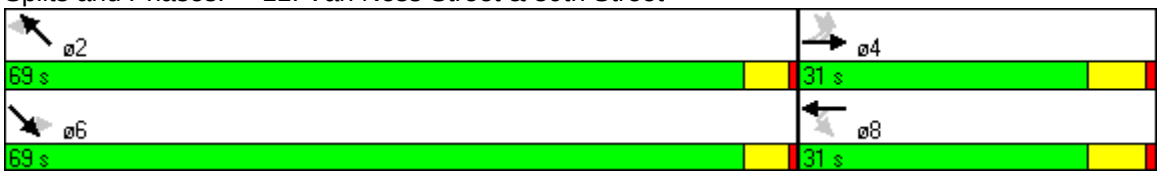
Intersection Summary

Lane Group	EBL2	EBL	EBT	WBL	WBT	SBL	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	59	15	144	66	132	0	56	1532	47	1388
Turn Type	Perm	Perm		Perm			Perm		Perm	
Protected Phases			4		8			6		2
Permitted Phases	4	4		8			6	6	2	2
Detector Phases	4	4	4	8	8		6	6	2	2
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	0.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	31%	0%	69%	69%	69%	69%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max	Max	Max	Max		Max	Max	Max	Max
Act Effct Green (s)			27.0	27.0	27.0			65.0		65.0
Actuated g/C Ratio			0.27	0.27	0.27			0.65		0.65
v/c Ratio			1.20	0.39	0.68			1.08		0.84
Uniform Delay, d1			36.5	29.8	32.6			17.5		13.4
Delay			122.5	31.3	33.6			73.7		2.4
LOS			F	C	C			E		A
Approach Delay			122.5		33.1			73.7		2.4
Approach LOS			F		C			E		A

Intersection Summary

Cycle Length: 100
Offset: 24 (24%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.20
Intersection Signal Delay: 45.1 Intersection LOS: D
Intersection Capacity Utilization 153.6% ICU Level of Service H

Splits and Phases: 11: Van Ness Street & 39th Street

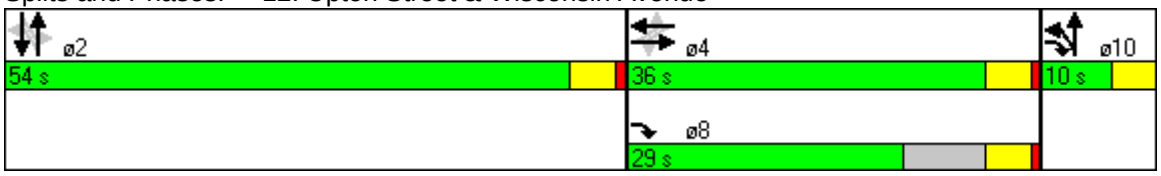


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	ø8
Lane Configurations										
Volume (vph)	25	15	94	10	13	83	1657	8	1669	
Turn Type	Perm		custom	Perm		D.P+P		Perm		
Protected Phases		4	8 10		4	10	10 2		2	8
Permitted Phases	4			4		2		2		
Detector Phases	4	4	8 10	4	4	10	10 2	2	2	
Minimum Initial (s)	20.0	20.0		20.0	20.0	5.0		19.0	19.0	20.0
Minimum Split (s)	29.0	29.0		29.0	29.0	10.0		54.0	54.0	29.0
Total Split (s)	36.0	36.0	39.0	36.0	36.0	10.0	64.0	54.0	54.0	29.0
Total Split (%)	36%	36%	39%	36%	36%	10%	64%	54%	54%	29%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	0.0		1.0	1.0	1.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Max	Max		Max	Max	Max		Max	Max	Max
Act Effct Green (s)		32.0	42.0		32.0		56.0		50.0	
Actuated g/C Ratio		0.32	0.42		0.32		0.56		0.50	
v/c Ratio		0.09	0.16		0.17		1.88		1.45	
Uniform Delay, d1		23.8	17.1		20.2		18.8		25.0	
Delay		24.2	17.4		20.9		249.9		148.8	
LOS		C	B		C		F		F	
Approach Delay		19.5			20.9		249.9		148.8	
Approach LOS		B			C		F		F	

Intersection Summary

Cycle Length: 100
Offset: 26 (26%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 145
Control Type: Pretimed
Maximum v/c Ratio: 1.88
Intersection Signal Delay: 190.9 Intersection LOS: F
Intersection Capacity Utilization 134.0% ICU Level of Service H

Splits and Phases: 12: Upton Street & Wisconsin Avenue

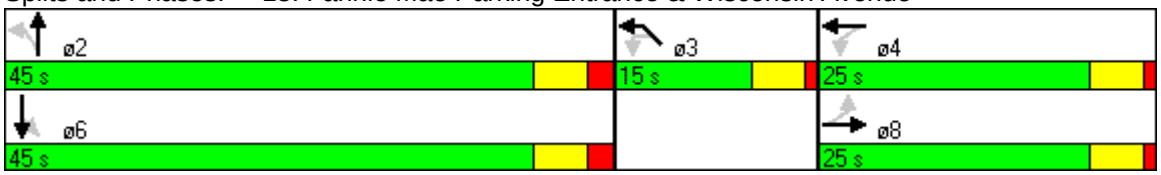


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	NWL
Lane Configurations									
Volume (vph)	5	0	38	0	8	1830	12	1780	0
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases		8		4		2		6	3
Permitted Phases	8		4		2		6		
Detector Phases	8	8	4	4	2	2	6	6	3
Minimum Initial (s)	7.0	7.0	7.0	7.0	1.0	1.0	28.0	28.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	45.0	45.0	45.0	45.0	12.0
Total Split (s)	25.0	25.0	25.0	25.0	45.0	45.0	45.0	45.0	15.0
Total Split (%)	29%	29%	29%	29%	53%	53%	53%	53%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Coord	Coord	Coord	Coord	Max
Act Effct Green (s)		21.0		21.0		41.0		41.0	
Actuated g/C Ratio		0.25		0.25		0.48		0.48	
v/c Ratio		0.04		0.24		1.66		1.68	
Uniform Delay, d1		24.3		11.3		22.0		22.0	
Delay		24.6		13.9		224.1		229.3	
LOS		C		B		F		F	
Approach Delay		24.6		13.9		224.1		229.3	0.0
Approach LOS		C		B		F		F	A

Intersection Summary

Cycle Length: 85
Actuated Cycle Length: 85
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.68
Intersection Signal Delay: 221.3 Intersection LOS: F
Intersection Capacity Utilization 80.5% ICU Level of Service D

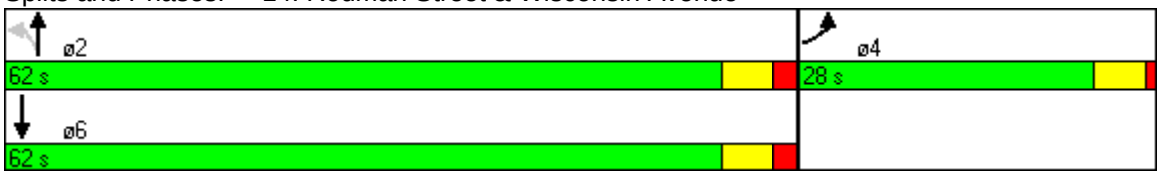
Splits and Phases: 13: Fannie Mae Parking Entrance & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	99	11	1636	1685
Turn Type		Perm		
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phases	4	2	2	6
Minimum Initial (s)	9.0	30.0	30.0	30.0
Minimum Split (s)	24.0	36.0	36.0	36.0
Total Split (s)	28.0	62.0	62.0	62.0
Total Split (%)	31%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	12.8		72.8	72.8
Actuated g/C Ratio	0.14		0.81	0.81
v/c Ratio	0.50		0.79	0.72
Uniform Delay, d1	37.4		5.5	4.7
Delay	35.3		8.8	6.0
LOS	D		A	A
Approach Delay	35.3		8.8	6.0
Approach LOS	D		A	A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 69.0%	ICU Level of Service B

Splits and Phases: 14: Rodman Street & Wisconsin Avenue

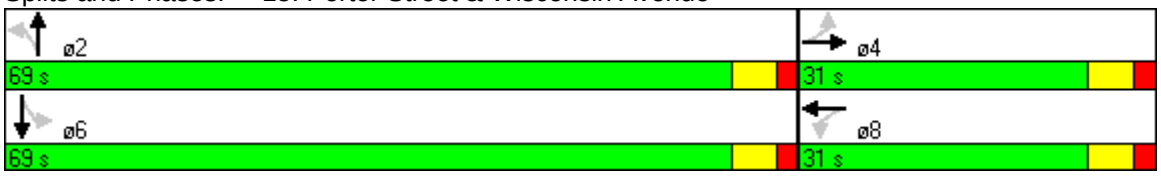


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	63	38	149	29	6	1403	90	1649
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0
Total Split (%)	31%	31%	31%	31%	69%	69%	69%	69%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		27.0		27.0		65.0		65.0
Actuated g/C Ratio		0.27		0.27		0.65		0.65
v/c Ratio		0.40		0.96		0.78		1.44
Uniform Delay, d1		27.3		36.0		12.4		17.5
Delay		28.1		66.5		13.7		168.9
LOS		C		E		B		F
Approach Delay		28.1		66.5		13.7		168.9
Approach LOS		C		E		B		F

Intersection Summary

Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 93.9 Intersection LOS: F
Intersection Capacity Utilization 143.3% ICU Level of Service H

Splits and Phases: 15: Porter Street & Wisconsin Avenue

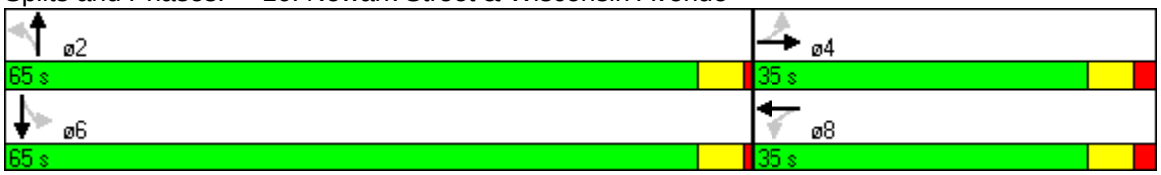


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	173	38	17	34	104	1315	9	1512
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	23.0	23.0	23.0	23.0	15.0	15.0	15.0	15.0
Minimum Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		31.0		31.0		61.0		61.0
Actuated g/C Ratio		0.31		0.31		0.61		0.61
v/c Ratio		0.79		0.18		1.61dl		0.94
Uniform Delay, d1		31.5		20.3		19.5		17.9
Delay		36.8		20.8		128.6		24.6
LOS		D		C		F		C
Approach Delay		36.8		20.8		128.6		24.6
Approach LOS		D		C		F		C

Intersection Summary

Cycle Length: 100
Offset: 23 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.46
Intersection Signal Delay: 68.7 Intersection LOS: E
Intersection Capacity Utilization 138.2% ICU Level of Service H
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 16: Newark Street & Wisconsin Avenue

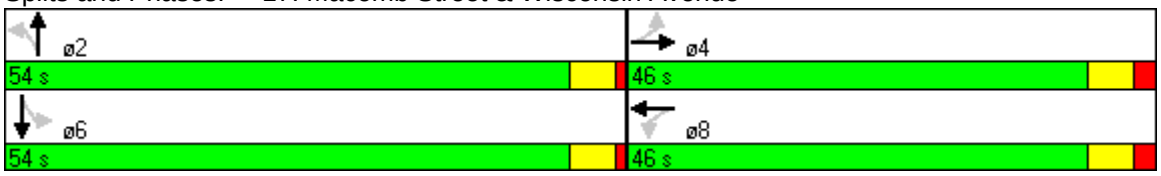


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	74	61	28	52	47	1191	14	1370
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	13.0	13.0	13.0	13.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (%)	46%	46%	46%	46%	54%	54%	54%	54%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		42.0		42.0		50.0		50.0
Actuated g/C Ratio		0.42		0.42		0.50		0.50
v/c Ratio		0.36		0.21		1.31		1.04
Uniform Delay, d1		18.7		18.4		25.0		25.0
Delay		19.2		18.8		136.3		39.0
LOS		B		B		F		D
Approach Delay		19.2		18.8		136.3		39.0
Approach LOS		B		B		F		D

Intersection Summary

Cycle Length: 100
Offset: 30 (30%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 77.9 Intersection LOS: E
Intersection Capacity Utilization 96.0% ICU Level of Service E

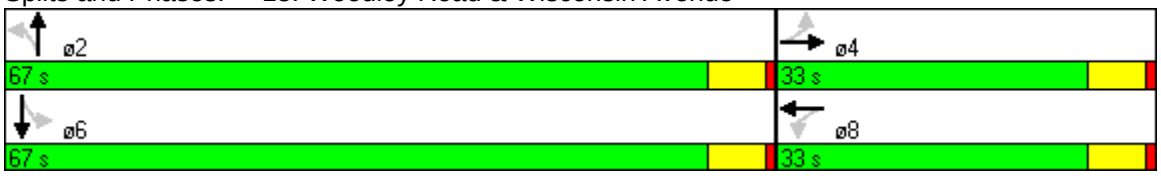
Splits and Phases: 17: Macomb Street & Wisconsin Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	25	18	59	19	33	1332	37	1610
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	21.0	21.0	21.0	21.0	14.0	14.0	14.0	14.0
Minimum Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (s)	33.0	33.0	33.0	33.0	67.0	67.0	67.0	67.0
Total Split (%)	33%	33%	33%	33%	67%	67%	67%	67%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0		29.0		63.0		63.0
Actuated g/C Ratio		0.29		0.29		0.63		0.63
v/c Ratio		0.19		0.32		1.00		1.09
Uniform Delay, d1		26.6		27.8		18.5		18.5
Delay		27.2		28.4		45.0		59.7
LOS		C		C		D		E
Approach Delay		27.2		28.4		45.0		59.7
Approach LOS		C		C		D		E

Intersection Summary	
Cycle Length: 100	
Offset: 17 (17%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 110	
Control Type: Pretimed	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 51.5	Intersection LOS: D
Intersection Capacity Utilization 104.9%	ICU Level of Service F

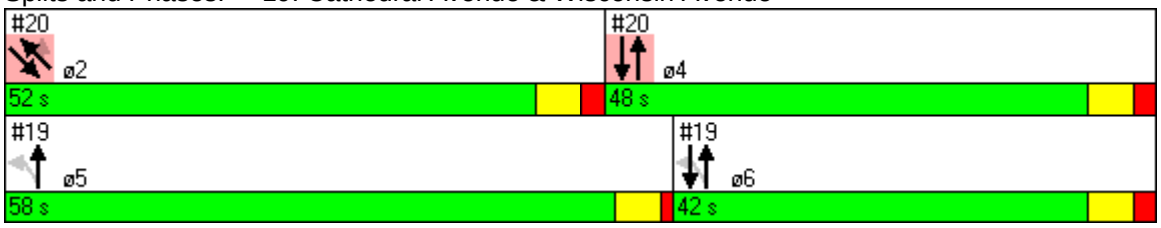
Splits and Phases: 18: Woodley Road & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT	ø2	ø4	ø5
Lane Configurations							
Volume (vph)	0	56	1345	1606			
Turn Type		Perm					
Protected Phases			6 5	6	2	4	5
Permitted Phases		6 5					
Detector Phases		6 5	6 5	6			
Minimum Initial (s)				1.0	23.0	23.0	4.0
Minimum Split (s)				42.0	52.0	48.0	51.0
Total Split (s)	0.0	100.0	100.0	42.0	52.0	48.0	58.0
Total Split (%)	0%	100%	100%	42%	52%	48%	58%
Yellow Time (s)				4.0	4.0	4.0	4.0
All-Red Time (s)				2.0	2.0	2.0	1.0
Lead/Lag				Lag			Lead
Lead-Lag Optimize?				Yes			Yes
Recall Mode				Max	Max	Max	Max
Act Effct Green (s)			100.0	38.0			
Actuated g/C Ratio			1.00	0.38			
v/c Ratio			0.87dl	1.47			
Uniform Delay, d1			0.0	30.8			
Delay			11.1	152.6			
LOS			B	F			
Approach Delay			11.1	152.6			
Approach LOS			B	F			

Intersection Summary	
Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1: and 5:NBTL, Start of Green	
Natural Cycle: 120	
Control Type: Pretimed	
Maximum v/c Ratio: 1.47	
Intersection Signal Delay: 88.4	Intersection LOS: F
Intersection Capacity Utilization 109.2%	ICU Level of Service F
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

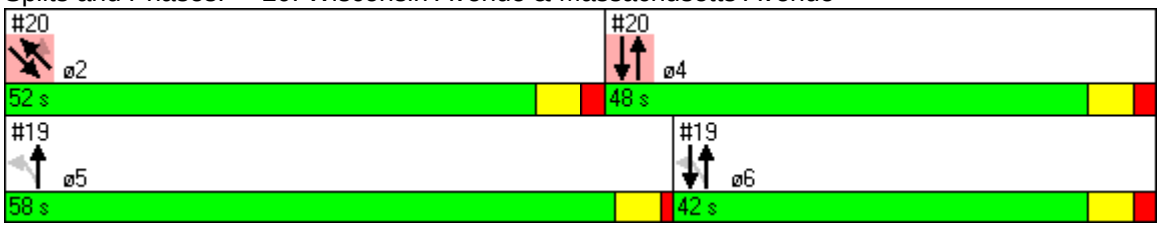
Splits and Phases: 19: Cathedral Avenue & Wisconsin Avenue



Lane Group	NBT	SBT	SET	NWT	NWR	ø5	ø6
Lane Configurations							
Volume (vph)	1150	1454	552	538	297		
Turn Type					Perm		
Protected Phases	4	4	2	2		5	6
Permitted Phases					2		
Detector Phases	4	4	2	2	2		
Minimum Initial (s)	23.0	23.0	23.0	23.0	23.0	4.0	1.0
Minimum Split (s)	48.0	48.0	52.0	52.0	52.0	51.0	42.0
Total Split (s)	48.0	48.0	52.0	52.0	52.0	58.0	42.0
Total Split (%)	48%	48%	52%	52%	52%	58%	42%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lead/Lag						Lead	Lag
Lead-Lag Optimize?						Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0	44.0	48.0	48.0	48.0		
Actuated g/C Ratio	0.44	0.44	0.48	0.48	0.48		
v/c Ratio	0.87	1.09	0.50	0.35	0.44		
Uniform Delay, d1	25.4	28.0	17.6	16.3	16.1		
Delay	7.7	28.0	17.8	16.5	16.6		
LOS	A	C	B	B	B		
Approach Delay	7.7	28.0	17.8	16.5			
Approach LOS	A	C	B	B			

Intersection Summary	
Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1: and 5:NBTL, Start of Green	
Natural Cycle: 120	
Control Type: Pretimed	
Maximum v/c Ratio: 1.47	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 88.7%	ICU Level of Service D

Splits and Phases: 20: Wisconsin Avenue & Massachusetts Avenue

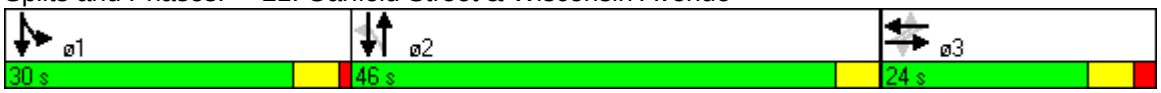


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	27	58	110	45	1179	374	1327
Turn Type	Perm		Perm			Prot	
Protected Phases		3		3	2	1	1 2
Permitted Phases	3		3				
Detector Phases	3	3	3	3	2	1	1 2
Minimum Initial (s)	17.0	17.0	17.0	17.0	11.0	25.0	
Minimum Split (s)	24.0	24.0	24.0	24.0	46.0	30.0	
Total Split (s)	24.0	24.0	24.0	24.0	46.0	30.0	76.0
Total Split (%)	24%	24%	24%	24%	46%	30%	76%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	1.0	
Lead/Lag					Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	
Act Effct Green (s)		20.0		20.0	42.0	26.0	72.0
Actuated g/C Ratio		0.20		0.20	0.42	0.26	0.72
v/c Ratio		0.35		0.74	1.05	0.95	0.63
Uniform Delay, d1		30.7		36.7	29.0	36.3	7.2
Delay		31.4		44.3	60.0	45.7	9.2
LOS		C		D	E	D	A
Approach Delay		31.4		44.3	60.0		17.1
Approach LOS		C		D	E		B

Intersection Summary

Cycle Length: 100
Offset: 20 (20%), Referenced to phase 1:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 35.8 Intersection LOS: D
Intersection Capacity Utilization 108.5% ICU Level of Service F

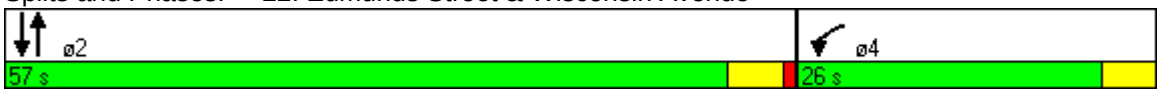
Splits and Phases: 21: Garfield Street & Wisconsin Avenue



Lane Group	WBL	NBT	SBT
Lane Configurations			
Volume (vph)	28	1237	1531
Turn Type			
Protected Phases	4	2	2
Permitted Phases			
Detector Phases	4	2	2
Minimum Initial (s)	7.0	34.0	34.0
Minimum Split (s)	26.0	57.0	57.0
Total Split (s)	26.0	57.0	57.0
Total Split (%)	31%	69%	69%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Coord	Coord
Act Effct Green (s)	7.7	73.3	73.3
Actuated g/C Ratio	0.09	0.88	0.88
v/c Ratio	0.31	0.47	0.56
Uniform Delay, d1	22.0	1.7	2.0
Delay	23.7	2.0	2.4
LOS	C	A	A
Approach Delay	23.7	2.0	2.4
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 83	
Actuated Cycle Length: 83	
Offset: 19 (23%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 2.6	Intersection LOS: A
Intersection Capacity Utilization 59.5%	ICU Level of Service A

Splits and Phases: 22: Edmunds Street & Wisconsin Avenue

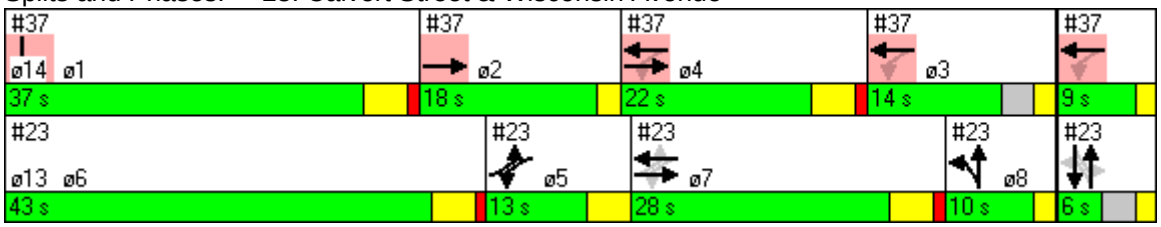


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø3	ø4
Lane Configurations												
Volume (vph)	172	89	179	99	164	1148	21	1192				
Turn Type	pm+pt		pm+pt		D.P+P		Perm					
Protected Phases	5	7	5	7	8	6 8 13		6 13	1	2	3	4
Permitted Phases	7		7		6 13		6 13					
Detector Phases	5	7	5	7	8	6 8 13	6 13	6 13				
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0				4.0	4.0	4.0	6.0
Minimum Split (s)	12.0	13.0	12.0	13.0	9.0				37.0	18.0	14.0	22.0
Total Split (s)	13.0	28.0	13.0	28.0	10.0	59.0	49.0	49.0	37.0	18.0	14.0	22.0
Total Split (%)	13%	27%	13%	27%	10%	57%	48%	48%	36%	17%	14%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0	2.0				4.0	2.0	2.0	4.0
All-Red Time (s)	0.0	1.0	0.0	1.0	0.0				1.0	0.0	0.0	1.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag				Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max				Max	Max	Max	Max
Act Effct Green (s)	33.0	24.0	33.0	24.0		54.0		48.0				
Actuated g/C Ratio	0.32	0.23	0.32	0.23		0.52		0.47				
v/c Ratio	0.50	0.67	0.69	0.30		1.91		1.04				
Uniform Delay, d1	23.8	24.4	24.0	32.6		21.3		27.5				
Delay	6.6	14.1	28.3	33.2		261.7		59.0				
LOS	A	B	C	C		F		E				
Approach Delay		11.1		30.2		261.7		59.0				
Approach LOS		B		C		F		E				

Intersection Summary

Cycle Length: 103
Offset: 70 (68%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.91
Intersection Signal Delay: 140.0 Intersection LOS: F
Intersection Capacity Utilization 127.3% ICU Level of Service H

Splits and Phases: 23: Calvert Street & Wisconsin Avenue



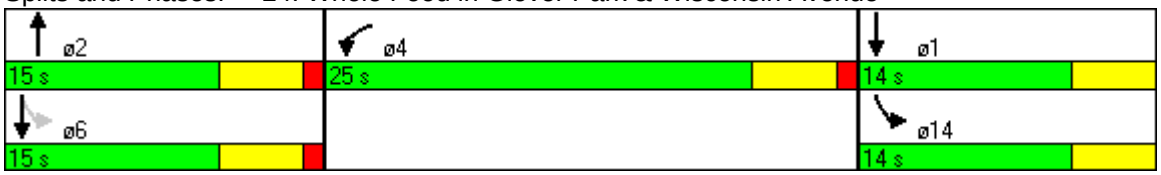
Lane Group	ø6	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	6	13	14
Permitted Phases			
Detector Phases			
Minimum Initial (s)	6.0	3.0	2.0
Minimum Split (s)	42.0	7.0	7.0
Total Split (s)	43.0	6.0	9.0
Total Split (%)	42%	6%	9%
Yellow Time (s)	4.0	2.0	2.0
All-Red Time (s)	1.0	0.0	0.0
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	Max	Max	Max
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Uniform Delay, d1			
Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	WBL	NBT	SBL	SBT	ø1	ø6
Lane Configurations						
Volume (vph)	65	1495	137	1467		
Turn Type			custom			
Protected Phases	4	2	14	1 6	1	6
Permitted Phases			6			
Detector Phases	4	2	14	1 6		
Minimum Initial (s)	7.0	7.0	6.0		6.0	7.0
Minimum Split (s)	13.0	15.0	10.0		10.0	15.0
Total Split (s)	25.0	15.0	14.0	29.0	14.0	15.0
Total Split (%)	46%	28%	26%	54%	26%	28%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	0.0		0.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Coord	None		None	Coord
Act Effct Green (s)	10.5	21.5		31.5		
Actuated g/C Ratio	0.19	0.40		0.58		
v/c Ratio	0.58	1.46		1.42		
Uniform Delay, d1	5.8	16.1		7.4		
Delay	6.9	175.5		161.6		
LOS	A	F		F		
Approach Delay	6.9	175.5		161.6		
Approach LOS	A	F		F		

Intersection Summary	
Cycle Length: 54	
Actuated Cycle Length: 54	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.46	
Intersection Signal Delay: 158.5	Intersection LOS: F
Intersection Capacity Utilization 133.6%	ICU Level of Service H

Splits and Phases: 24: Whole Food in Glover Park & Wisconsin Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	52	18	1369	1510
Turn Type		Perm		
Protected Phases	4		2	2
Permitted Phases		2		
Detector Phases	4	2	2	2
Minimum Initial (s)	8.0	36.0	36.0	36.0
Minimum Split (s)	24.0	56.0	56.0	56.0
Total Split (s)	24.0	56.0	56.0	56.0
Total Split (%)	30%	70%	70%	70%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Coord	Coord	Coord
Act Effct Green (s)	9.7		65.5	65.5
Actuated g/C Ratio	0.12		0.82	0.82
v/c Ratio	0.46		0.74	0.69
Uniform Delay, d1	25.4		4.1	3.7
Delay	25.0		5.8	4.7
LOS	C		A	A
Approach Delay	25.0		5.8	4.7
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 56 (70%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 74.1%	ICU Level of Service C

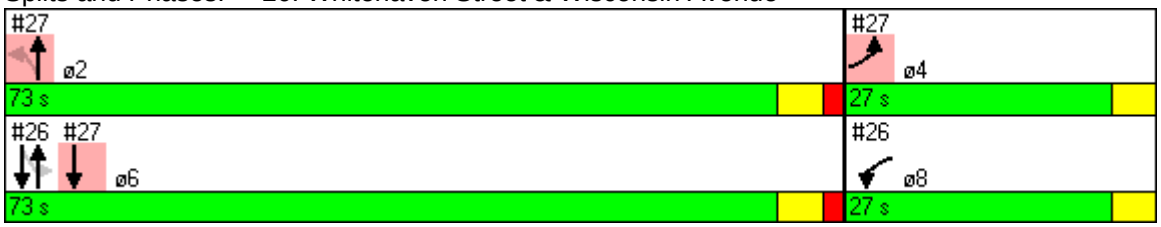
Splits and Phases: 25: Hall Place & Wisconsin Avenue

Lane Group	WBL	NBT	SBL	SBT	ø2	ø4
Lane Configurations						
Volume (vph)	22	1327	2	1361		
Turn Type			Perm			
Protected Phases	8	6		6	2	4
Permitted Phases			6			
Detector Phases	8	6	6	6		
Minimum Initial (s)	15.0	16.0	16.0	16.0	16.0	14.0
Minimum Split (s)	27.0	73.0	73.0	73.0	73.0	27.0
Total Split (s)	27.0	73.0	73.0	73.0	73.0	27.0
Total Split (%)	27%	73%	73%	73%	73%	27%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	0.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	69.0		69.0		
Actuated g/C Ratio	0.23	0.69		0.69		
v/c Ratio	0.08	0.66		0.67		
Uniform Delay, d1	23.3	8.8		8.9		
Delay	25.4	4.1		9.2		
LOS	C	A		A		
Approach Delay	25.4	4.1		9.2		
Approach LOS	C	A		A		

Intersection Summary

Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 6.9 Intersection LOS: A
Intersection Capacity Utilization 67.5% ICU Level of Service B

Splits and Phases: 26: Whitehaven Street & Wisconsin Avenue

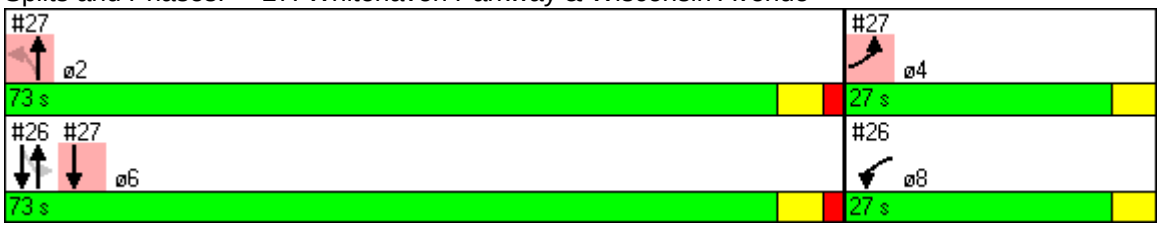


Lane Group	EBL	NBL	NBT	SBT	ø8
Lane Configurations					
Volume (vph)	204	92	1282	1407	
Turn Type		Perm			
Protected Phases	4		2	6	8
Permitted Phases		2			
Detector Phases	4	2	2	6	
Minimum Initial (s)	14.0	16.0	16.0	16.0	15.0
Minimum Split (s)	27.0	73.0	73.0	73.0	27.0
Total Split (s)	27.0	73.0	73.0	73.0	27.0
Total Split (%)	27%	73%	73%	73%	27%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	0.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0		69.0	69.0	
Actuated g/C Ratio	0.23		0.69	0.69	
v/c Ratio	0.76		1.16	0.66	
Uniform Delay, d1	33.6		15.5	8.8	
Delay	37.7		85.4	1.3	
LOS	D		F	A	
Approach Delay	37.7		85.4	1.3	
Approach LOS	D		F	A	

Intersection Summary

Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 42.0 Intersection LOS: D
Intersection Capacity Utilization 112.6% ICU Level of Service G

Splits and Phases: 27: Whitehaven Parkway & Wisconsin Avenue

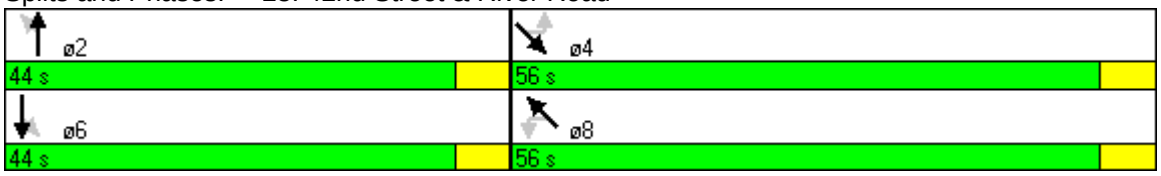


Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	35	235	12	279	95	99	6	118
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	4	4	8	8
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	44.0	44.0	44.0	44.0	56.0	56.0	56.0	56.0
Total Split (%)	44%	44%	44%	44%	56%	56%	56%	56%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		40.0		40.0		52.0		52.0
Actuated g/C Ratio		0.40		0.40		0.52		0.52
v/c Ratio		0.51		0.67		0.30		0.14
Uniform Delay, d1		22.6		24.6		13.7		12.4
Delay		23.2		25.3		10.2		12.6
LOS		C		C		B		B
Approach Delay		23.2		25.3		10.2		12.6
Approach LOS		C		C		B		B

Intersection Summary

Cycle Length: 100
Offset: 12 (12%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 20.3 Intersection LOS: C
Intersection Capacity Utilization 88.2% ICU Level of Service D

Splits and Phases: 28: 42nd Street & River Road

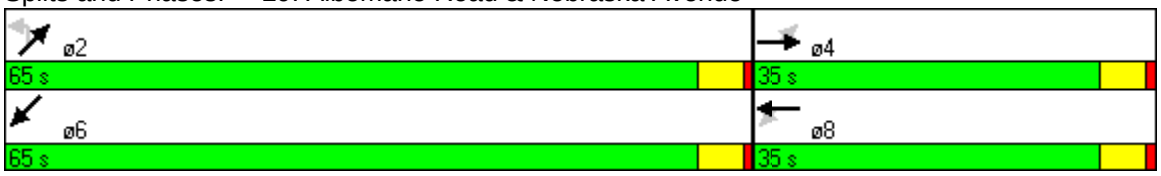


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWT
Lane Configurations							
Volume (vph)	86	248	33	250	2	402	406
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	20.0	20.0	20.0	20.0	18.0	18.0	18.0
Minimum Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	65.0	65.0	65.0
Total Split (%)	35%	35%	35%	35%	65%	65%	65%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	31.0	31.0	31.0	31.0		61.0	61.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31		0.61	0.61
v/c Ratio	0.43	0.50	0.17	0.52		0.25	0.26
Uniform Delay, d1	27.5	28.2	25.1	28.4		9.0	9.1
Delay	31.9	31.8	26.1	29.0		10.5	9.2
LOS	C	C	C	C		B	A
Approach Delay		31.8		28.7		10.5	9.2
Approach LOS		C		C		B	A

Intersection Summary

Cycle Length: 100
Offset: 74 (74%), Referenced to phase 2:NETL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 18.1 Intersection LOS: B
Intersection Capacity Utilization 101.7% ICU Level of Service F

Splits and Phases: 29: Albemarle Road & Nebraska Avenue

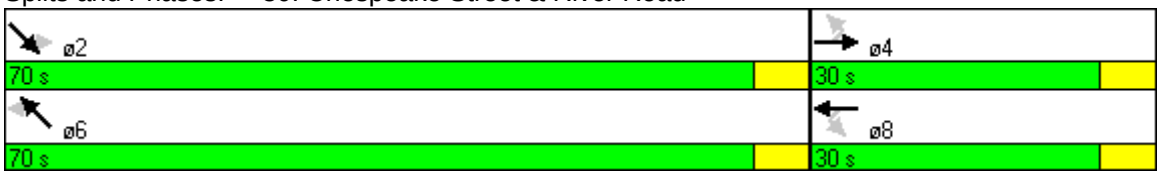


Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	33	24	1	27	33	281	13	320
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	19.0	19.0	19.0	19.0	22.0	22.0	22.0	22.0
Minimum Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (s)	30.0	30.0	30.0	30.0	70.0	70.0	70.0	70.0
Total Split (%)	30%	30%	30%	30%	70%	70%	70%	70%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		26.0		26.0		66.0		66.0
Actuated g/C Ratio		0.26		0.26		0.66		0.66
v/c Ratio		0.18		0.12		0.34		0.31
Uniform Delay, d1		28.7		14.9		7.2		7.3
Delay		29.3		17.9		7.4		3.9
LOS		C		B		A		A
Approach Delay		29.3		17.9		7.4		3.9
Approach LOS		C		B		A		A

Intersection Summary

Cycle Length: 100
Offset: 22 (22%), Referenced to phase 2:SETL and 6:NWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 8.4 Intersection LOS: A
Intersection Capacity Utilization 81.7% ICU Level of Service D

Splits and Phases: 30: Chespeake Street & River Road

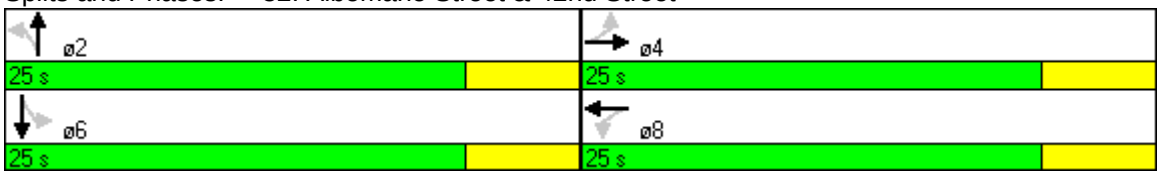


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	9	71	30	85	5	197	79	224
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50%	50%	50%	50%	50%	50%	50%	50%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0		21.0		21.0
Actuated g/C Ratio		0.42		0.42		0.42		0.42
v/c Ratio		0.07		0.22		0.35		0.54
Uniform Delay, d1		8.6		9.3		9.8		10.8
Delay		8.8		14.4		10.2		11.5
LOS		A		B		B		B
Approach Delay		8.8		14.4		10.2		11.5
Approach LOS		A		B		B		B

Intersection Summary

Cycle Length: 50
Offset: 49 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 11.7 Intersection LOS: B
Intersection Capacity Utilization 62.6% ICU Level of Service B

Splits and Phases: 32: Albemarle Street & 42nd Street

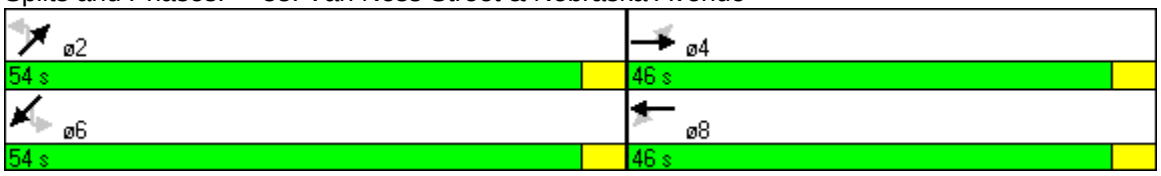


Lane Group	EBL	EBT	WBL	WBT	NEL	NET	SWL	SWT
Lane Configurations								
Volume (vph)	16	127	151	136	3	565	5	385
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	6
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (s)	46.0	46.0	46.0	46.0	54.0	54.0	54.0	54.0
Total Split (%)	46%	46%	46%	46%	54%	54%	54%	54%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		42.0	42.0	42.0		50.0		50.0
Actuated g/C Ratio		0.42	0.42	0.42		0.50		0.50
v/c Ratio		0.22	0.35	0.21		0.51		0.26
Uniform Delay, d1		18.4	19.7	17.9		15.4		14.4
Delay		18.7	15.8	13.9		15.6		14.5
LOS		B	B	B		B		B
Approach Delay		18.7		14.9		15.6		14.5
Approach LOS		B		B		B		B

Intersection Summary

Cycle Length: 100
Offset: 74 (74%), Referenced to phase 2:NETL and 6:SWTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 15.5 Intersection LOS: B
Intersection Capacity Utilization 61.6% ICU Level of Service B

Splits and Phases: 33: Van Ness Street & Nebraska Avenue

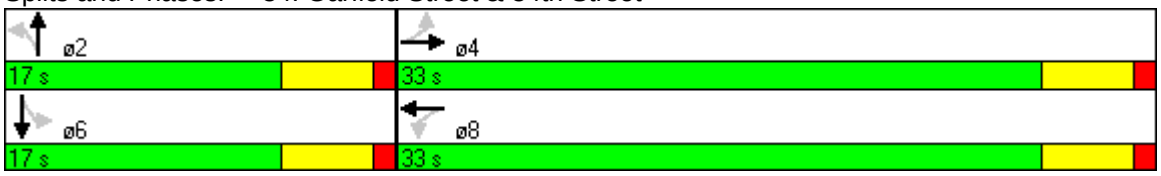


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	100	167	36	188	8	293	20	317
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0
Minimum Split (s)	21.0	21.0	21.0	21.0	29.0	29.0	29.0	29.0
Total Split (s)	33.0	33.0	33.0	33.0	17.0	17.0	17.0	17.0
Total Split (%)	66%	66%	66%	66%	34%	34%	34%	34%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		29.0		29.0		13.0		13.0
Actuated g/C Ratio		0.58		0.58		0.26		0.26
v/c Ratio		0.37		0.27		0.81		0.94
Uniform Delay, d1		5.4		4.9		16.7		17.4
Delay		5.7		14.0		26.1		40.6
LOS		A		B		C		D
Approach Delay		5.7		14.0		26.1		40.6
Approach LOS		A		B		C		D

Intersection Summary

Cycle Length: 50
Offset: 23 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 77.6% ICU Level of Service C

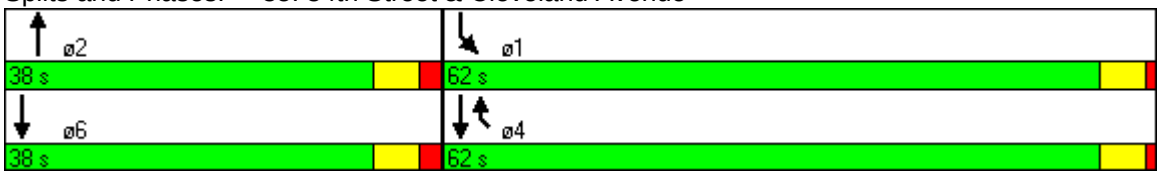
Splits and Phases: 34: Garfield Street & 34th Street



Lane Group	NBT	SBL	SBT	NWL	NWR	ø6
Lane Configurations						
Volume (vph)	356	169	375	0	171	
Turn Type		Prot			custom	
Protected Phases	2	1	6 4		4	6
Permitted Phases					4	
Detector Phases	2	1	6 4		4	
Minimum Initial (s)	6.0	6.0			6.0	6.0
Minimum Split (s)	22.0	22.0			22.0	22.0
Total Split (s)	38.0	62.0	100.0	0.0	62.0	38.0
Total Split (%)	38%	62%	100%	0%	62%	38%
Yellow Time (s)	4.0	4.0			4.0	4.0
All-Red Time (s)	2.0	1.0			1.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Coord	None			None	Max
Act Effct Green (s)	73.1	18.9	100.0		18.9	
Actuated g/C Ratio	0.73	0.19	1.00		0.19	
v/c Ratio	0.30	0.57	0.23		0.63	
Uniform Delay, d1	4.6	36.8	0.0		37.3	
Delay	3.9	35.4	0.0		39.3	
LOS	A	D	A		D	
Approach Delay	3.9		11.0	39.3		
Approach LOS	A		B	D		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 76 (76%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 13.1	Intersection LOS: B
Intersection Capacity Utilization 39.7%	ICU Level of Service A

Splits and Phases: 35: 34th Street & Cleveland Avenue

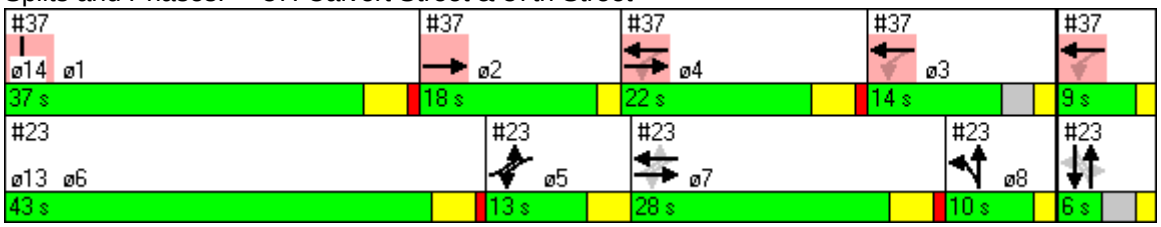


Lane Group	EBT	WBL	WBT	NBT	SBT	ø2	ø3	ø4	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	370	36	227	0	215							
Turn Type		Perm										
Protected Phases	2 4		4 3 14		1	2	3	4	5	6	7	8
Permitted Phases		4 3 14										
Detector Phases	2 4	4 3 14	4 3 14		1							
Minimum Initial (s)					4.0	4.0	4.0	6.0	6.0	6.0	6.0	5.0
Minimum Split (s)					37.0	18.0	14.0	22.0	12.0	42.0	13.0	9.0
Total Split (s)	40.0	45.0	45.0	0.0	37.0	18.0	14.0	22.0	13.0	43.0	28.0	10.0
Total Split (%)	39%	44%	44%	0%	36%	17%	14%	21%	13%	42%	27%	10%
Yellow Time (s)					4.0	2.0	2.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)					1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode					Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	36.1		44.0		33.0							
Actuated g/C Ratio	0.35		0.43		0.32							
v/c Ratio	0.42		0.39		0.62							
Uniform Delay, d1	24.6		20.2		27.1							
Delay	24.9		21.0		27.7							
LOS	C		C		C							
Approach Delay	24.9		21.0		27.7							
Approach LOS	C		C		C							

Intersection Summary

Cycle Length: 103
Offset: 70 (68%), Referenced to phase 1:SBT and 5:, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.91
Intersection Signal Delay: 24.8 Intersection LOS: C
Intersection Capacity Utilization 66.0% ICU Level of Service B

Splits and Phases: 37: Calvert Street & 37th Street



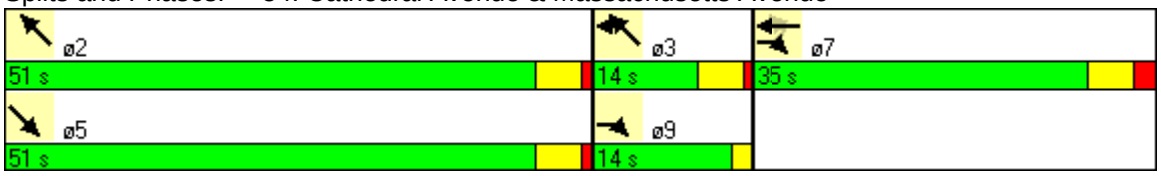
Lane Group	ø13	ø14
Lane Configurations		
Volume (vph)		
Turn Type		
Protected Phases	13	14
Permitted Phases		
Detector Phases		
Minimum Initial (s)	3.0	2.0
Minimum Split (s)	7.0	7.0
Total Split (s)	6.0	9.0
Total Split (%)	6%	9%
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Uniform Delay, d1		
Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBT	WBT	SET	NWT	ø2	ø3	ø9
Lane Configurations							
Volume (vph)	0	0	0	0			
Turn Type							
Protected Phases		7	5	2 3	2	3	9
Permitted Phases							
Detector Phases		7	5	2 3			
Minimum Initial (s)		21.0	17.0		17.0	5.0	8.0
Minimum Split (s)		27.0	22.0		22.0	10.0	10.0
Total Split (s)	0.0	35.0	51.0	65.0	51.0	14.0	14.0
Total Split (%)	0%	35%	51%	65%	51%	14%	14%
Yellow Time (s)		4.0	4.0		4.0	4.0	2.0
All-Red Time (s)		2.0	1.0		1.0	1.0	0.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode		Max	Max		Max	Max	Max
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Uniform Delay, d1							
Delay							
LOS							
Approach Delay	0.0	0.0	0.0	0.0			
Approach LOS	A	A	A	A			

Intersection Summary	
Cycle Length: 100	
Offset: 59 (59%), Referenced to phase 2:NWT and 5:SET, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A

Splits and Phases: 54: Cathedral Avenue & Massachusetts Avenue



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		
Project Description			
East/West Street: *Newark Street*		North/South Street: *34th Street*	
Intersection Orientation: *North-South*		Study Period (hrs): *0.25*	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	24	550	11	16	548	28
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	26	597	11	17	595	30
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	11	19	37	14	17	36
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	11	20	40	15	18	39
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	26	17		71			72	
C (m) (vph)	966	980		224			211	
v/c	0.03	0.02		0.32			0.34	
95% queue length	0.08	0.05		1.30			1.44	
Control Delay	8.8	8.7		28.4			30.7	
LOS	A	A		D			D	
Approach Delay	--	--	28.4			30.7		
Approach LOS	--	--	D			D		

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		

Project Description

East/West Street: *Massachussets* | North/South Street: *38th Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*10*	*517*	*0*	*0*	*571*	*36*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*10*	*561*	*0*	*0*	*620*	*39*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				*22*	*0*	*29*
Peak-Hour Factor, PHF				*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*23*	*0*	*31*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*					*LTR*	
v (vph)	*10*	*0*					*54*	
C (m) (vph)	*939*	*1020*					*404*	
v/c	*0.01*	*0.00*					*0.13*	
95% queue length	*0.03*	*0.00*					*0.46*	
Control Delay	*8.9*	*8.5*					*15.3*	
LOS	*A*	*A*					*C*	
Approach Delay	--	--				*15.3*		
Approach LOS	--	--				*C*		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Dane Ismart
Agency/Co.	
Date Performed	4/13/2005
Analysis Time Period	Saturday

Site Information

Intersection	
Jurisdiction	
Analysis Year	2014

Project ID

East/West Street: Tunlaw Street

North/South Street: 37th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	57	221	18	27	0
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	241	0	24	29	191	62
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR		LT	R
PHF	0.92		0.92		0.92		0.92	1.00
Flow Rate	301		48		287		238	62
% Heavy Vehicles	0		0		0		0	0
No. Lanes	1		1		1		2	
Geometry Group	2		2		4a		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.4		0.9		0.1	0.0
Prop. Right-Turns	0.8		0.0		0.1		0.0	1.0
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.09		5.09		5.09		5.09	5.09

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	3.20
x, initial	0.27		0.04		0.26		0.21	0.06
hd, final value	5.09		5.09		5.09		5.09	5.09
x, final value	0.43		0.08		0.44		0.39	0.09
Move-up time, m	2.0		2.0		2.0		2.3	
Service Time	3.1		3.1		3.1		3.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	551		298		537		488	312
Delay	11.81		9.69		12.96		12.32	8.49
LOS	B		A		B		B	A
Approach: Delay	11.81		9.69		12.96		11.53	
LOS	B		A		B		B	
Intersection Delay	11.96							
Intersection LOS	B							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Dane Ismart*	Intersection	
Agency/Co.		Jurisdiction	
Date Performed	*4/13/2005*	Analysis Year	*2014*
Analysis Time Period	*Saturday*		

Project Description

East/West Street: *Albemarle Street* | North/South Street: *Fort Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*29*	*142*	*26*	*11*	*168*	*110*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*31*	*154*	*28*	*11*	*182*	*119*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*11*	*79*	*12*	*184*	*70*	*78*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*11*	*85*	*13*	*199*	*76*	*84*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*31*	*11*		*109*			*359*	
C (m) (vph)	*1272*	*1405*		*509*			*534*	
v/c	*0.02*	*0.01*		*0.21*			*0.67*	
95% queue length	*0.07*	*0.02*		*0.80*			*5.01*	
Control Delay	*7.9*	*7.6*		*14.0*			*24.5*	
LOS	*A*	*A*		*B*			*C*	
Approach Delay	--	--	*14.0*			*24.5*		
Approach LOS	--	--	*B*			*C*		

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