

Appendix E

Existing and Future No Build Traffic Analysis Results



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Appendix E-1

Existing Traffic Operations Results



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Existing 2019 AM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	525	395	5	5	175	45	5	5	5	150	5	310
Future Volume (vph)	525	395	5	5	175	45	5	5	5	150	5	310
Confl. Peds. (#/hr)	22		34	34		22				14	14	
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	597	449	6	6	199	51	6	6	6	170	6	352
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1052	0	0	205	51	0	18	0	0	176	352
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	45.0	45.0		30.0	30.0	30.0	26.0	26.0		29.0	29.0	29.0
Total Split (%)	34.6%	34.6%		23.1%	23.1%	23.1%	20.0%	20.0%		22.3%	22.3%	22.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)		61.6			21.2	21.2		12.2			19.4	19.4
Actuated g/C Ratio		0.47			0.16	0.16		0.09			0.15	0.15
v/c Ratio		0.65			0.68	0.16		0.11			0.66	0.66
Control Delay		32.8			62.1	1.1		38.2			62.0	23.4
Queue Delay		0.0			0.0	0.0		0.0			0.0	0.0
Total Delay		32.8			62.1	1.1		38.2			62.0	23.4
LOS		C			E	A		D			E	C
Approach Delay		32.8			50.0			38.3			36.3	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 3:EBTL, Start of Green, Master Intersection

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 36.2

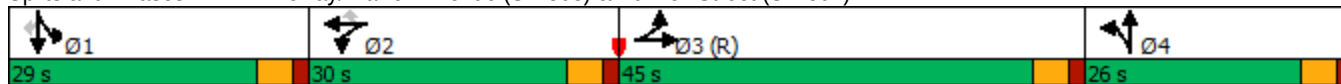
Intersection LOS: D

Intersection Capacity Utilization 70.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)



Existing 2019 AM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	225	30	30	130	30	25	460	35	65	425	90
Future Volume (vph)	135	225	30	30	130	30	25	460	35	65	425	90
Confl. Peds. (#/hr)	15					15	25		3	3		25
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	144	239	32	32	138	32	27	489	37	69	452	96
Shared Lane Traffic (%)	10%			10%								
Lane Group Flow (vph)	130	285	0	29	173	0	27	526	0	69	548	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	34.0	34.0		34.0	34.0		20.0	38.0		24.0	42.0	
Total Split (%)	26.2%	26.2%		26.2%	26.2%		15.4%	29.2%		18.5%	32.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	17.7	17.7		13.2	13.2		80.9	75.3		83.9	78.5	
Actuated g/C Ratio	0.14	0.14		0.10	0.10		0.62	0.58		0.65	0.60	
v/c Ratio	0.60	0.62		0.18	0.50		0.05	0.26		0.12	0.27	
Control Delay	63.7	56.9		53.9	53.7		19.6	22.2		10.7	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.7	56.9		53.9	53.7		19.6	22.2		10.7	12.0	
LOS	E	E		D	D		B	C		B	B	
Approach Delay		59.0			53.7			22.0			11.9	
Approach LOS		E			D			C			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 11 (8%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 30.7

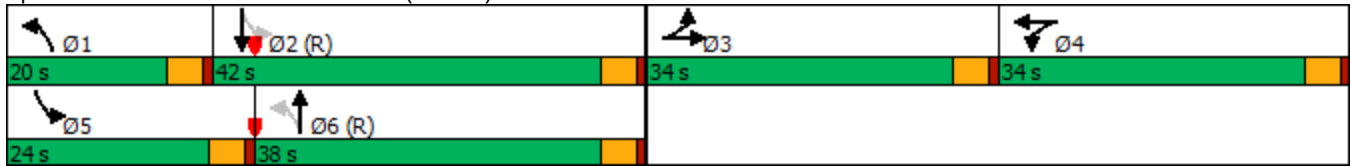
Intersection LOS: C

Intersection Capacity Utilization 51.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street



Existing 2019 AM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	190	25	0	245	50	10	600	15	45	570	475
Future Volume (vph)	570	190	25	0	245	50	10	600	15	45	570	475
Confl. Peds. (#/hr)	5		4	4		5	8		5	5		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	613	204	27	0	263	54	11	645	16	48	613	511
Shared Lane Traffic (%)												
Lane Group Flow (vph)	613	231	0	0	317	0	11	661	0	48	613	511
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	36.0	68.0			32.0		20.0	48.0		12.0	42.0	36.0
Total Split (%)	27.7%	52.3%			24.6%		15.4%	36.9%		9.2%	32.3%	27.7%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	32.0	54.8			17.3		57.5	52.2		62.4	60.6	91.6
Actuated g/C Ratio	0.25	0.42			0.13		0.44	0.40		0.48	0.47	0.70
v/c Ratio	0.73	0.30			0.68		0.03	0.48		0.16	0.38	0.43
Control Delay	50.6	24.1			57.8		18.7	32.7		33.5	32.1	2.3
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	50.6	24.1			57.8		18.7	32.7		33.5	32.1	2.3
LOS	D	C			E		B	C		C	C	A
Approach Delay		43.3			57.8			32.5			19.2	
Approach LOS		D			E			C			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 122 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 33.0

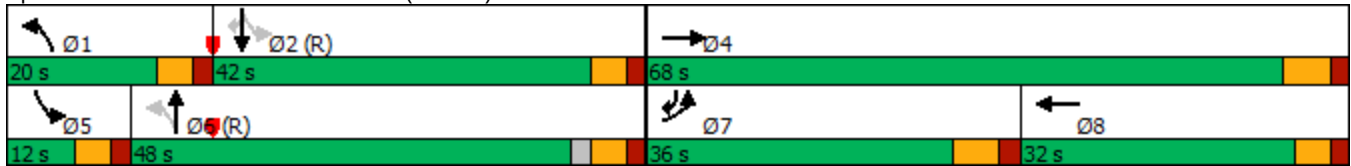
Intersection LOS: C

Intersection Capacity Utilization 71.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street



Existing 2019 AM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	5	15	5	15	5	0	1215	5	0	1080	110
Future Volume (vph)	145	5	15	5	15	5	0	1215	5	0	1080	110
Confl. Peds. (#/hr)			4	4			13		3	3		13
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	165	6	17	6	17	6	0	1381	6	0	1227	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	188	0	0	29	0	0	1387	0	0	1352	0
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	40.0	40.0		40.0	40.0			90.0			90.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%			69.2%			69.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effect Green (s)		23.7			23.7			97.3			97.3	
Actuated g/C Ratio		0.18			0.18			0.75			0.75	
v/c Ratio		0.76			0.10			0.53			0.53	
Control Delay		68.4			35.0			2.8			13.3	
Queue Delay		0.0			0.0			0.1			0.0	
Total Delay		68.4			35.0			2.9			13.3	
LOS		E			C			A			B	
Approach Delay		68.4			35.0			2.9			13.3	
Approach LOS		E			C			A			B	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												
Intersection Signal Delay: 12.1						Intersection LOS: B						
Intersection Capacity Utilization 57.2%						ICU Level of Service B						

Analysis Period (min) 15

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Traffic Volume (vph)	60	30	235	1125	1155	300
Future Volume (vph)	60	30	235	1125	1155	300
Confl. Peds. (#/hr)		56	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	71	35	276	1324	1359	353
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	0	276	1324	1359	353
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	30.0		31.0	100.0	69.0	69.0
Total Split (%)	23.1%		23.8%	76.9%	53.1%	53.1%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Effect Green (s)	13.2		26.2	107.8	77.1	77.1
Actuated g/C Ratio	0.10		0.20	0.83	0.59	0.59
v/c Ratio	0.31		0.78	0.46	0.65	0.33
Control Delay	37.6		67.7	5.7	20.9	2.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	37.6		67.7	5.7	20.9	2.4
LOS	D		E	A	C	A
Approach Delay	37.6			16.4	17.1	
Approach LOS	D			B	B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 78 (60%), Referenced to phase 4:SBT and 8:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 17.4

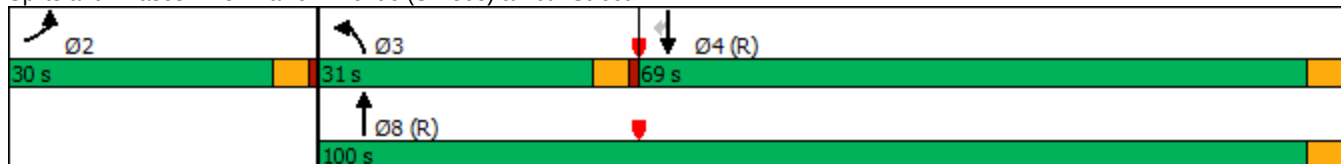
Intersection LOS: B

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Existing 2019 AM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	30	180	170	40	80	80	880	110	205	1065	20
Future Volume (vph)	25	30	180	170	40	80	80	880	110	205	1065	20
Confl. Peds. (#/hr)	4		1	1		4	3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	32	194	183	43	86	86	946	118	220	1145	22
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	27	32	194	112	114	86	86	946	118	220	1167	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	23.0	23.0	23.0	25.0	25.0	25.0	22.0	34.0	34.0	13.0	25.0	
Total Split (%)	24.2%	24.2%	24.2%	26.3%	26.3%	26.3%	23.2%	35.8%	35.8%	13.7%	26.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	8.9	8.9	8.9	12.3	12.3	12.3	10.5	31.4	31.4	22.4	45.6	
Actuated g/C Ratio	0.09	0.09	0.09	0.13	0.13	0.13	0.11	0.33	0.33	0.24	0.48	
v/c Ratio	0.16	0.18	0.60	0.53	0.53	0.24	0.45	0.82	0.20	0.53	0.69	
Control Delay	39.6	39.9	13.8	46.7	46.5	1.5	46.2	36.9	4.0	43.4	27.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	39.6	39.9	13.8	46.7	46.5	1.5	46.2	36.9	4.0	43.4	27.5	
LOS	D	D	B	D	D	A	D	D	A	D	C	
Approach Delay		19.9			34.2			34.3			30.0	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 77 (81%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 31.2

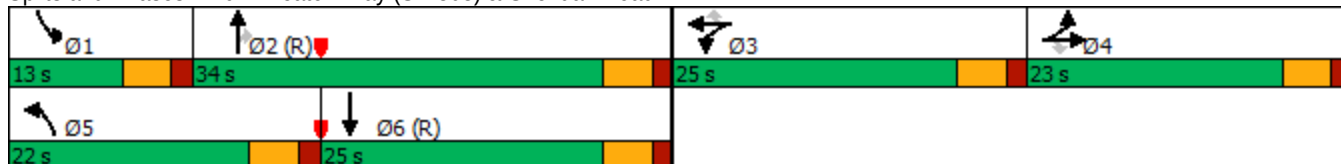
Intersection LOS: C

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road



Existing 2019 AM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	135	100	55	90	85	775	100	75	1040	30
Future Volume (vph)	75	70	135	100	55	90	85	775	100	75	1040	30
Confl. Peds. (#/hr)	15		3	3		15	4		1	1		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	81	75	145	108	59	97	91	833	108	81	1118	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	75	145	108	59	97	91	833	108	81	1150	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	14.0	24.0	24.0	12.0	21.0	21.0	11.0	45.0	45.0	14.0	48.0	
Total Split (%)	14.7%	25.3%	25.3%	12.6%	22.1%	22.1%	11.6%	47.4%	47.4%	14.7%	50.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	8.4	12.0	12.0	8.9	14.8	14.8	8.4	47.6	47.6	8.6	45.6	
Actuated g/C Ratio	0.09	0.13	0.13	0.09	0.16	0.16	0.09	0.50	0.50	0.09	0.48	
v/c Ratio	0.54	0.33	0.46	0.65	0.21	0.28	0.59	0.47	0.13	0.51	0.69	
Control Delay	54.8	39.5	10.7	62.9	37.2	4.5	67.1	4.1	0.2	58.3	14.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.8	39.5	10.7	62.9	37.2	4.5	67.1	4.1	0.2	58.3	14.7	
LOS	D	D	B	E	D	A	E	A	A	E	B	
Approach Delay		29.8			35.7			9.2			17.6	
Approach LOS		C			D			A			B	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 26 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.5

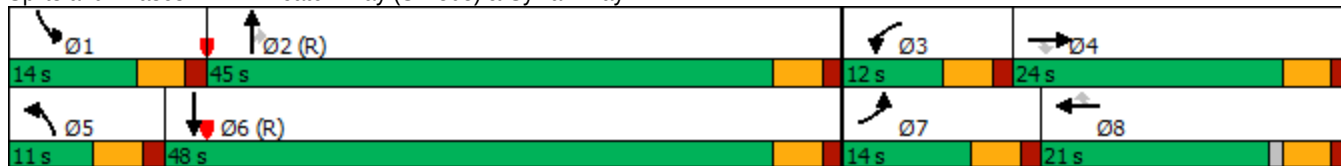
Intersection LOS: B

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15

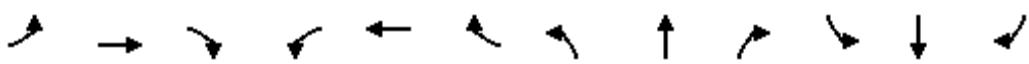
Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way



Existing 2019 AM
SR 303 Corridor Study

8: Wheaton Way (SR 303) & Driveway/Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	0	15	10	830	35	10	1140	5
Future Volume (vph)	0	0	0	25	0	15	10	830	35	10	1140	5
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	27	0	16	11	912	38	11	1253	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	27	0	16	11	950	0	11	1258	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				20.0		20.0	12.0	64.0		11.0	63.0	
Total Split (%)				21.1%		21.1%	12.6%	67.4%		11.6%	66.3%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effect Green (s)				8.1		8.1	7.2	80.9		7.2	80.9	
Actuated g/C Ratio				0.09		0.09	0.08	0.85		0.08	0.85	
v/c Ratio				0.19		0.08	0.08	0.32		0.08	0.42	
Control Delay				43.0		0.8	49.4	1.0		55.6	1.9	
Queue Delay				0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay				43.0		0.8	49.4	1.0		55.6	1.9	
LOS				D		A	D	A		E	A	
Approach Delay					27.3			1.6			2.4	
Approach LOS					C			A			A	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 87 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 2.5

Intersection LOS: A

Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Wheaton Way (SR 303) & Driveway/Hollis Street



Existing 2019 AM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	45	155	30	45	105	85	660	50	50	965	90
Future Volume (vph)	120	45	155	30	45	105	85	660	50	50	965	90
Confl. Peds. (#/hr)	1						1	2		3	3	2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	128	48	165	32	48	112	90	702	53	53	1027	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	48	165	32	48	112	90	755	0	53	1027	96
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	12.0	23.0	23.0	14.0	25.0	25.0	16.0	40.0		18.0	42.0	42.0
Total Split (%)	12.6%	24.2%	24.2%	14.7%	26.3%	26.3%	16.8%	42.1%		18.9%	44.2%	44.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effect Green (s)	11.5	17.3	17.3	7.1	8.4	8.4	56.0	50.5		56.0	50.1	50.1
Actuated g/C Ratio	0.12	0.18	0.18	0.07	0.09	0.09	0.59	0.53		0.59	0.53	0.53
v/c Ratio	0.60	0.14	0.39	0.25	0.30	0.43	0.30	0.41		0.13	0.55	0.11
Control Delay	54.5	37.0	9.4	45.8	43.9	9.4	7.2	7.0		7.6	12.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	54.5	37.0	9.4	45.8	43.9	9.4	7.2	7.0		7.6	12.7	1.5
LOS	D	D	A	D	D	A	A	A		A	B	A
Approach Delay		30.2			24.1			7.1			11.6	
Approach LOS		C			C			A			B	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 50 (53%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 13.5

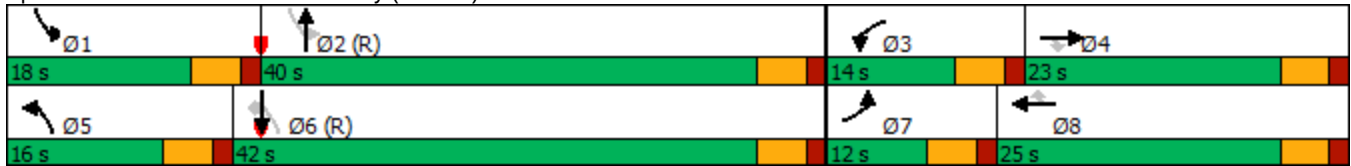
Intersection LOS: B

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road



Existing 2019 AM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	25	40	5	10	20	750	65	45	1060	20
Future Volume (vph)	15	5	25	40	5	10	20	750	65	45	1060	20
Confl. Peds. (#/hr)			1	1			2		2	2		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	5	26	42	5	10	21	781	68	47	1104	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	26	0	47	10	21	781	68	47	1104	21
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	12.0	28.0	28.0	16.0	32.0	32.0
Total Split (%)	25.3%	25.3%	25.3%	28.4%	28.4%	28.4%	12.6%	29.5%	29.5%	16.8%	33.7%	33.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		9.0	9.0		8.1	8.1	6.9	65.0	65.0	8.5	68.7	68.7
Actuated g/C Ratio		0.09	0.09		0.09	0.09	0.07	0.68	0.68	0.09	0.72	0.72
v/c Ratio		0.13	0.10		0.32	0.04	0.17	0.33	0.06	0.30	0.43	0.02
Control Delay		38.5	0.8		45.8	0.3	39.4	19.1	6.4	44.7	12.4	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		38.5	0.8		45.8	0.3	39.4	19.1	6.4	44.7	12.4	0.1
LOS		D	A		D	A	D	B	A	D	B	A
Approach Delay		17.6			37.8			18.6			13.5	
Approach LOS		B			D			B			B	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 46 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 16.3

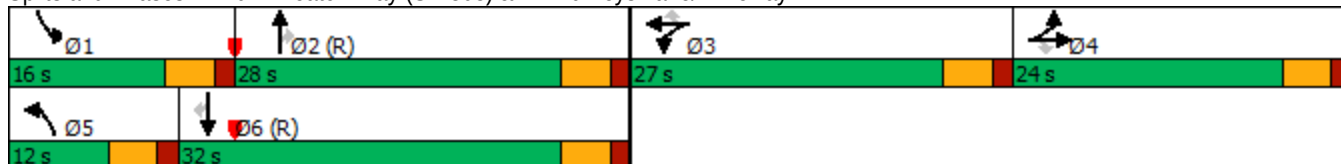
Intersection LOS: B

Intersection Capacity Utilization 54.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway



Existing 2019 AM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	10	25	5	115	10	745	15	125	1000	5
Future Volume (vph)	15	5	10	25	5	115	10	745	15	125	1000	5
Confl. Peds. (#/hr)			1	1			2		1	1		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	17	6	11	28	6	128	11	828	17	139	1111	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	17	0	28	134	0	11	828	17	139	1111	6
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		22.6	22.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	40.0	40.0		40.0	40.0		20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		16.7%	50.0%	50.0%	16.7%	50.0%	50.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effect Green (s)	10.4	10.4		10.4	10.4		6.8	23.7	23.7	10.8	38.2	38.2
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.11	0.39	0.39	0.18	0.63	0.63
v/c Ratio	0.08	0.06		0.12	0.37		0.06	0.61	0.03	0.44	0.50	0.01
Control Delay	23.3	15.5		23.8	8.7		34.3	18.1	0.1	31.6	9.7	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	15.5		23.8	8.7		34.3	18.1	0.1	31.6	9.7	0.0
LOS	C	B		C	A		C	B	A	C	A	A
Approach Delay		19.4			11.3			18.0			12.1	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 60.4

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 14.3

Intersection LOS: B

Intersection Capacity Utilization 52.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Existing 2019 AM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	35	100	130	45	115	85	705	70	65	890	85
Future Volume (vph)	115	35	100	130	45	115	85	705	70	65	890	85
Confl. Peds. (#/hr)	1		3	3		1	1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	126	38	110	143	49	126	93	775	77	71	978	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	38	110	143	49	126	93	775	77	71	978	93
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	19.6	39.6	39.6	19.6	39.6	39.6	15.6	43.0	43.0	20.6	47.0	47.0
Total Split (%)	16.0%	32.2%	32.2%	16.0%	32.2%	32.2%	12.7%	35.0%	35.0%	16.8%	38.3%	38.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effect Green (s)	11.8	11.2	11.2	12.6	12.1	12.1	9.9	31.3	31.3	9.5	31.1	31.1
Actuated g/C Ratio	0.14	0.14	0.14	0.15	0.15	0.15	0.12	0.38	0.38	0.12	0.38	0.38
v/c Ratio	0.51	0.15	0.33	0.53	0.18	0.36	0.44	0.59	0.12	0.35	0.73	0.14
Control Delay	46.4	35.2	5.7	45.9	34.9	8.0	48.1	25.0	0.4	45.1	28.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	35.2	5.7	45.9	34.9	8.0	48.1	25.0	0.4	45.1	28.0	5.6
LOS	D	D	A	D	C	A	D	C	A	D	C	A
Approach Delay		28.5			29.2			25.2			27.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 122.8

Actuated Cycle Length: 81.6

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 26.9

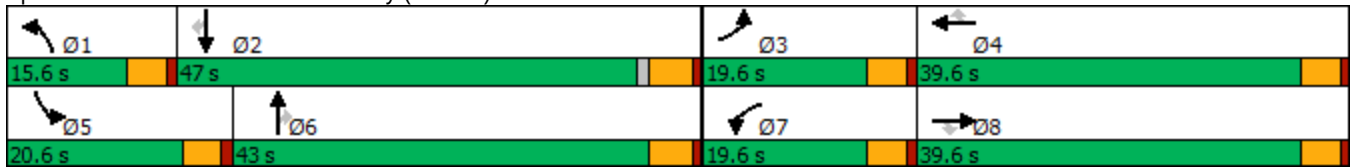
Intersection LOS: C

Intersection Capacity Utilization 56.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road



Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	10	0	0	20	0	540	35	0	455	25
Future Vol, veh/h	0	0	10	0	0	20	0	540	35	0	455	25
Conflicting Peds, #/hr	9	0	24	24	0	9	8	0	6	6	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	11	0	0	22	0	607	39	0	511	28

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	302	-	-	642	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	700	0	0	478	0	-
Stage 1	0	0	-	0	0	-	0	-
Stage 2	0	0	-	0	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	679	-	-	471	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	13	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	679	471	-
HCM Lane V/C Ratio	-	-	0.017	0.048	-
HCM Control Delay (s)	-	-	10.4	13	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↖			↖↗	
Traffic Vol, veh/h	0	0	5	0	0	5	0	515	45	0	475	10
Future Vol, veh/h	0	0	5	0	0	5	0	515	45	0	475	10
Conflicting Peds, #/hr	13	0	14	14	0	13	14	0	8	8	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	6	0	572	50	0	528	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	298	-	-	618	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	704	0	0	493	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	685	-	-	483	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.3		12.5		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		685		483		-		-	
HCM Lane V/C Ratio	-		-		0.008		0.012		-		-	
HCM Control Delay (s)	-		-		10.3		12.5		-		-	
HCM Lane LOS	-		-		B		B		-		-	
HCM 95th %tile Q(veh)	-		-		0		0		-		-	

Existing 2019 AM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive
HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	90	10	0	0	0	0	0	5	50
Future Volume (vph)	0	0	0	90	10	0	0	0	0	0	5	50
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	113	13	0	0	0	0	0	6	63
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	126	69										
Volume Left (vph)	113	0										
Volume Right (vph)	0	63										
Hadj (s)	0.23	-0.51										
Departure Headway (s)	4.3	3.7										
Degree Utilization, x	0.15	0.07										
Capacity (veh/h)	827	939										
Control Delay (s)	8.0	7.0										
Approach Delay (s)	8.0	7.0										
Approach LOS	A	A										
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			16.0%				ICU Level of Service				A	
Analysis Period (min)			15									

										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Lane Configurations										
Sign Control		Stop			Yield		Stop		Yield	
Traffic Volume (vph)	0	0	0	0	100	60	0	0	20	175
Future Volume (vph)	0	0	0	0	100	60	0	0	20	175
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	0	0	0	119	71	0	0	24	208
Direction, Lane #	WB 1	NE 1								
Volume Total (vph)	190	232								
Volume Left (vph)	0	0								
Volume Right (vph)	71	208								
Hadj (s)	-0.12	-0.47								
Departure Headway (s)	4.3	3.9								
Degree Utilization, x	0.22	0.25								
Capacity (veh/h)	809	891								
Control Delay (s)	8.5	8.1								
Approach Delay (s)	8.5	8.1								
Approach LOS	A	A								
Intersection Summary										
Delay			8.3							
Level of Service			A							
Intersection Capacity Utilization			27.9%				ICU Level of Service			
Analysis Period (min)			15							



Lane Group	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1052	205	51	18	176	352
v/c Ratio	0.65	0.68	0.16	0.11	0.66	0.66
Control Delay	32.8	62.1	1.1	38.2	62.0	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	62.1	1.1	38.2	62.0	23.4
Queue Length 50th (ft)	347	164	0	10	149	91
Queue Length 95th (ft)	#598	236	0	31	217	207
Internal Link Dist (ft)	535	532		72	193	
Turn Bay Length (ft)						
Base Capacity (vph)	1611	358	359	289	328	572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.57	0.14	0.06	0.54	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	130	285	29	173	27	526	69	548
v/c Ratio	0.60	0.62	0.18	0.50	0.05	0.26	0.12	0.27
Control Delay	63.7	56.9	53.9	53.7	19.6	22.2	10.7	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	56.9	53.9	53.7	19.6	22.2	10.7	12.0
Queue Length 50th (ft)	115	122	25	69	6	67	23	92
Queue Length 95th (ft)	180	163	57	104	m22	177	29	78
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	361	754	361	747	625	2006	652	2065
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.08	0.23	0.04	0.26	0.11	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	613	231	317	11	661	48	613	511
v/c Ratio	0.73	0.30	0.68	0.03	0.48	0.16	0.38	0.43
Control Delay	50.6	24.1	57.8	18.7	32.7	33.5	32.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	24.1	57.8	18.7	32.7	33.5	32.1	2.3
Queue Length 50th (ft)	242	121	129	7	243	15	105	7
Queue Length 95th (ft)	313	169	169	m16	216	m61	270	50
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	858	862	707	448	1421	310	1617	1204
Starvation Cap Reductn	0	0	0	0	0	0	0	29
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.27	0.45	0.02	0.47	0.15	0.38	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	188	29	1387	1352
v/c Ratio	0.76	0.10	0.53	0.53
Control Delay	68.4	35.0	2.8	13.3
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	68.4	35.0	2.9	13.3
Queue Length 50th (ft)	149	16	41	434
Queue Length 95th (ft)	212	40	36	694
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	366	416	2619	2544
Starvation Cap Reductn	0	0	221	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.07	0.58	0.53
Intersection Summary				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	106	276	1324	1359	353
v/c Ratio	0.31	0.78	0.46	0.65	0.33
Control Delay	37.6	67.7	5.7	20.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	67.7	5.7	20.9	2.4
Queue Length 50th (ft)	28	232	190	397	0
Queue Length 95th (ft)	53	294	196	491	35
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	630	384	2906	2077	1057
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.72	0.46	0.65	0.33
Intersection Summary					

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	32	194	112	114	86	86	946	118	220	1167
v/c Ratio	0.16	0.18	0.60	0.53	0.53	0.24	0.45	0.82	0.20	0.53	0.69
Control Delay	39.6	39.9	13.8	46.7	46.5	1.5	46.2	36.9	4.0	43.4	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	39.9	13.8	46.7	46.5	1.5	46.2	36.9	4.0	43.4	27.5
Queue Length 50th (ft)	16	19	0	68	69	0	49	263	0	142	229
Queue Length 95th (ft)	38	42	57	114	115	0	93	#400	29	m#305	#587
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	335	352	454	343	350	472	310	1147	605	417	1694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.09	0.43	0.33	0.33	0.18	0.28	0.82	0.20	0.53	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	81	75	145	108	59	97	91	833	108	81	1150
v/c Ratio	0.54	0.33	0.46	0.65	0.21	0.28	0.59	0.47	0.13	0.51	0.69
Control Delay	54.8	39.5	10.7	62.9	37.2	4.5	67.1	4.1	0.2	58.3	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	39.5	10.7	62.9	37.2	4.5	67.1	4.1	0.2	58.3	14.7
Queue Length 50th (ft)	47	43	0	62	33	0	59	21	1	50	98
Queue Length 95th (ft)	95	78	49	#161	66	20	m#82	m24	m0	100	238
Internal Link Dist (ft)		362			350			2575			2472
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	164	358	415	165	339	390	154	1757	836	171	1679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.21	0.35	0.65	0.17	0.25	0.59	0.47	0.13	0.47	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

						
Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	16	11	950	11	1258
v/c Ratio	0.19	0.08	0.08	0.32	0.08	0.42
Control Delay	43.0	0.8	49.4	1.0	55.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	0.8	49.4	1.0	55.6	1.9
Queue Length 50th (ft)	15	0	7	37	7	21
Queue Length 95th (ft)	41	0	m16	14	m14	162
Internal Link Dist (ft)				2472		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	261	301	134	2939	132	2982
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.05	0.08	0.32	0.08	0.42
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	128	48	165	32	48	112	90	755	53	1027	96
v/c Ratio	0.60	0.14	0.39	0.25	0.30	0.43	0.30	0.41	0.13	0.55	0.11
Control Delay	54.5	37.0	9.4	45.8	43.9	9.4	7.2	7.0	7.6	12.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	37.0	9.4	45.8	43.9	9.4	7.2	7.0	7.6	12.7	1.5
Queue Length 50th (ft)	72	25	0	19	28	0	6	61	8	172	0
Queue Length 95th (ft)	#195	60	58	47	59	32	24	142	23	131	11
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	212	392	463	164	384	431	373	1826	518	1867	878
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.12	0.36	0.20	0.13	0.26	0.24	0.41	0.10	0.55	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	26	47	10	21	781	68	47	1104	21
v/c Ratio	0.13	0.10	0.32	0.04	0.17	0.33	0.06	0.30	0.43	0.02
Control Delay	38.5	0.8	45.8	0.3	39.4	19.1	6.4	44.7	12.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	0.8	45.8	0.3	39.4	19.1	6.4	44.7	12.4	0.1
Queue Length 50th (ft)	12	0	27	0	13	127	1	27	137	0
Queue Length 95th (ft)	30	0	60	0	m29	291	m25	60	390	0
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	332	400	404	465	135	2399	1101	205	2559	1152
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.07	0.12	0.02	0.16	0.33	0.06	0.23	0.43	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	17	17	28	134	11	828	17	139	1111	6
v/c Ratio	0.08	0.06	0.12	0.37	0.06	0.61	0.03	0.44	0.50	0.01
Control Delay	23.3	15.5	23.8	8.7	34.3	18.1	0.1	31.6	9.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	15.5	23.8	8.7	34.3	18.1	0.1	31.6	9.7	0.0
Queue Length 50th (ft)	5	2	8	2	3	98	0	36	61	0
Queue Length 95th (ft)	24	18	34	44	25	293	0	151	370	0
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	822	1100	853	1027	486	3130	1374	491	3160	1385
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.03	0.13	0.02	0.26	0.01	0.28	0.35	0.00
Intersection Summary										

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	126	38	110	143	49	126	93	775	77	71	978	93
v/c Ratio	0.51	0.15	0.33	0.53	0.18	0.36	0.44	0.59	0.12	0.35	0.73	0.14
Control Delay	46.4	35.2	5.7	45.9	34.9	8.0	48.1	25.0	0.4	45.1	28.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	35.2	5.7	45.9	34.9	8.0	48.1	25.0	0.4	45.1	28.0	5.6
Queue Length 50th (ft)	59	18	0	66	23	0	43	154	0	33	215	0
Queue Length 95th (ft)	161	49	25	#192	60	37	#137	354	2	100	451	35
Internal Link Dist (ft)		722			684			2563			834	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	349	859	793	352	867	801	254	1759	837	376	2024	926
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.04	0.14	0.41	0.06	0.16	0.37	0.44	0.09	0.19	0.48	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Existing 2019 PM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	415	280	5	5	345	200	5	5	5	90	5	380
Future Volume (vph)	415	280	5	5	345	200	5	5	5	90	5	380
Confl. Peds. (#/hr)	14		23	23		14	1		12	12		1
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	50.0	50.0		60.0	60.0	60.0	27.0	27.0		28.0	28.0	28.0
Total Split (%)	30.3%	30.3%		36.4%	36.4%	36.4%	16.4%	16.4%		17.0%	17.0%	17.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)		70.0			48.5	48.5		12.2			18.7	18.7
Actuated g/C Ratio		0.42			0.29	0.29		0.07			0.11	0.11
v/c Ratio		0.61			0.80	0.43		0.13			0.59	0.80
Control Delay		43.4			64.8	11.2		51.9			71.3	36.5
Queue Delay		0.0			0.0	0.0		0.0			0.0	0.0
Total Delay		43.4			64.8	11.2		51.9			71.3	36.5
LOS		D			E	B		D			E	D
Approach Delay		43.4			45.3			51.9			43.5	
Approach LOS		D			D			D			D	
Intersection Summary												
Cycle Length: 165												
Actuated Cycle Length: 165												
Offset: 25 (15%), Referenced to phase 3:EBTL, Start of Green												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.80												
Intersection Signal Delay: 44.1												
Intersection LOS: D												
Intersection Capacity Utilization 65.8%												
ICU Level of Service C												
Analysis Period (min) 15												

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

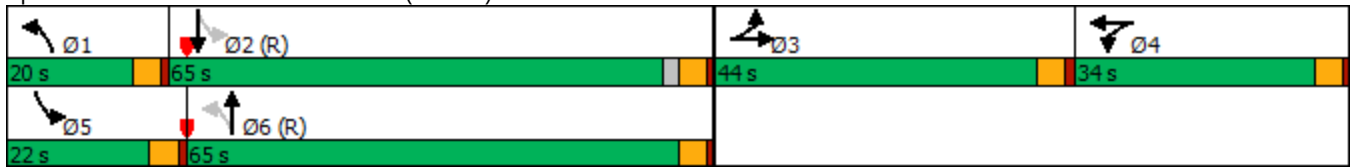


Existing 2019 PM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	280	25	75	600	75	250	445	15	65	410	140
Future Volume (vph)	335	280	25	75	600	75	250	445	15	65	410	140
Confl. Peds. (#/hr)	21		9	9		21	43		11	11		43
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)	37%			10%								
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	44.0	44.0		34.0	34.0		20.0	65.0		22.0	65.0	
Total Split (%)	26.7%	26.7%		20.6%	20.6%		12.1%	39.4%		13.3%	39.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	31.8	31.8		52.7	52.7		66.6	52.6		52.7	42.8	
Actuated g/C Ratio	0.19	0.19		0.32	0.32		0.40	0.32		0.32	0.26	
v/c Ratio	0.72	0.72		0.14	0.68		0.84	0.44		0.22	0.66	
Control Delay	75.5	68.0		43.3	53.6		75.3	60.1		13.1	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	75.5	68.0		43.3	53.6		75.3	60.1		13.1	15.8	
LOS	E	E		D	D		E	E		B	B	
Approach Delay		70.4			52.7			65.5			15.5	
Approach LOS		E			D			E			B	
Intersection Summary												
Cycle Length: 165												
Actuated Cycle Length: 165												
Offset: 161 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 51.8												
Intersection LOS: D												
Intersection Capacity Utilization 75.6%												
ICU Level of Service D												
Analysis Period (min) 15												

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street



Existing 2019 PM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	925	295	30	0	525	205	65	780	15	75	580	660
Future Volume (vph)	925	295	30	0	525	205	65	780	15	75	580	660
Confl. Peds. (#/hr)	5		6	6		5	15		6	6		15
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	55.0	94.0			44.0		20.0	46.0		20.0	46.0	55.0
Total Split (%)	33.3%	57.0%			26.7%		12.1%	27.9%		12.1%	27.9%	33.3%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	48.5	92.5			38.5		54.3	44.0		55.7	44.7	92.2
Actuated g/C Ratio	0.29	0.56			0.23		0.33	0.27		0.34	0.27	0.56
v/c Ratio	0.98	0.34			0.97		0.32	0.92		0.50	0.66	0.75
Control Delay	82.2	20.5			84.3		55.3	85.5		31.2	44.0	42.2
Queue Delay	40.9	0.0			41.8		0.0	0.0		0.0	0.0	0.1
Total Delay	123.0	20.5			126.2		55.3	85.5		31.2	44.0	42.3
LOS	F	C			F		E	F		C	D	D
Approach Delay		96.4			126.2			83.3			42.4	
Approach LOS		F			F			F			D	

Intersection Summary

Cycle Length: 165

Actuated Cycle Length: 165

Offset: 140 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 81.8

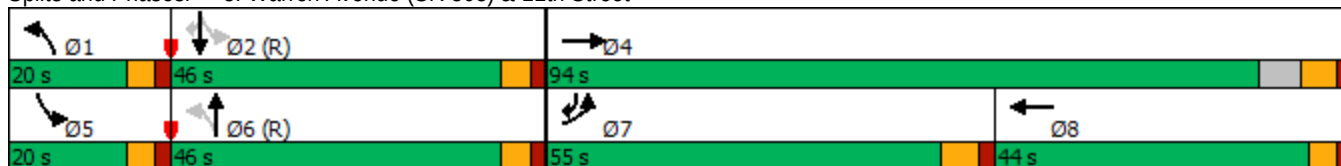
Intersection LOS: F

Intersection Capacity Utilization 93.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street

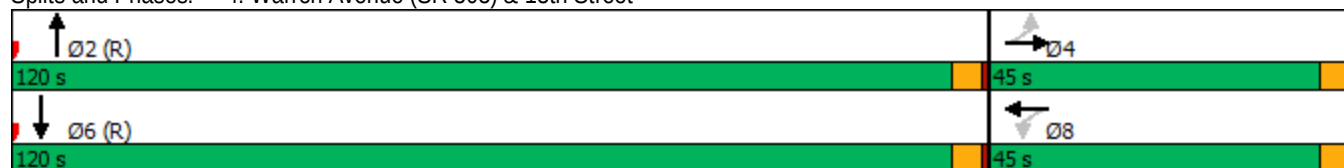


Existing 2019 PM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

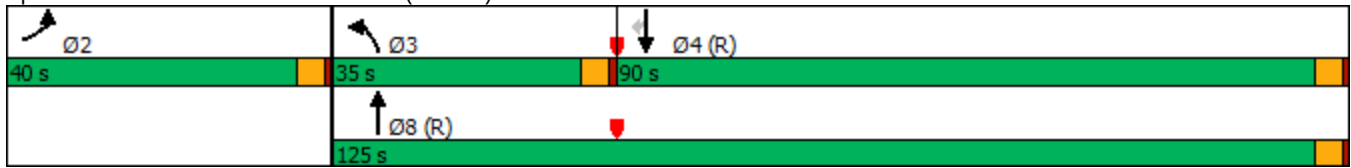
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	25	25	5	20	15	0	1905	5	0	1280	190
Future Volume (vph)	210	25	25	5	20	15	0	1905	5	0	1280	190
Confl. Peds. (#/hr)	1		14	14		1	11		8	8		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	45.0	45.0		45.0	45.0			120.0			120.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%			72.7%			72.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effect Green (s)		37.8			37.8			118.2			118.2	
Actuated g/C Ratio		0.23			0.23			0.72			0.72	
v/c Ratio		0.92			0.13			0.85			0.68	
Control Delay		95.3			33.7			30.6			9.7	
Queue Delay		0.0			0.0			47.0			0.2	
Total Delay		95.3			33.7			77.7			9.9	
LOS		F			C			E			A	
Approach Delay		95.3			33.7			77.7			9.9	
Approach LOS		F			C			E			A	
Intersection Summary												
Cycle Length: 165												
Actuated Cycle Length: 165												
Offset: 65 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.92												
Intersection Signal Delay: 51.4												
Intersection LOS: D												
Intersection Capacity Utilization 81.6%												
ICU Level of Service D												
Analysis Period (min) 15												

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Traffic Volume (vph)	115	55	120	2010	1410	170
Future Volume (vph)	115	55	120	2010	1410	170
Confl. Peds. (#/hr)		22	6			6
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	40.0		35.0	125.0	90.0	90.0
Total Split (%)	24.2%		21.2%	75.8%	54.5%	54.5%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Effct Green (s)	13.2		17.6	142.8	120.7	120.7
Actuated g/C Ratio	0.08		0.11	0.87	0.73	0.73
v/c Ratio	0.59		0.67	0.69	0.57	0.15
Control Delay	61.2		72.0	4.6	12.2	2.6
Queue Delay	0.0		0.0	0.1	0.0	0.0
Total Delay	61.2		72.0	4.7	12.2	2.6
LOS	E		E	A	B	A
Approach Delay	61.2			8.5	11.2	
Approach LOS	E			A	B	
Intersection Summary						
Cycle Length: 165						
Actuated Cycle Length: 165						
Offset: 80 (48%), Referenced to phase 4:SBT and 8:NBT, Start of Green						
Natural Cycle: 70						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.69						
Intersection Signal Delay: 11.9				Intersection LOS: B		
Intersection Capacity Utilization 72.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Existing 2019 PM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	40	140	180	40	165	155	1715	210	170	1175	45
Future Volume (vph)	65	40	140	180	40	165	155	1715	210	170	1175	45
Confl. Peds. (#/hr)	7					7	6		5	5		6
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				40%								
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	23.0	23.0	23.0	25.0	25.0	25.0	24.0	120.0	120.0	32.0	128.0	
Total Split (%)	11.5%	11.5%	11.5%	12.5%	12.5%	12.5%	12.0%	60.0%	60.0%	16.0%	64.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effct Green (s)	12.9	12.9	12.9	17.6	17.6	17.6	22.8	125.1	125.1	24.4	126.7	
Actuated g/C Ratio	0.06	0.06	0.06	0.09	0.09	0.09	0.11	0.63	0.63	0.12	0.63	
v/c Ratio	0.59	0.34	0.61	0.78	0.79	0.60	0.81	0.81	0.23	0.81	0.56	
Control Delay	110.7	95.9	22.3	122.1	122.3	18.9	113.2	34.3	9.5	95.4	27.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	110.7	95.9	22.3	122.1	122.3	18.9	113.2	34.3	9.5	95.4	27.3	
LOS	F	F	C	F	F	B	F	C	A	F	C	
Approach Delay		57.8			78.0			37.7			35.6	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 42.0

Intersection LOS: D

Intersection Capacity Utilization 82.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
32 s	120 s	25 s	23 s
 Ø5	 Ø6 (R)		
24 s	128 s		

Existing 2019 PM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	85	120	120	100	150	130	1625	130	125	1145	75
Future Volume (vph)	95	85	120	120	100	150	130	1625	130	125	1145	75
Confl. Peds. (#/hr)	15		9	9		15	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	29.0	24.0	24.0	25.0	21.0	21.0	25.0	121.0	121.0	29.0	125.0	
Total Split (%)	14.5%	12.0%	12.0%	12.5%	10.5%	10.5%	12.5%	60.5%	60.5%	14.5%	62.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	16.6	15.2	15.2	17.6	16.2	16.2	18.7	128.1	128.1	19.1	128.5	
Actuated g/C Ratio	0.08	0.08	0.08	0.09	0.08	0.08	0.09	0.64	0.64	0.10	0.64	
v/c Ratio	0.68	0.63	0.55	0.79	0.68	0.59	0.80	0.73	0.13	0.75	0.55	
Control Delay	112.0	109.4	21.1	121.0	111.0	20.2	97.0	25.2	12.1	127.1	9.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	112.0	109.4	21.1	121.0	111.0	20.2	97.0	25.2	12.1	127.1	9.2	
LOS	F	F	C	F	F	C	F	C	B	F	A	
Approach Delay		74.9			77.3			29.2			20.1	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 15 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 34.1

Intersection LOS: C

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way

 Ø1 29 s		 Ø2 (R) 121 s	 Ø3 25 s	 Ø4 24 s
 Ø5 25 s		 Ø6 (R) 125 s	 Ø7 29 s	 Ø8 21 s

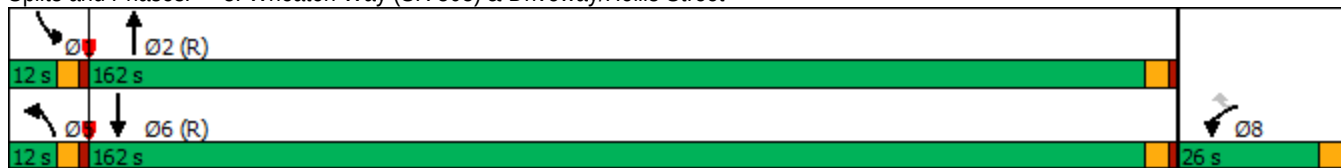
Existing 2019 PM
SR 303 Corridor Study

8: Wheaton Way (SR 303) & Driveway/Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	60	0	40	5	1690	55	30	1355	5
Future Volume (vph)	0	0	0	60	0	40	5	1690	55	30	1355	5
Confl. Peds. (#/hr)	6		1	1		6	15		6	6		15
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				26.0		26.0	12.0	162.0		12.0	162.0	
Total Split (%)				13.0%		13.0%	6.0%	81.0%		6.0%	81.0%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effct Green (s)				13.8		13.8	7.2	163.6		9.9	173.5	
Actuated g/C Ratio				0.07		0.07	0.04	0.82		0.05	0.87	
v/c Ratio				0.54		0.30	0.08	0.64		0.36	0.46	
Control Delay				106.7		25.8	85.8	5.9		83.8	9.4	
Queue Delay				0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay				106.7		25.8	85.8	5.9		83.8	9.4	
LOS				F		C	F	A		F	A	
Approach Delay					74.5			6.1			11.0	
Approach LOS					E			A			B	
Intersection Summary												
Cycle Length: 200												
Actuated Cycle Length: 200												
Offset: 64 (32%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 75												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.64												
Intersection Signal Delay: 10.3						Intersection LOS: B						
Intersection Capacity Utilization 63.0%						ICU Level of Service B						
Analysis Period (min) 15												

Splits and Phases: 8: Wheaton Way (SR 303) & Driveway/Hollis Street



Existing 2019 PM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	105	145	85	125	120	135	1450	40	115	1115	165
Future Volume (vph)	155	105	145	85	125	120	135	1450	40	115	1115	165
Confl. Peds. (#/hr)	5		2	2		5	11		8	8		11
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	17.0	37.0	37.0	24.0	44.0	44.0	33.0	103.0		36.0	106.0	106.0
Total Split (%)	8.5%	18.5%	18.5%	12.0%	22.0%	22.0%	16.5%	51.5%		18.0%	53.0%	53.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effct Green (s)	30.7	36.1	36.1	14.8	20.2	20.2	129.1	113.3		129.1	117.6	117.6
Actuated g/C Ratio	0.15	0.18	0.18	0.07	0.10	0.10	0.65	0.57		0.65	0.59	0.59
v/c Ratio	0.61	0.34	0.38	0.70	0.72	0.48	0.53	0.81		0.60	0.57	0.20
Control Delay	85.5	78.8	12.8	117.8	108.0	16.6	15.3	27.6		60.6	20.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.5	78.8	12.8	117.8	108.0	16.6	15.3	27.6		60.6	20.1	5.9
LOS	F	E	B	F	F	B	B	C		E	C	A
Approach Delay		57.8			77.2			26.6			21.8	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 130 (65%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 32.6

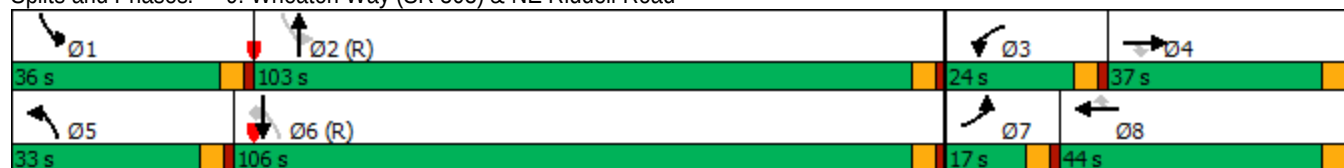
Intersection LOS: C

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road



Existing 2019 PM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	65	155	5	70	25	1485	160	165	1200	40
Future Volume (vph)	25	5	65	155	5	70	25	1485	160	165	1200	40
Confl. Peds. (#/hr)			19	19			10		2	2		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	14.0	120.0	120.0	29.0	135.0	135.0
Total Split (%)	12.0%	12.0%	12.0%	13.5%	13.5%	13.5%	7.0%	60.0%	60.0%	14.5%	67.5%	67.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		14.1	14.1		22.5	22.5	7.9	120.3	120.3	23.1	137.7	137.7
Actuated g/C Ratio		0.07	0.07		0.11	0.11	0.04	0.60	0.60	0.12	0.69	0.69
v/c Ratio		0.26	0.37		0.86	0.29	0.38	0.74	0.17	0.85	0.52	0.04
Control Delay		91.0	10.7		120.9	8.9	107.5	12.1	3.4	119.4	17.4	0.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay		91.0	10.7		120.9	8.9	107.5	12.2	3.4	119.4	17.4	0.8
LOS		F	B		F	A	F	B	A	F	B	A
Approach Delay		35.8			86.6			12.7			28.9	
Approach LOS		D			F			B			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 115 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 78.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

 Ø1	 Ø2 (R)	 Ø3	 Ø4
29 s	120 s	27 s	24 s
 Ø5	 Ø6 (R)		
14 s	135 s		

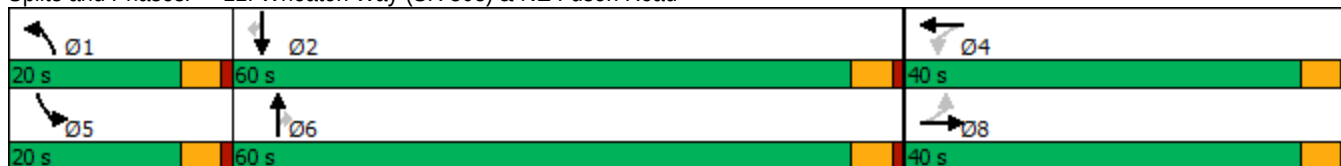
Existing 2019 PM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	5	5	75	5	220	10	1560	10	150	1275	20
Future Volume (vph)	10	5	5	75	5	220	10	1560	10	150	1275	20
Confl. Peds. (#/hr)			5	5			3		3	3		3
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		10.6	10.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	40.0	40.0		40.0	40.0		20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		16.7%	50.0%	50.0%	16.7%	50.0%	50.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Efect Green (s)	13.4	13.4		13.4	13.4		6.3	55.8	55.8	12.8	71.4	71.4
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.07	0.58	0.58	0.13	0.74	0.74
v/c Ratio	0.14	0.04		0.43	0.58		0.10	0.82	0.01	0.68	0.52	0.02
Control Delay	38.7	25.6		44.4	11.2		49.7	22.8	0.0	57.1	8.9	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	25.6		44.4	11.2		49.7	22.8	0.0	57.1	8.9	0.1
LOS	D	C		D	B		D	C	A	E	A	A
Approach Delay		32.5			19.5			22.8			13.8	
Approach LOS		C			B			C			B	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 96.3												
Natural Cycle: 105												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 18.7												
Intersection LOS: B												
Intersection Capacity Utilization 77.1%												
ICU Level of Service D												
Analysis Period (min) 15												

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Existing 2019 PM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	125	140	170	85	115	215	1320	245	175	1120	185
Future Volume (vph)	175	125	140	170	85	115	215	1320	245	175	1120	185
Confl. Peds. (#/hr)	1		4	4		1	2		19	19		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	15.0	41.0	41.0	15.0	41.0	41.0	15.0	59.0	59.0	15.0	59.0	59.0
Total Split (%)	11.5%	31.5%	31.5%	11.5%	31.5%	31.5%	11.5%	45.4%	45.4%	11.5%	45.4%	45.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)	11.3	17.5	17.5	11.3	17.5	17.5	27.8	59.7	59.7	22.6	54.6	54.6
Actuated g/C Ratio	0.09	0.13	0.13	0.09	0.13	0.13	0.21	0.46	0.46	0.17	0.42	0.42
v/c Ratio	1.19	0.52	0.43	1.14	0.35	0.38	0.60	0.85	0.34	0.59	0.78	0.25
Control Delay	183.3	57.9	10.7	166.0	52.2	10.6	55.0	37.9	12.0	59.1	36.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	183.3	57.9	10.7	166.0	52.2	10.6	55.0	37.9	12.0	59.1	36.8	4.6
LOS	F	E	B	F	D	B	E	D	B	E	D	A
Approach Delay		92.8			91.5			36.4			35.4	
Approach LOS		F			F			D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 52 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 47.1

Intersection LOS: D

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road

 Ø1 15 s	  Ø2 (R) 59 s	 Ø3 15 s	 Ø4 41 s
 Ø5 15 s	  Ø6 (R) 59 s	 Ø7 15 s	 Ø8 41 s

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	5	0	0	45	0	610	10	0	470	25
Future Vol, veh/h	0	0	5	0	0	45	0	610	10	0	470	25
Conflicting Peds, #/hr	16	0	11	11	0	16	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	56	0	763	13	0	588	31
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	323	-	-	787	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	679	0	0	395	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	671	-	-	389	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.4		15.8		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		671		389		-		-	
HCM Lane V/C Ratio	-		-		0.009		0.145		-		-	
HCM Control Delay (s)	-		-		10.4		15.8		-		-	
HCM Lane LOS	-		-		B		C		-		-	
HCM 95th %tile Q(veh)	-		-		0		0.5		-		-	

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↖	
Traffic Vol, veh/h	0	0	5	0	0	60	0	650	5	0	490	20
Future Vol, veh/h	0	0	5	0	0	60	0	650	5	0	490	20
Conflicting Peds, #/hr	13	0	17	17	0	13	7	0	7	7	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	75	0	813	6	0	613	25
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	343	-	-	836	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	659	0	0	370	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	644	-	-	363	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.6		17.5		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		644 363		-		-			
HCM Lane V/C Ratio	-		-		0.01 0.207		-		-			
HCM Control Delay (s)	-		-		10.6 17.5		-		-			
HCM Lane LOS	-		-		B C		-		-			
HCM 95th %tile Q(veh)	-		-		0 0.8		-		-			

Existing 2019 PM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive

HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	130	20	0	0	0	0	0	5	50
Future Volume (vph)	0	0	0	130	20	0	0	0	0	0	5	50
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	163	25	0	0	0	0	0	6	63
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	188	69										
Volume Left (vph)	163	0										
Volume Right (vph)	0	63										
Hadj (s)	0.22	-0.51										
Departure Headway (s)	4.3	3.8										
Degree Utilization, x	0.22	0.07										
Capacity (veh/h)	828	892										
Control Delay (s)	8.5	7.1										
Approach Delay (s)	8.5	7.1										
Approach LOS	A	A										
Intersection Summary												
Delay				8.1								
Level of Service				A								
Intersection Capacity Utilization				19.7%			ICU Level of Service			A		
Analysis Period (min)				15								

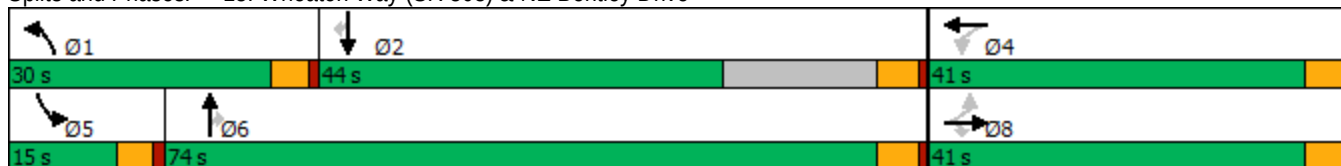
										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Lane Configurations										
Sign Control		Stop			Yield		Stop		Yield	
Traffic Volume (vph)	0	0	0	0	150	95	0	0	40	140
Future Volume (vph)	0	0	0	0	150	95	0	0	40	140
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	0	165	104	0	0	44	154
Direction, Lane #	WB 1	NE 1								
Volume Total (vph)	269	198								
Volume Left (vph)	0	0								
Volume Right (vph)	104	154								
Hadj (s)	-0.13	-0.40								
Departure Headway (s)	4.2	4.1								
Degree Utilization, x	0.31	0.23								
Capacity (veh/h)	826	827								
Control Delay (s)	9.1	8.3								
Approach Delay (s)	9.1	8.3								
Approach LOS	A	A								
Intersection Summary										
Delay			8.8							
Level of Service			A							
Intersection Capacity Utilization			31.2%			ICU Level of Service			A	
Analysis Period (min)			15							

Existing 2019 PM
SR 303 Corridor Study

18: Wheaton Way (SR 303) & NE Bentley Drive
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	10	55	35	5	5	275	1225	25	45	1120	175
Future Volume (vph)	205	10	55	35	5	5	275	1225	25	45	1120	175
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%						0%				0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA	Prot		NA	Perm	Prot	NA	Perm
Protected Phases	8						1	6	5		2	
Permitted Phases	8	8		4				6		2		
Detector Phase	8	8	8	4	4	1		6	6	5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	39.6	39.6	39.6	8.6	8.6	8.6		32.0	32.0	8.6	37.0	37.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0	30.0		74.0	74.0	15.0	44.0	44.0
Total Split (%)	31.5%	31.5%	31.5%	31.5%	31.5%	23.1%		56.9%	56.9%	11.5%	33.8%	33.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6		4.0	4.0	3.6	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	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6		5.0	5.0	4.6	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None		Min	Min	None	Min	Min
Act Efect Green (s)	20.7		20.7	20.7	20.7	20.6		54.1	54.1	7.1	35.5	35.5
Actuated g/C Ratio	0.23		0.23	0.23	0.23	0.22		0.59	0.59	0.08	0.39	0.39
v/c Ratio	0.72		0.13	0.19	0.03	0.71		0.60	0.03	0.34	0.83	0.25
Control Delay	48.8		2.3	34.5	23.7	46.5		15.7	1.1	53.1	33.0	4.4
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	48.8		2.3	34.5	23.7	46.5		15.7	1.1	53.1	33.0	4.4
LOS	D		A	C	C	D		B	A	D	C	A
Approach Delay	39.3						21.1		29.9			
Approach LOS	D						C		C			
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 91.8												
Natural Cycle: 90												
Control Type: Semi Act-Uncoord												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 26.5						Intersection LOS: C						
Intersection Capacity Utilization 76.6%						ICU Level of Service D						
Analysis Period (min) 15												

Splits and Phases: 18: Wheaton Way (SR 303) & NE Bentley Drive



Existing 2019 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road
SR 303 Corridor Study

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	75	245	65	70	65	260	1120	70	135	980	70
Future Volume (vph)	100	75	245	65	70	65	260	1120	70	135	980	70
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	44.6	44.6	10.6	41.6	41.6	10.6	35.0	35.0	10.6	38.0	38.0
Total Split (s)	15.0	46.0	46.0	15.0	46.0	46.0	24.0	47.0	47.0	22.0	45.0	45.0
Total Split (%)	11.5%	35.4%	35.4%	11.5%	35.4%	35.4%	18.5%	36.2%	36.2%	16.9%	34.6%	34.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)	10.3	14.8	14.8	9.4	11.7	11.7	34.2	72.4	72.4	16.8	55.0	55.0
Actuated g/C Ratio	0.08	0.11	0.11	0.07	0.09	0.09	0.26	0.56	0.56	0.13	0.42	0.42
v/c Ratio	0.83	0.41	0.66	0.59	0.49	0.33	0.65	0.66	0.09	0.69	0.76	0.11
Control Delay	100.5	60.3	13.7	77.3	64.8	10.1	50.6	23.7	3.2	69.2	36.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	60.3	13.7	77.3	64.8	10.1	50.6	23.7	3.2	69.2	36.5	4.4
LOS	F	E	B	E	E	B	D	C	A	E	D	A
Approach Delay		42.6			51.0			27.6			38.3	
Approach LOS		D			D			C			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 65.5%

ICU Level of Service C

Analysis Period (min) 15

Existing 2019 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road

SR 303 Corridor Study

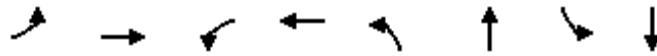
Timings

Splits and Phases: 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road

 Ø1 24 s	  Ø2 (R) 45 s	 Ø3 15 s	 Ø4 46 s
 Ø5 22 s	  Ø6 (R) 47 s	 Ø7 15 s	 Ø8 46 s



Lane Group	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	875	437	250	18	119	475
v/c Ratio	0.61	0.80	0.43	0.13	0.59	0.80
Control Delay	43.4	64.8	11.2	51.9	71.3	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	64.8	11.2	51.9	71.3	36.5
Queue Length 50th (ft)	390	431	34	13	132	255
Queue Length 95th (ft)	496	465	72	34	166	290
Internal Link Dist (ft)	535	532		72	193	
Turn Bay Length (ft)						
Base Capacity (vph)	1440	620	625	240	249	625
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.70	0.40	0.07	0.48	0.76
Intersection Summary						



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	452	71	719	263	484	68	579
v/c Ratio	0.72	0.72	0.14	0.68	0.84	0.44	0.22	0.66
Control Delay	75.5	68.0	43.3	53.6	75.3	60.1	13.1	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.5	68.0	43.3	53.6	75.3	60.1	13.1	15.8
Queue Length 50th (ft)	251	253	61	380	247	234	13	40
Queue Length 95th (ft)	334	297	113	475	#364	330	m17	46
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	385	793	509	1050	313	1278	393	1268
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.57	0.14	0.68	0.84	0.38	0.17	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	984	346	777	69	846	80	617	702
v/c Ratio	0.98	0.34	0.97	0.32	0.92	0.50	0.66	0.75
Control Delay	82.2	20.5	84.3	55.3	85.5	31.2	44.0	42.2
Queue Delay	40.9	0.0	41.8	0.0	0.0	0.0	0.0	0.1
Total Delay	123.0	20.5	126.2	55.3	85.5	31.2	44.0	42.3
Queue Length 50th (ft)	547	194	426	50	348	51	316	708
Queue Length 95th (ft)	#695	265	#564	m124	#649	m67	m397	837
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	999	1019	802	260	922	196	939	935
Starvation Cap Reductn	0	0	0	0	0	0	0	7
Spillback Cap Reductn	397	0	201	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.63	0.34	1.29	0.27	0.92	0.41	0.66	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	289	45	2123	1633
v/c Ratio	0.92	0.13	0.85	0.68
Control Delay	95.3	33.7	30.6	9.7
Queue Delay	0.0	0.0	47.0	0.2
Total Delay	95.3	33.7	77.7	9.9
Queue Length 50th (ft)	299	24	920	567
Queue Length 95th (ft)	#469	60	m982	103
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	335	380	2509	2417
Starvation Cap Reductn	0	0	773	66
Spillback Cap Reductn	0	0	0	212
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.86	0.12	1.22	0.74
Intersection Summary				
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.				
m Volume for 95th percentile queue is metered by upstream signal.				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	177	125	2094	1469	177
v/c Ratio	0.59	0.67	0.69	0.57	0.15
Control Delay	61.2	72.0	4.6	12.2	2.6
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	61.2	72.0	4.7	12.2	2.6
Queue Length 50th (ft)	70	127	436	370	12
Queue Length 95th (ft)	111	m157	418	511	42
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	727	323	3032	2563	1147
Starvation Cap Reductn	0	0	144	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.39	0.73	0.57	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	41	144	112	115	170	160	1768	216	175	1257
v/c Ratio	0.59	0.34	0.61	0.78	0.79	0.60	0.81	0.81	0.23	0.81	0.56
Control Delay	110.7	95.9	22.3	122.1	122.3	18.9	113.2	34.3	9.5	95.4	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.7	95.9	22.3	122.1	122.3	18.9	113.2	34.3	9.5	95.4	27.3
Queue Length 50th (ft)	88	53	0	153	157	0	207	946	58	227	373
Queue Length 95th (ft)	146	98	79	#244	#251	85	#382	1150	117	#336	516
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	159	167	273	163	166	301	198	2171	960	241	2226
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.25	0.53	0.69	0.69	0.56	0.81	0.81	0.23	0.73	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	96	86	121	121	101	152	131	1641	131	126	1233
v/c Ratio	0.68	0.63	0.55	0.79	0.68	0.59	0.80	0.73	0.13	0.75	0.55
Control Delay	112.0	109.4	21.1	121.0	111.0	20.2	97.0	25.2	12.1	127.1	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.0	109.4	21.1	121.0	111.0	20.2	97.0	25.2	12.1	127.1	9.2
Queue Length 50th (ft)	125	112	0	158	131	0	171	607	51	174	83
Queue Length 95th (ft)	193	178	73	#246	206	82	m228	550	m60	227	523
Internal Link Dist (ft)		362			350			2575			2472
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	204	179	255	175	159	265	178	2244	994	210	2224
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.48	0.47	0.69	0.64	0.57	0.74	0.73	0.13	0.60	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

						
Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	41	5	1799	31	1402
v/c Ratio	0.54	0.30	0.08	0.64	0.36	0.46
Control Delay	106.7	25.8	85.8	5.9	83.8	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.7	25.8	85.8	5.9	83.8	9.4
Queue Length 50th (ft)	81	0	6	241	37	479
Queue Length 95th (ft)	136	45	m10	117	m73	375
Internal Link Dist (ft)				2472		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	173	186	63	2838	87	3036
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.22	0.08	0.63	0.36	0.46
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	165	112	154	90	133	128	144	1586	122	1186	176
v/c Ratio	0.61	0.34	0.38	0.70	0.72	0.48	0.53	0.81	0.60	0.57	0.20
Control Delay	85.5	78.8	12.8	117.8	108.0	16.6	15.3	27.6	60.6	20.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.5	78.8	12.8	117.8	108.0	16.6	15.3	27.6	60.6	20.1	5.9
Queue Length 50th (ft)	203	129	0	118	174	0	40	977	101	265	24
Queue Length 95th (ft)	#483	218	80	185	244	69	24	566	m162	237	m40
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	269	364	426	164	356	395	397	1954	333	2080	878
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.31	0.36	0.55	0.37	0.32	0.36	0.81	0.37	0.57	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	68	168	74	26	1563	168	174	1263	42
v/c Ratio	0.26	0.37	0.86	0.29	0.38	0.74	0.17	0.85	0.52	0.04
Control Delay	91.0	10.7	120.9	8.9	107.5	12.1	3.4	119.4	17.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	91.0	10.7	120.9	8.9	107.5	12.2	3.4	119.4	17.4	0.8
Queue Length 50th (ft)	38	0	216	0	37	143	7	225	486	0
Queue Length 95th (ft)	80	25	#371	34	m49	318	m29	#362	516	6
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	157	213	202	262	78	2131	973	216	2450	1017
Starvation Cap Reductn	0	0	0	0	0	62	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.32	0.83	0.28	0.33	0.76	0.17	0.81	0.52	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	10	79	237	11	1642	11	158	1342	21
v/c Ratio	0.14	0.04	0.43	0.58	0.10	0.82	0.01	0.68	0.52	0.02
Control Delay	38.7	25.6	44.4	11.2	49.7	22.8	0.0	57.1	8.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	25.6	44.4	11.2	49.7	22.8	0.0	57.1	8.9	0.1
Queue Length 50th (ft)	6	3	45	3	6	365	0	89	111	0
Queue Length 95th (ft)	22	17	88	63	28	#839	0	#209	476	0
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	211	652	494	702	281	2013	899	283	2597	1145
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.02	0.16	0.34	0.04	0.82	0.01	0.56	0.52	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	128	143	173	87	117	219	1347	250	179	1143	189
v/c Ratio	1.19	0.52	0.43	1.14	0.35	0.38	0.60	0.85	0.34	0.59	0.78	0.25
Control Delay	183.3	57.9	10.7	166.0	52.2	10.6	55.0	37.9	12.0	59.1	36.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	183.3	57.9	10.7	166.0	52.2	10.6	55.0	37.9	12.0	59.1	36.8	4.6
Queue Length 50th (ft)	~192	105	0	~180	69	0	166	494	55	139	413	4
Queue Length 95th (ft)	#344	141	52	#329	102	47	#410	#723	132	#326	523	50
Internal Link Dist (ft)		722			684			2563			1654	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	150	511	530	152	516	517	367	1579	736	305	1496	757
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.25	0.27	1.14	0.17	0.23	0.60	0.85	0.34	0.59	0.76	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

										
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	219	56	36	10	281	1250	26	46	1143	179
v/c Ratio	0.72	0.13	0.19	0.03	0.71	0.60	0.03	0.34	0.83	0.25
Control Delay	48.8	2.3	34.5	23.7	46.5	15.7	1.1	53.1	33.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	2.3	34.5	23.7	46.5	15.7	1.1	53.1	33.0	4.4
Queue Length 50th (ft)	123	0	18	2	155	252	0	27	307	0
Queue Length 95th (ft)	234	10	51	17	#327	442	5	73	501	44
Internal Link Dist (ft)	244			233		1654			2048	
Turn Bay Length (ft)					350		50	150		375
Base Capacity (vph)	566	714	354	721	514	2721	1229	211	2188	1047
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.08	0.10	0.01	0.55	0.46	0.02	0.22	0.52	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Existing 2019 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road
SR 303 Corridor Study

Queues

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	116	87	285	76	81	76	302	1302	81	157	1140	81
v/c Ratio	0.83	0.41	0.66	0.59	0.49	0.33	0.65	0.66	0.09	0.69	0.76	0.11
Control Delay	100.5	60.3	13.7	77.3	64.8	10.1	50.6	23.7	3.2	69.2	36.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	60.3	13.7	77.3	64.8	10.1	50.6	23.7	3.2	69.2	36.5	4.4
Queue Length 50th (ft)	98	71	0	63	66	0	231	387	0	128	413	0
Queue Length 95th (ft)	#191	115	67	111	109	27	312	531	21	184	517	25
Internal Link Dist (ft)		422			440			2048			686	
Turn Bay Length (ft)	100		100	100		100	450		50	325		50
Base Capacity (vph)	141	593	698	141	593	568	465	1972	922	256	1498	722
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.15	0.41	0.54	0.14	0.13	0.65	0.66	0.09	0.61	0.76	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix E-2

Future No Build Mid-Term Traffic Operations Results



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Mid-Term 2030 AM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	610	460	5	5	205	50	5	5	5	175	5	360
Future Volume (vph)	610	460	5	5	205	50	5	5	5	175	5	360
Confl. Peds. (#/hr)	22		34	34		22				14	14	
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	693	523	6	6	233	57	6	6	6	199	6	409
Shared Lane Traffic (%)												
Lane Group Flow (vph)	693	529	0	0	239	57	0	18	0	0	205	409
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	57.0	57.0		26.0	26.0	26.0	26.0	26.0		21.0	21.0	21.0
Total Split (%)	43.8%	43.8%		20.0%	20.0%	20.0%	20.0%	20.0%		16.2%	16.2%	16.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)	61.5	61.5			21.3	21.3		12.2			19.5	19.5
Actuated g/C Ratio	0.47	0.47			0.16	0.16		0.09			0.15	0.15
v/c Ratio	0.84	0.61			0.79	0.18		0.11			0.77	0.71
Control Delay	43.0	31.8			70.8	2.3		38.2			70.0	31.4
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Delay	43.0	31.8			70.8	2.3		38.2			70.0	31.4
LOS	D	C			E	A		D			E	C
Approach Delay		38.2			57.6			38.3			44.3	
Approach LOS		D			E			D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 3:EBTL, Start of Green, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 42.6

Intersection LOS: D

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)



Mid-Term 2030 AM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	260	35	35	150	35	30	535	40	75	495	105
Future Volume (vph)	155	260	35	35	150	35	30	535	40	75	495	105
Confl. Peds. (#/hr)	15					15	25		3	3		25
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	165	277	37	37	160	37	32	569	43	80	527	112
Shared Lane Traffic (%)	10%			10%								
Lane Group Flow (vph)	148	331	0	33	201	0	32	612	0	80	639	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	35.0	35.0		28.0	28.0		13.0	52.0		15.0	54.0	
Total Split (%)	26.9%	26.9%		21.5%	21.5%		10.0%	40.0%		11.5%	41.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	19.8	19.8		13.8	13.8		77.0	70.0		81.4	75.7	
Actuated g/C Ratio	0.15	0.15		0.11	0.11		0.59	0.54		0.63	0.58	
v/c Ratio	0.61	0.65		0.20	0.56		0.07	0.33		0.17	0.32	
Control Delay	61.6	56.1		53.9	56.0		1.9	2.9		2.2	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.6	56.1		53.9	56.0		1.9	2.9		2.2	9.3	
LOS	E	E		D	E		A	A		A	A	
Approach Delay		57.8			55.7			2.9			8.5	
Approach LOS		E			E			A			A	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 51 (39%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 23.5

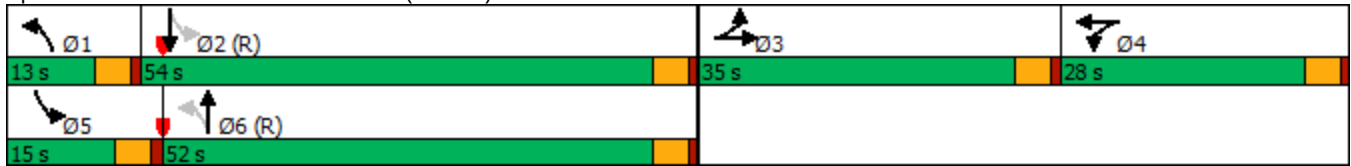
Intersection LOS: C

Intersection Capacity Utilization 54.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street



Mid-Term 2030 AM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	660	220	30	0	285	60	10	695	15	50	660	550
Future Volume (vph)	660	220	30	0	285	60	10	695	15	50	660	550
Confl. Peds. (#/hr)	5		4	4		5	8		5	5		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	710	237	32	0	306	65	11	747	16	54	710	591
Shared Lane Traffic (%)												
Lane Group Flow (vph)	710	269	0	0	371	0	11	763	0	54	710	591
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	43.4	72.9			29.5		11.5	45.3		11.8	45.6	43.4
Total Split (%)	33.4%	56.1%			22.7%		8.8%	34.8%		9.1%	35.1%	33.4%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	35.7	60.0			18.9		52.4	47.3		56.9	55.7	90.3
Actuated g/C Ratio	0.27	0.46			0.15		0.40	0.36		0.44	0.43	0.69
v/c Ratio	0.76	0.32			0.73		0.04	0.61		0.23	0.48	0.51
Control Delay	49.1	21.7			59.2		15.7	32.4		10.6	12.2	5.9
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	49.1	21.7			59.2		15.7	32.4		10.6	12.2	5.9
LOS	D	C			E		B	C		B	B	A
Approach Delay		41.6			59.2			32.1			9.4	
Approach LOS		D			E			C			A	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 104 (80%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 28.8

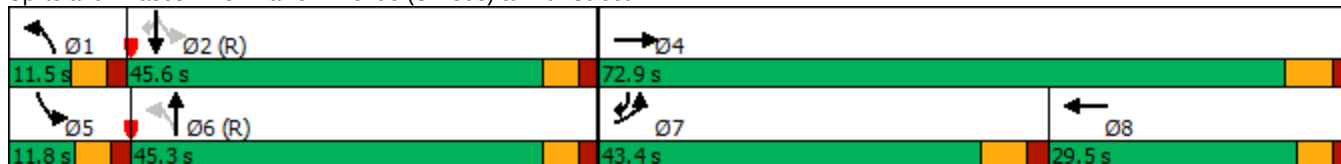
Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street



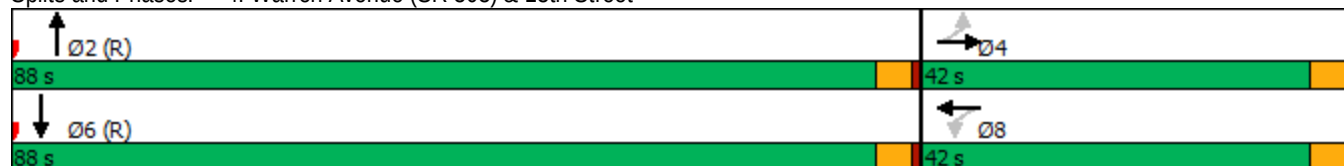
Mid-Term 2030 AM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	5	15	5	15	5	0	1410	5	0	1255	130
Future Volume (vph)	170	5	15	5	15	5	0	1410	5	0	1255	130
Confl. Peds. (#/hr)			4	4			13		3	3		13
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	193	6	17	6	17	6	0	1602	6	0	1426	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	216	0	0	29	0	0	1608	0	0	1574	0
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	42.0	42.0		42.0	42.0			88.0			88.0	
Total Split (%)	32.3%	32.3%		32.3%	32.3%			67.7%			67.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effect Green (s)		26.6			26.6			94.4			94.4	
Actuated g/C Ratio		0.20			0.20			0.73			0.73	
v/c Ratio		0.79			0.09			0.63			0.64	
Control Delay		67.7			32.7			13.9			1.0	
Queue Delay		0.0			0.0			0.2			0.0	
Total Delay		67.7			32.7			14.0			1.0	
LOS		E			C			B			A	
Approach Delay		67.7			32.7			14.0			1.0	
Approach LOS		E			C			B			A	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Offset: 68 (52%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 11.6						Intersection LOS: B						
Intersection Capacity Utilization 63.9%						ICU Level of Service B						

Analysis Period (min) 15

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



Mid-Term 2030 AM
SR 303 Corridor Study

5: Warren Avenue (SR 303) & 16th Street
Timings

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Traffic Volume (vph)	70	35	275	1305	1340	350
Future Volume (vph)	70	35	275	1305	1340	350
Confl. Peds. (#/hr)		56	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	82	41	324	1535	1576	412
Shared Lane Traffic (%)						
Lane Group Flow (vph)	123	0	324	1535	1576	412
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	19.5		37.0	110.5	73.5	73.5
Total Split (%)	15.0%		28.5%	85.0%	56.5%	56.5%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Effect Green (s)	13.2		28.3	107.8	74.9	74.9
Actuated g/C Ratio	0.10		0.22	0.83	0.58	0.58
v/c Ratio	0.35		0.85	0.53	0.78	0.39
Control Delay	38.1		57.6	4.1	26.1	3.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.1		57.6	4.1	26.1	3.3
LOS	D		E	A	C	A
Approach Delay	38.1			13.4	21.4	
Approach LOS	D			B	C	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 43 (33%), Referenced to phase 4:SBT and 8:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 18.2

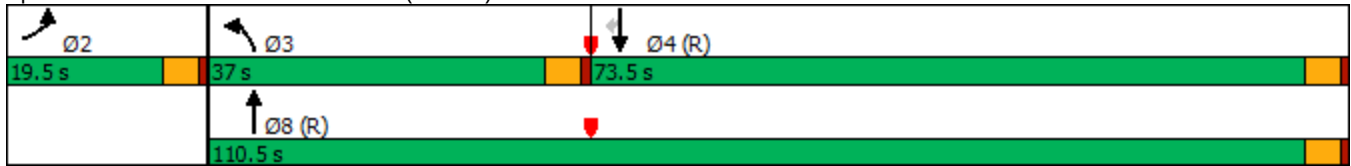
Intersection LOS: B

Intersection Capacity Utilization 74.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Mid-Term 2030 AM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	35	210	195	45	95	95	1020	130	240	1235	25
Future Volume (vph)	30	35	210	195	45	95	95	1020	130	240	1235	25
Confl. Peds. (#/hr)	4		1	1		4	3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	38	226	210	48	102	102	1097	140	258	1328	27
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	32	38	226	128	130	102	102	1097	140	258	1355	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	15.0	47.0	47.0	27.0	59.0	
Total Split (%)	18.3%	18.3%	18.3%	20.0%	20.0%	20.0%	12.5%	39.2%	39.2%	22.5%	49.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	9.8	9.8	9.8	14.6	14.6	14.6	11.7	53.8	53.8	21.8	63.9	
Actuated g/C Ratio	0.08	0.08	0.08	0.12	0.12	0.12	0.10	0.45	0.45	0.18	0.53	
v/c Ratio	0.22	0.25	0.73	0.65	0.64	0.32	0.61	0.71	0.18	0.80	0.72	
Control Delay	53.0	53.6	24.3	64.7	64.3	4.2	67.4	32.0	3.7	79.6	10.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	53.6	24.3	64.7	64.3	4.2	67.4	32.0	3.7	79.6	10.8	
LOS	D	D	C	E	E	A	E	C	A	E	B	
Approach Delay		31.1			47.4			31.7			21.8	
Approach LOS		C			D			C			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road



Mid-Term 2030 AM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	80	155	115	65	105	100	900	115	85	1205	35
Future Volume (vph)	85	80	155	115	65	105	100	900	115	85	1205	35
Confl. Peds. (#/hr)	15		3	3		15	4		1	1		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	91	86	167	124	70	113	108	968	124	91	1296	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	86	167	124	70	113	108	968	124	91	1334	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	18.0	24.0	24.0	19.0	25.0	25.0	18.0	60.0	60.0	17.0	59.0	
Total Split (%)	15.0%	20.0%	20.0%	15.8%	20.8%	20.8%	15.0%	50.0%	50.0%	14.2%	49.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	10.9	12.2	12.2	12.4	13.7	13.7	11.8	64.7	64.7	10.7	63.6	
Actuated g/C Ratio	0.09	0.10	0.10	0.10	0.11	0.11	0.10	0.54	0.54	0.09	0.53	
v/c Ratio	0.59	0.47	0.55	0.69	0.33	0.42	0.63	0.51	0.14	0.58	0.72	
Control Delay	67.4	57.9	14.2	71.3	51.7	13.1	82.4	4.1	0.3	85.6	10.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	67.4	57.9	14.2	71.3	51.7	13.1	82.4	4.1	0.3	85.6	10.4	
LOS	E	E	B	E	D	B	F	A	A	F	B	
Approach Delay		39.2			45.4			10.7			15.2	
Approach LOS		D			D			B			B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.9

Intersection LOS: B

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Prepared by:
Parametrix

Synchro 10 Report
05/15/2020

Analysis Period (min) 15

Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way



Mid-Term 2030 AM
SR 303 Corridor Study

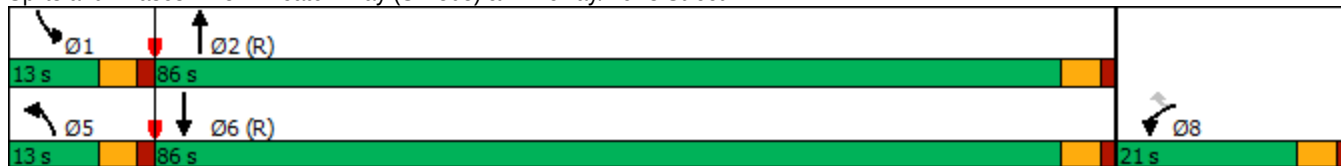
8: Wheaton Way (SR 303) & Driveway/Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	30	0	15	10	965	40	10	1320	5
Future Volume (vph)	0	0	0	30	0	15	10	965	40	10	1320	5
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	33	0	16	11	1060	44	11	1451	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	33	0	16	11	1104	0	11	1456	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				21.0		21.0	13.0	86.0		13.0	86.0	
Total Split (%)				17.5%		17.5%	10.8%	71.7%		10.8%	71.7%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effect Green (s)				8.9		8.9	7.4	105.2		7.3	105.2	
Actuated g/C Ratio				0.07		0.07	0.06	0.88		0.06	0.88	
v/c Ratio				0.27		0.09	0.10	0.37		0.10	0.47	
Control Delay				57.2		1.1	71.5	1.0		77.2	1.5	
Queue Delay				0.0		0.0	0.0	0.1		0.0	0.0	
Total Delay				57.2		1.1	71.5	1.0		77.2	1.5	
LOS				E		A	E	A		E	A	
Approach Delay					38.9			1.7			2.1	
Approach LOS					D			A			A	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 74 (62%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.47												
Intersection Signal Delay: 2.6						Intersection LOS: A						
Intersection Capacity Utilization 47.5%						ICU Level of Service A						

Analysis Period (min) 15

Splits and Phases: 8: Wheaton Way (SR 303) & Driveway/Hollis Street



Mid-Term 2030 AM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	50	180	35	50	120	100	765	60	60	1120	105
Future Volume (vph)	140	50	180	35	50	120	100	765	60	60	1120	105
Confl. Peds. (#/hr)	1						1	2		3	3	2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	149	53	191	37	53	128	106	814	64	64	1191	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	53	191	37	53	128	106	878	0	64	1191	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	24.0	32.0	32.0	11.0	19.0	19.0	14.0	66.0		11.0	63.0	63.0
Total Split (%)	20.0%	26.7%	26.7%	9.2%	15.8%	15.8%	11.7%	55.0%		9.2%	52.5%	52.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effect Green (s)	14.6	21.2	21.2	6.9	9.0	9.0	76.4	72.0		77.4	68.9	68.9
Actuated g/C Ratio	0.12	0.18	0.18	0.06	0.08	0.08	0.64	0.60		0.64	0.57	0.57
v/c Ratio	0.70	0.16	0.47	0.37	0.39	0.50	0.39	0.43		0.17	0.59	0.12
Control Delay	67.4	42.8	13.8	65.5	59.9	11.1	11.8	19.1		5.9	9.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	67.4	42.8	13.8	65.5	59.9	11.1	11.8	19.1		5.9	9.7	0.3
LOS	E	D	B	E	E	B	B	B		A	A	A
Approach Delay		38.1			32.2			18.3			8.8	
Approach LOS		D			C			B			A	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 63.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road



Mid-Term 2030 AM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	30	45	5	10	25	870	75	50	1230	25
Future Volume (vph)	15	5	30	45	5	10	25	870	75	50	1230	25
Confl. Peds. (#/hr)			1	1			2		2	2		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	5	31	47	5	10	26	906	78	52	1281	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	31	0	52	10	26	906	78	52	1281	26
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	55.0	55.0	14.0	58.0	58.0
Total Split (%)	20.0%	20.0%	20.0%	22.5%	22.5%	22.5%	9.2%	45.8%	45.8%	11.7%	48.3%	48.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		9.1	9.1		9.0	9.0	7.4	80.0	80.0	9.4	84.2	84.2
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.06	0.67	0.67	0.08	0.70	0.70
v/c Ratio		0.17	0.15		0.40	0.05	0.24	0.39	0.07	0.38	0.52	0.02
Control Delay		52.0	1.5		60.9	0.4	57.8	10.0	3.2	59.4	13.8	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		52.0	1.5		60.9	0.4	57.8	10.0	3.2	59.4	13.8	0.0
LOS		D	A		E	A	E	A	A	E	B	A
Approach Delay		21.9			51.1			10.7			15.3	
Approach LOS		C			D			B			B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 17 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 14.5

Intersection LOS: B

Intersection Capacity Utilization 59.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	55 s	27 s	24 s
 Ø5	 Ø6 (R)		
11 s	58 s		

Mid-Term 2030 AM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	10	30	5	135	10	865	15	145	1160	5
Future Volume (vph)	15	5	10	30	5	135	10	865	15	145	1160	5
Confl. Peds. (#/hr)			1	1			2		1	1		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	17	6	11	33	6	150	11	961	17	161	1289	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	17	0	33	156	0	11	961	17	161	1289	6
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		22.6	22.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	40.0	40.0		40.0	40.0		20.0	54.0	54.0	26.0	60.0	60.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		16.7%	45.0%	45.0%	21.7%	50.0%	50.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effect Green (s)	10.7	10.7		10.7	10.7		7.0	27.0	27.0	12.9	43.6	43.6
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.11	0.41	0.41	0.19	0.66	0.66
v/c Ratio	0.09	0.06		0.15	0.42		0.06	0.68	0.03	0.47	0.56	0.01
Control Delay	28.3	18.4		28.6	9.8		39.4	20.3	0.1	33.6	9.8	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	18.4		28.6	9.8		39.4	20.3	0.1	33.6	9.8	0.0
LOS	C	B		C	A		D	C	A	C	A	A
Approach Delay		23.3			13.1			20.1			12.4	
Approach LOS		C			B			C			B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 66.4

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 15.4

Intersection LOS: B

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Mid-Term 2030 AM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	40	115	150	50	135	100	820	80	75	1030	100
Future Volume (vph)	135	40	115	150	50	135	100	820	80	75	1030	100
Confl. Peds. (#/hr)	1		3	3		1	1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	148	44	126	165	55	148	110	901	88	82	1132	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	44	126	165	55	148	110	901	88	82	1132	110
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	16.0	39.0	39.0	21.0	44.0	44.0
Total Split (%)	16.7%	33.3%	33.3%	16.7%	33.3%	33.3%	13.3%	32.5%	32.5%	17.5%	36.7%	36.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effect Green (s)	12.6	11.7	11.7	13.3	12.4	12.4	10.3	41.8	41.8	9.8	38.6	38.6
Actuated g/C Ratio	0.14	0.13	0.13	0.14	0.13	0.13	0.11	0.45	0.45	0.11	0.41	0.41
v/c Ratio	0.63	0.19	0.40	0.66	0.22	0.44	0.58	0.58	0.12	0.44	0.78	0.16
Control Delay	53.4	37.9	8.0	53.9	38.0	10.2	55.6	25.2	1.3	50.0	30.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	37.9	8.0	53.9	38.0	10.2	55.6	25.2	1.3	50.0	30.4	6.7
LOS	D	D	A	D	D	B	E	C	A	D	C	A
Approach Delay		33.3			33.9			26.3			29.6	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 93.2

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 29.3

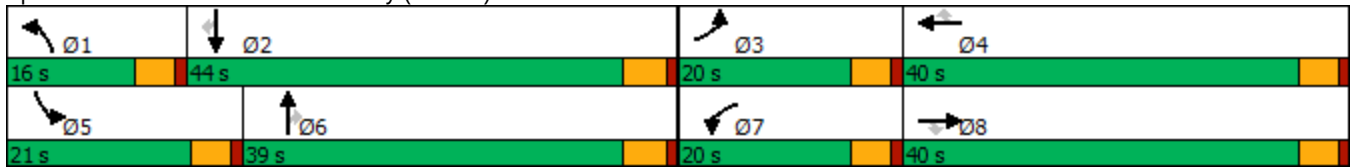
Intersection LOS: C

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	25	0	625	40	0	530	30
Future Vol, veh/h	0	0	10	0	0	25	0	625	40	0	530	30
Conflicting Peds, #/hr	9	0	24	24	0	9	8	0	6	6	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	11	0	0	28	0	702	45	0	596	34
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	347	-	-	740	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	655	0	0	420	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	635	-	-	414	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		14.3		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		635		414		-		-	
HCM Lane V/C Ratio	-		-		0.018		0.068		-		-	
HCM Control Delay (s)	-		-		10.8		14.3		-		-	
HCM Lane LOS	-		-		B		B		-		-	
HCM 95th %tile Q(veh)	-		-		0.1		0.2		-		-	

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	5	0	600	50	0	555	10
Future Vol, veh/h	0	0	5	0	0	5	0	600	50	0	555	10
Conflicting Peds, #/hr	13	0	14	14	0	13	14	0	8	8	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	6	0	667	56	0	617	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	342	-	-	716	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	660	0	0	434	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	643	-	-	425	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.6		13.6		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		643		425		-		-	
HCM Lane V/C Ratio	-		-		0.009		0.013		-		-	
HCM Control Delay (s)	-		-		10.6		13.6		-		-	
HCM Lane LOS	-		-		B		B		-		-	
HCM 95th %tile Q(veh)	-		-		0		0		-		-	

Mid-Term 2030 AM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive

HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	110	10	0	0	0	0	0	5	60
Future Volume (vph)	0	0	0	110	10	0	0	0	0	0	5	60
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	138	13	0	0	0	0	0	6	75
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	151	81										
Volume Left (vph)	138	0										
Volume Right (vph)	0	75										
Hadj (s)	0.23	-0.52										
Departure Headway (s)	4.3	3.7										
Degree Utilization, x	0.18	0.08										
Capacity (veh/h)	820	922										
Control Delay (s)	8.2	7.1										
Approach Delay (s)	8.2	7.1										
Approach LOS	A	A										
Intersection Summary												
Delay				7.8								
Level of Service				A								
Intersection Capacity Utilization				17.7%			ICU Level of Service			A		
Analysis Period (min)				15								

Mid-Term 2030 AM
SR 303 Corridor Study

16: Clare Avenue & Callahan Drive & SR 303 NB On-Ramp
HCM Unsignalized Intersection Capacity Analysis

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations											
Sign Control		Stop			Yield		Stop		Yield		
Traffic Volume (vph)	0	0	0	0	120	70	0	0	25	200	
Future Volume (vph)	0	0	0	0	120	70	0	0	25	200	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Hourly flow rate (vph)	0	0	0	0	143	83	0	0	30	238	
Direction, Lane #	WB 1	NE 1									
Volume Total (vph)	226	268									
Volume Left (vph)	0	0									
Volume Right (vph)	83	238									
Hadj (s)	-0.12	-0.46									
Departure Headway (s)	4.4	4.0									
Degree Utilization, x	0.27	0.30									
Capacity (veh/h)	781	867									
Control Delay (s)	9.0	8.6									
Approach Delay (s)	9.0	8.6									
Approach LOS	A	A									
Intersection Summary											
Delay			8.8								
Level of Service			A								
Intersection Capacity Utilization			31.2%				ICU Level of Service				A
Analysis Period (min)			15								

Mid-Term 2030 AM
SR 303 Corridor Study

17: Wheaton Way (SR 303) & E Broad Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	5	60	15	5	25	85	915	45	25	1275	60
Future Volume (vph)	95	5	60	15	5	25	85	915	45	25	1275	60
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	103	5	65	16	5	27	92	995	49	27	1386	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	70	0	16	32	0	92	1044	0	27	1451	0
Turn Type	Prot	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2			6		
Detector Phase	7	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	23.0		23.0	23.0		11.0	23.0		11.0	23.0	
Total Split (s)	17.0	40.0		23.0	23.0		14.0	69.0		11.0	66.0	
Total Split (%)	14.2%	33.3%		19.2%	19.2%		11.7%	57.5%		9.2%	55.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	10.8	18.6		7.2	7.2		89.9	84.6		84.8	78.6	
Actuated g/C Ratio	0.09	0.16		0.06	0.06		0.75	0.70		0.71	0.66	
v/c Ratio	0.65	0.23		0.17	0.26		0.36	0.42		0.07	0.63	
Control Delay	71.5	12.5		57.0	27.3		12.5	2.7		3.2	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	71.5	12.5		57.0	27.3		12.5	2.7		3.2	8.9	
LOS	E	B		E	C		B	A		A	A	
Approach Delay		47.6			37.2			3.5			8.8	
Approach LOS		D			D			A			A	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 60 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 9.5

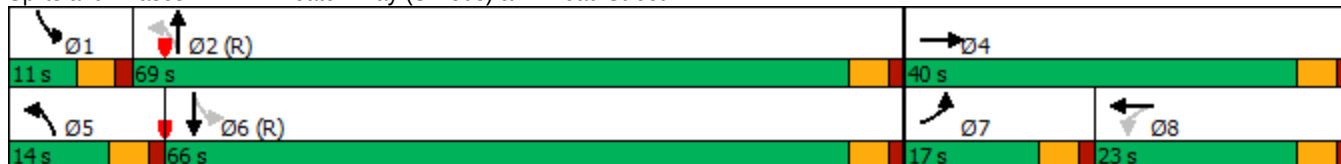
Intersection LOS: A

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 17: Wheaton Way (SR 303) & E Broad Street





Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	693	529	239	57	18	205	409
v/c Ratio	0.84	0.61	0.79	0.18	0.11	0.77	0.71
Control Delay	43.0	31.8	70.8	2.3	38.2	70.0	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	31.8	70.8	2.3	38.2	70.0	31.4
Queue Length 50th (ft)	564	364	189	0	10	182	208
Queue Length 95th (ft)	#805	492	#311	4	31	#323	298
Internal Link Dist (ft)		535	532		72	193	
Turn Bay Length (ft)							
Base Capacity (vph)	828	869	313	327	287	266	579
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.61	0.76	0.17	0.06	0.77	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	331	33	201	32	612	80	639
v/c Ratio	0.61	0.65	0.20	0.56	0.07	0.33	0.17	0.32
Control Delay	61.6	56.1	53.9	56.0	1.9	2.9	2.2	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	56.1	53.9	56.0	1.9	2.9	2.2	9.3
Queue Length 50th (ft)	130	142	28	82	1	13	1	153
Queue Length 95th (ft)	196	183	63	121	m2	m42	2	350
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	374	778	288	598	489	1867	501	1993
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.43	0.11	0.34	0.07	0.33	0.16	0.32
Intersection Summary								
m Volume for 95th percentile queue is metered by upstream signal.								



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	710	269	371	11	763	54	710	591
v/c Ratio	0.76	0.32	0.73	0.04	0.61	0.23	0.48	0.51
Control Delay	49.1	21.7	59.2	15.7	32.4	10.6	12.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	21.7	59.2	15.7	32.4	10.6	12.2	5.9
Queue Length 50th (ft)	274	130	152	4	341	6	61	1
Queue Length 95th (ft)	351	182	198	m17	399	m16	257	583
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	976	926	641	276	1261	235	1486	1168
Starvation Cap Reductn	0	0	0	0	0	0	0	19
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.29	0.58	0.04	0.61	0.23	0.48	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	216	29	1608	1574
v/c Ratio	0.79	0.09	0.63	0.64
Control Delay	67.7	32.7	13.9	1.0
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	67.7	32.7	14.0	1.0
Queue Length 50th (ft)	172	16	373	5
Queue Length 95th (ft)	237	39	444	0
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	384	438	2542	2470
Starvation Cap Reductn	0	0	249	0
Spillback Cap Reductn	0	0	0	45
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.56	0.07	0.70	0.65
Intersection Summary				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	123	324	1535	1576	412
v/c Ratio	0.35	0.85	0.53	0.78	0.39
Control Delay	38.1	57.6	4.1	26.1	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	57.6	4.1	26.1	3.3
Queue Length 50th (ft)	32	228	10	545	11
Queue Length 95th (ft)	59	312	185	614	49
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	390	438	2905	2020	1049
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.74	0.53	0.78	0.39
Intersection Summary					

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	38	226	128	130	102	102	1097	140	258	1355
v/c Ratio	0.22	0.25	0.73	0.65	0.64	0.32	0.61	0.71	0.18	0.80	0.72
Control Delay	53.0	53.6	24.3	64.7	64.3	4.2	67.4	32.0	3.7	79.6	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	53.6	24.3	64.7	64.3	4.2	67.4	32.0	3.7	79.6	10.8
Queue Length 50th (ft)	24	29	20	101	102	0	76	353	0	190	127
Queue Length 95th (ft)	53	60	97	164	167	13	#164	#550	35	m#311	226
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	250	263	391	258	263	369	173	1555	781	342	1879
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.58	0.50	0.49	0.28	0.59	0.71	0.18	0.75	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	91	86	167	124	70	113	108	968	124	91	1334
v/c Ratio	0.59	0.47	0.55	0.69	0.33	0.42	0.63	0.51	0.14	0.58	0.72
Control Delay	67.4	57.9	14.2	71.3	51.7	13.1	82.4	4.1	0.3	85.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	57.9	14.2	71.3	51.7	13.1	82.4	4.1	0.3	85.6	10.4
Queue Length 50th (ft)	68	65	0	93	51	0	89	35	0	72	448
Queue Length 95th (ft)	123	110	62	159	92	52	m129	38	m1	m106	178
Internal Link Dist (ft)		362			350			2575			2005
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	184	283	377	204	307	343	194	1889	874	179	1849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.30	0.44	0.61	0.23	0.33	0.56	0.51	0.14	0.51	0.72

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

						
Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	16	11	1104	11	1456
v/c Ratio	0.27	0.09	0.10	0.37	0.10	0.47
Control Delay	57.2	1.1	71.5	1.0	77.2	1.5
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	57.2	1.1	71.5	1.0	77.2	1.5
Queue Length 50th (ft)	25	0	9	12	9	23
Queue Length 95th (ft)	57	0	m21	11	m18	112
Internal Link Dist (ft)				387		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	220	253	117	3024	118	3068
Starvation Cap Reductn	0	0	0	484	0	0
Spillback Cap Reductn	0	0	0	0	0	172
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.06	0.09	0.43	0.09	0.50
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	149	53	191	37	53	128	106	878	64	1191	112
v/c Ratio	0.70	0.16	0.47	0.37	0.39	0.50	0.39	0.43	0.17	0.59	0.12
Control Delay	67.4	42.8	13.8	65.5	59.9	11.1	11.8	19.1	5.9	9.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	42.8	13.8	65.5	59.9	11.1	11.8	19.1	5.9	9.7	0.3
Queue Length 50th (ft)	112	37	21	28	40	0	11	282	10	101	0
Queue Length 95th (ft)	177	69	83	65	79	37	95	405	14	86	1
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	277	415	477	99	213	315	291	2058	387	2031	948
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.13	0.40	0.37	0.25	0.41	0.36	0.43	0.17	0.59	0.12
Intersection Summary											



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	31	52	10	26	906	78	52	1281	26
v/c Ratio	0.17	0.15	0.40	0.05	0.24	0.39	0.07	0.38	0.52	0.02
Control Delay	52.0	1.5	60.9	0.4	57.8	10.0	3.2	59.4	13.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	1.5	60.9	0.4	57.8	10.0	3.2	59.4	13.8	0.0
Queue Length 50th (ft)	16	0	39	0	20	109	1	39	271	0
Queue Length 95th (ft)	38	0	79	0	m45	260	24	79	489	0
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	263	321	320	373	108	2337	1066	150	2483	1111
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.10	0.16	0.03	0.24	0.39	0.07	0.35	0.52	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

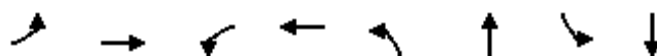


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	17	17	33	156	11	961	17	161	1289	6
v/c Ratio	0.09	0.06	0.15	0.42	0.06	0.68	0.03	0.47	0.56	0.01
Control Delay	28.3	18.4	28.6	9.8	39.4	20.3	0.1	33.6	9.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	18.4	28.6	9.8	39.4	20.3	0.1	33.6	9.8	0.0
Queue Length 50th (ft)	5	2	10	2	3	131	0	48	80	0
Queue Length 95th (ft)	28	21	44	53	27	384	0	181	453	0
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	680	1022	791	969	451	2800	1243	633	3046	1337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.02	0.04	0.16	0.02	0.34	0.01	0.25	0.42	0.00
Intersection Summary										

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	44	126	165	55	148	110	901	88	82	1132	110
v/c Ratio	0.63	0.19	0.40	0.66	0.22	0.44	0.58	0.58	0.12	0.44	0.78	0.16
Control Delay	53.4	37.9	8.0	53.9	38.0	10.2	55.6	25.2	1.3	50.0	30.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	37.9	8.0	53.9	38.0	10.2	55.6	25.2	1.3	50.0	30.4	6.7
Queue Length 50th (ft)	81	24	0	90	30	0	60	197	0	45	282	3
Queue Length 95th (ft)	#193	54	34	#225	64	49	#166	#464	9	111	#608	47
Internal Link Dist (ft)		722			684			2563			834	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	293	709	682	296	716	691	214	1541	752	315	1499	713
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.06	0.18	0.56	0.08	0.21	0.51	0.58	0.12	0.26	0.76	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	70	16	32	92	1044	27	1451
v/c Ratio	0.65	0.23	0.17	0.26	0.36	0.42	0.07	0.63
Control Delay	71.5	12.5	57.0	27.3	12.5	2.7	3.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	12.5	57.0	27.3	12.5	2.7	3.2	8.9
Queue Length 50th (ft)	77	3	12	4	9	121	2	465
Queue Length 95th (ft)	138	42	35	36	39	59	m9	154
Internal Link Dist (ft)		412		225		2005		387
Turn Bay Length (ft)					100		100	
Base Capacity (vph)	177	513	232	266	279	2477	390	2303
Starvation Cap Reductn	0	0	0	0	0	0	0	46
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.14	0.07	0.12	0.33	0.42	0.07	0.64

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Mid-Term 2030 PM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	485	325	5	5	400	230	5	5	5	105	5	440
Future Volume (vph)	485	325	5	5	400	230	5	5	5	105	5	440
Confl. Peds. (#/hr)	14		23	23		14	1			12	12	1
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	606	406	6	6	500	288	6	6	6	131	6	550
Shared Lane Traffic (%)												
Lane Group Flow (vph)	606	412	0	0	506	288	0	18	0	0	137	550
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	67.0	67.0		53.0	53.0	53.0	26.0	26.0		24.0	24.0	24.0
Total Split (%)	39.4%	39.4%		31.2%	31.2%	31.2%	15.3%	15.3%		14.1%	14.1%	14.1%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)	71.4	71.4			52.2	52.2		12.2			18.6	18.6
Actuated g/C Ratio	0.42	0.42			0.31	0.31		0.07			0.11	0.11
v/c Ratio	0.82	0.53			0.89	0.50		0.14			0.71	0.84
Control Delay	56.3	42.6			73.6	20.0		54.0			69.3	31.9
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	14.0
Total Delay	56.3	42.6			73.6	20.0		54.0			69.3	46.0
LOS	E	D			E	B		D			E	D
Approach Delay		50.7			54.1			54.0			50.6	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 2 (1%), Referenced to phase 3:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 51.8

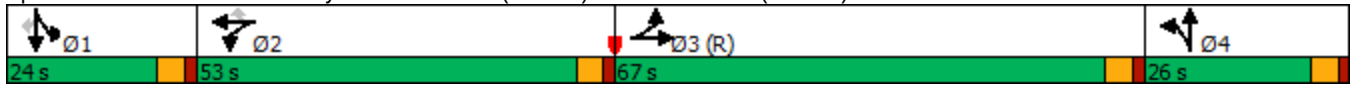
Intersection LOS: D

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)



Mid-Term 2030 PM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	325	30	85	695	85	290	520	15	75	480	160
Future Volume (vph)	390	325	30	85	695	85	290	520	15	75	480	160
Confl. Peds. (#/hr)	21		9	9		21	43		11	11		43
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	411	342	32	89	732	89	305	547	16	79	505	168
Shared Lane Traffic (%)	37%			10%								
Lane Group Flow (vph)	259	526	0	80	830	0	305	563	0	79	673	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	39.0	39.0		51.8	51.8		36.0	67.6		11.6	43.2	
Total Split (%)	22.9%	22.9%		30.5%	30.5%		21.2%	39.8%		6.8%	25.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	32.7	32.7		46.3	46.3		77.5	65.5		52.3	44.8	
Actuated g/C Ratio	0.19	0.19		0.27	0.27		0.46	0.39		0.31	0.26	
v/c Ratio	0.85	0.83		0.18	0.93		0.82	0.42		0.27	0.76	
Control Delay	89.9	77.9		48.3	76.2		51.8	20.2		19.3	28.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	89.9	77.9		48.3	76.2		51.8	20.2		19.3	28.7	
LOS	F	E		D	E		D	C		B	C	
Approach Delay		81.8			73.7			31.3			27.7	
Approach LOS		F			E			C			C	

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 50 (29%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 54.1

Intersection LOS: D

Intersection Capacity Utilization 84.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
36 s	43.2 s	39 s	51.8 s
 Ø5	 Ø6 (R)		
11.6 s	67.6 s		

Mid-Term 2030 PM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1075	340	35	0	610	240	75	905	15	85	675	765
Future Volume (vph)	1075	340	35	0	610	240	75	905	15	85	675	765
Confl. Peds. (#/hr)	5		6	6		5	15		6	6		15
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1144	362	37	0	649	255	80	963	16	90	718	814
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1144	399	0	0	904	0	80	979	0	90	718	814
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	60.0	106.0			46.0		12.0	52.2		11.8	52.0	60.0
Total Split (%)	35.3%	62.4%			27.1%		7.1%	30.7%		6.9%	30.6%	35.3%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	53.5	99.5			40.5		53.2	46.7		52.8	46.5	99.0
Actuated g/C Ratio	0.31	0.59			0.24		0.31	0.27		0.31	0.27	0.58
v/c Ratio	1.07	0.38			1.10		0.56	1.03		0.84	0.76	0.89
Control Delay	102.1	19.7			119.6		58.7	91.4		76.7	48.8	20.8
Queue Delay	0.0	0.0			1.1		0.0	0.0		0.0	0.0	1.3
Total Delay	102.1	19.7			120.7		58.7	91.4		76.7	48.8	22.1
LOS	F	B			F		E	F		E	D	C
Approach Delay		80.8			120.7			88.9			37.0	
Approach LOS		F			F			F			D	

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 25 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 75.6

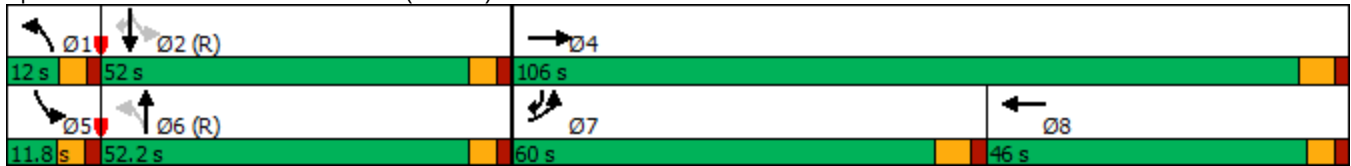
Intersection LOS: E

Intersection Capacity Utilization 105.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street



Mid-Term 2030 PM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	30	30	5	25	15	0	2210	5	0	1485	220
Future Volume (vph)	245	30	30	5	25	15	0	2210	5	0	1485	220
Confl. Peds. (#/hr)	1		14	14		1	11		8	8		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	272	33	33	6	28	17	0	2456	6	0	1650	244
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	338	0	0	51	0	0	2462	0	0	1894	0
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	46.0	46.0		46.0	46.0			124.0			124.0	
Total Split (%)	27.1%	27.1%		27.1%	27.1%			72.9%			72.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effect Green (s)		41.5			41.5			119.5			119.5	
Actuated g/C Ratio		0.24			0.24			0.70			0.70	
v/c Ratio		1.03			0.14			1.00			0.80	
Control Delay		118.8			42.5			27.0			12.1	
Queue Delay		0.0			0.0			19.6			0.2	
Total Delay		118.8			42.5			46.6			12.3	
LOS		F			D			D			B	
Approach Delay		118.8			42.5			46.6			12.3	
Approach LOS		F			D			D			B	
Intersection Summary												
Cycle Length: 170												
Actuated Cycle Length: 170												
Offset: 164 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.03												
Intersection Signal Delay: 38.0												
Intersection LOS: D												
Intersection Capacity Utilization 92.5%												
ICU Level of Service F												

Analysis Period (min) 15

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



Mid-Term 2030 PM
SR 303 Corridor Study

5: Warren Avenue (SR 303) & 16th Street
Timings

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Traffic Volume (vph)	135	65	140	2330	1635	195
Future Volume (vph)	135	65	140	2330	1635	195
Confl. Peds. (#/hr)		22	6			6
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	141	68	146	2427	1703	203
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	0	146	2427	1703	203
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	21.0		29.0	149.0	120.0	120.0
Total Split (%)	12.4%		17.1%	87.6%	70.6%	70.6%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Effect Green (s)	14.3		19.4	146.7	122.8	122.8
Actuated g/C Ratio	0.08		0.11	0.86	0.72	0.72
v/c Ratio	0.69		0.73	0.80	0.67	0.18
Control Delay	72.6		69.8	6.8	15.3	1.6
Queue Delay	0.0		0.0	0.3	0.0	0.0
Total Delay	72.6		69.8	7.1	15.3	1.6
LOS	E		E	A	B	A
Approach Delay	72.6			10.6	13.8	
Approach LOS	E			B	B	

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 158 (93%), Referenced to phase 4:SBT and 8:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Mid-Term 2030 PM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	45	160	210	45	190	180	1990	245	195	1365	50
Future Volume (vph)	75	45	160	210	45	190	180	1990	245	195	1365	50
Confl. Peds. (#/hr)	7						7	6		5	5	6
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	77	46	165	216	46	196	186	2052	253	201	1407	52
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	77	46	165	130	132	196	186	2052	253	201	1459	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	38.0	126.0	126.0	28.0	116.0	
Total Split (%)	11.0%	11.0%	11.0%	12.0%	12.0%	12.0%	19.0%	63.0%	63.0%	14.0%	58.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	13.6	13.6	13.6	18.2	18.2	18.2	26.6	122.5	122.5	25.7	121.6	
Actuated g/C Ratio	0.07	0.07	0.07	0.09	0.09	0.09	0.13	0.61	0.61	0.13	0.61	
v/c Ratio	0.65	0.37	0.63	0.87	0.87	0.63	0.81	0.97	0.27	0.89	0.68	
Control Delay	114.2	96.2	21.7	134.0	132.9	18.5	108.9	49.6	10.1	104.0	46.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	114.2	96.2	21.7	134.0	132.9	18.5	108.9	49.6	10.1	104.0	46.9	
LOS	F	F	C	F	F	B	F	D	B	F	D	
Approach Delay		58.3			84.3			50.0			53.8	
Approach LOS		E			F			D			D	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 68 (34%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 55.0

Intersection LOS: E

Intersection Capacity Utilization 92.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
28 s	126 s	24 s	22 s
 Ø5	 Ø6 (R)		
38 s	116 s		

Mid-Term 2030 PM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	100	140	140	115	175	150	1885	150	145	1330	85
Future Volume (vph)	110	100	140	140	115	175	150	1885	150	145	1330	85
Confl. Peds. (#/hr)	15		9	9		15	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	111	101	141	141	116	177	152	1904	152	146	1343	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	101	141	141	116	177	152	1904	152	146	1429	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	22.0	24.0	24.0	25.0	27.0	27.0	32.0	125.0	125.0	26.0	119.0	
Total Split (%)	11.0%	12.0%	12.0%	12.5%	13.5%	13.5%	16.0%	62.5%	62.5%	13.0%	59.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	15.9	15.8	15.8	18.8	18.7	18.7	22.0	125.4	125.4	19.9	123.4	
Actuated g/C Ratio	0.08	0.08	0.08	0.09	0.09	0.09	0.11	0.63	0.63	0.10	0.62	
v/c Ratio	0.82	0.71	0.58	0.85	0.67	0.61	0.79	0.87	0.16	0.84	0.67	
Control Delay	129.9	115.7	21.5	127.7	106.4	21.9	125.4	12.0	0.5	115.8	24.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	129.9	115.7	21.5	127.7	106.4	21.9	125.4	12.0	0.5	115.8	24.7	
LOS	F	F	C	F	F	C	F	B	A	F	C	
Approach Delay		82.5			78.9			19.0			33.2	
Approach LOS		F			E			B			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 132 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 34.5

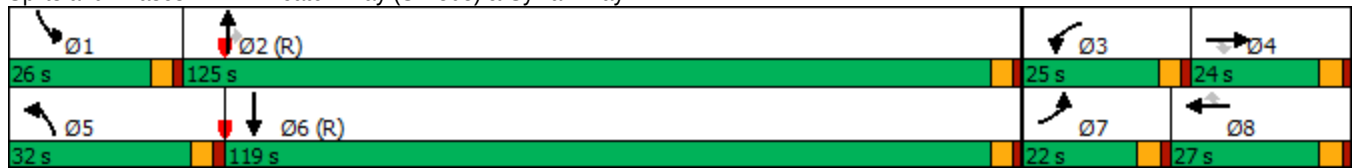
Intersection LOS: C

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

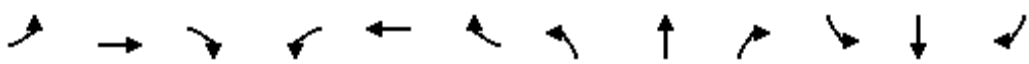
Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way



Mid-Term 2030 PM
SR 303 Corridor Study

8: Wheaton Way (SR 303) & Driveway/Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	70	0	45	5	1960	65	35	1570	5
Future Volume (vph)	0	0	0	70	0	45	5	1960	65	35	1570	5
Confl. Peds. (#/hr)	6		1	1		6	15		6	6		15
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	72	0	46	5	2021	67	36	1619	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	72	0	46	5	2088	0	36	1624	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				23.0		23.0	11.0	163.0		14.0	166.0	
Total Split (%)				11.5%		11.5%	5.5%	81.5%		7.0%	83.0%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effect Green (s)				14.5		14.5	6.6	163.9		9.0	173.3	
Actuated g/C Ratio				0.07		0.07	0.03	0.82		0.04	0.87	
v/c Ratio				0.60		0.32	0.09	0.74		0.46	0.53	
Control Delay				109.9		24.8	112.2	3.5		85.2	8.2	
Queue Delay				0.0		0.0	0.0	0.3		0.0	0.1	
Total Delay				109.9		24.8	112.2	3.8		85.2	8.3	
LOS				F		C	F	A		F	A	
Approach Delay					76.7			4.1			10.0	
Approach LOS					E			A			A	

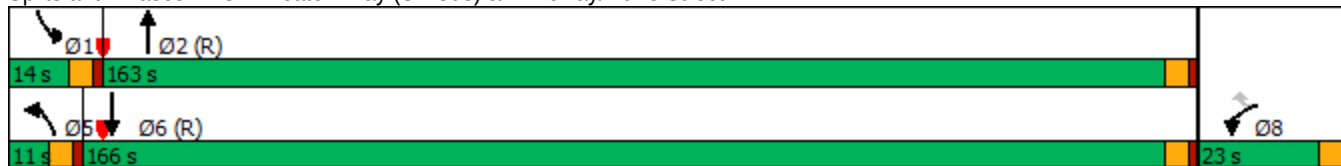
Intersection Summary

Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 164 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 8.8
 Intersection Capacity Utilization 70.8%

Intersection LOS: A
 ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Wheaton Way (SR 303) & Driveway/Hollis Street



Mid-Term 2030 PM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	120	170	100	145	140	155	1680	45	135	1295	190
Future Volume (vph)	180	120	170	100	145	140	155	1680	45	135	1295	190
Confl. Peds. (#/hr)	5		2	2		5	11		8	8		11
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	191	128	181	106	154	149	165	1787	48	144	1378	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	128	181	106	154	149	165	1835	0	144	1378	202
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	32.0	32.0	32.0	26.0	26.0	26.0	25.0	121.0		21.0	117.0	117.0
Total Split (%)	16.0%	16.0%	16.0%	13.0%	13.0%	13.0%	12.5%	60.5%		10.5%	58.5%	58.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effct Green (s)	24.8	27.8	27.8	16.5	19.5	19.5	135.7	120.6		135.7	122.7	122.7
Actuated g/C Ratio	0.12	0.14	0.14	0.08	0.10	0.10	0.68	0.60		0.68	0.61	0.61
v/c Ratio	0.88	0.50	0.49	0.74	0.87	0.53	0.67	0.88		0.84	0.63	0.22
Control Delay	121.8	87.0	13.5	118.0	127.2	17.5	35.1	24.8		95.7	18.4	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.1		0.0	0.1	0.0
Total Delay	121.8	87.0	13.5	118.0	127.2	17.6	35.1	25.9		95.7	18.5	6.5
LOS	F	F	B	F	F	B	D	C		F	B	A
Approach Delay		73.7			84.9			26.6			23.6	
Approach LOS		E			F			C			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 14 (7%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 35.7

Intersection LOS: D

Intersection Capacity Utilization 90.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road



Mid-Term 2030 PM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	75	180	5	80	30	1725	185	190	1390	45
Future Volume (vph)	30	5	75	180	5	80	30	1725	185	190	1390	45
Confl. Peds. (#/hr)			19	19			10		2	2		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	5	79	189	5	84	32	1816	195	200	1463	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	79	0	194	84	32	1816	195	200	1463	47
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	31.0	31.0	31.0	14.0	114.0	114.0	31.0	131.0	131.0
Total Split (%)	12.0%	12.0%	12.0%	15.5%	15.5%	15.5%	7.0%	57.0%	57.0%	15.5%	65.5%	65.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		14.2	14.2		24.8	24.8	8.1	115.8	115.8	25.2	135.0	135.0
Actuated g/C Ratio		0.07	0.07		0.12	0.12	0.04	0.58	0.58	0.13	0.68	0.68
v/c Ratio		0.32	0.43		0.90	0.31	0.46	0.90	0.21	0.90	0.61	0.05
Control Delay		92.9	15.8		124.6	12.5	118.0	20.9	2.9	123.3	21.0	1.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay		92.9	15.8		124.6	12.5	118.0	21.6	2.9	123.3	21.0	1.2
LOS		F	B		F	B	F	C	A	F	C	A
Approach Delay		40.4			90.7			21.3			32.4	
Approach LOS		D			F			C			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 36 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 31.1

Intersection LOS: C

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

 Ø1	 Ø2 (R)	 Ø3	 Ø4
31 s	114 s	31 s	24 s
 Ø5	 Ø6 (R)		
14 s	131 s		

Mid-Term 2030 PM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	5	5	85	5	255	10	1810	10	175	1480	25
Future Volume (vph)	10	5	5	85	5	255	10	1810	10	175	1480	25
Confl. Peds. (#/hr)			5	5			3		3	3		3
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	11	5	5	89	5	268	11	1905	11	184	1558	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	10	0	89	273	0	11	1905	11	184	1558	26
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		10.6	10.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	40.0	40.0		40.0	40.0		20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		14.3%	57.1%	57.1%	14.3%	57.1%	57.1%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effect Green (s)	15.5	15.5		15.5	15.5		6.4	75.5	75.5	15.5	93.5	93.5
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.05	0.63	0.63	0.13	0.77	0.77
v/c Ratio	0.18	0.04		0.52	0.76		0.12	0.88	0.01	0.82	0.57	0.02
Control Delay	51.1	31.7		59.0	29.4		61.4	26.0	0.0	80.1	9.1	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	31.7		59.0	29.4		61.4	26.0	0.0	80.1	9.1	0.9
LOS	D	C		E	C		E	C	A	F	A	A
Approach Delay		41.9			36.7			26.1			16.3	
Approach LOS		D			D			C			B	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 120.7

Natural Cycle: 135

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 22.9

Intersection LOS: C

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Mid-Term 2030 PM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	145	160	195	100	135	250	1530	285	205	1300	215
Future Volume (vph)	205	145	160	195	100	135	250	1530	285	205	1300	215
Confl. Peds. (#/hr)	1		4	4		1	2		19	19		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	209	148	163	199	102	138	255	1561	291	209	1327	219
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	148	163	199	102	138	255	1561	291	209	1327	219
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	19.0	40.0	40.0	19.0	40.0	40.0	24.0	62.0	62.0	19.0	57.0	57.0
Total Split (%)	13.6%	28.6%	28.6%	13.6%	28.6%	28.6%	17.1%	44.3%	44.3%	13.6%	40.7%	40.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effect Green (s)	14.5	17.4	17.4	14.5	17.4	17.4	19.5	57.3	57.3	14.5	52.3	52.3
Actuated g/C Ratio	0.12	0.14	0.14	0.12	0.14	0.14	0.16	0.47	0.47	0.12	0.43	0.43
v/c Ratio	1.02	0.57	0.46	0.96	0.39	0.41	0.93	0.97	0.39	1.01	0.89	0.30
Control Delay	121.9	57.1	10.6	108.2	51.0	10.6	91.7	49.2	14.9	119.7	41.8	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.9	57.1	10.6	108.2	51.0	10.6	91.7	49.2	14.9	119.7	41.8	9.1
LOS	F	E	B	F	D	B	F	D	B	F	D	A
Approach Delay		68.5			64.2			49.6			47.0	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 122.5

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 52.0

Intersection LOS: D

Intersection Capacity Utilization 90.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road

 Ø1 24 s	 Ø2 57 s	 Ø3 19 s	 Ø4 40 s
 Ø5 19 s	 Ø6 62 s	 Ø7 19 s	 Ø8 40 s

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	5	0	0	50	0	710	10	0	545	30
Future Vol, veh/h	0	0	5	0	0	50	0	710	10	0	545	30
Conflicting Peds, #/hr	16	0	11	11	0	16	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	63	0	888	13	0	681	38
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	373	-	-	912	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	630	0	0	335	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	622	-	-	330	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		18.4		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		622 330		-		-			
HCM Lane V/C Ratio	-		-		0.01 0.189		-		-			
HCM Control Delay (s)	-		-		10.8 18.4		-		-			
HCM Lane LOS	-		-		B C		-		-			
HCM 95th %tile Q(veh)	-		-		0 0.7		-		-			

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	5	0	0	70	0	755	5	0	570	25
Future Vol, veh/h	0	0	5	0	0	70	0	755	5	0	570	25
Conflicting Peds, #/hr	13	0	17	17	0	13	7	0	7	7	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	88	0	944	6	0	713	31
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	396	-	-	967	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	609	0	0	311	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	595	-	-	305	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.1		21.5		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		595 305		-		-			
HCM Lane V/C Ratio	-		-		0.011 0.287		-		-			
HCM Control Delay (s)	-		-		11.1 21.5		-		-			
HCM Lane LOS	-		-		B C		-		-			
HCM 95th %tile Q(veh)	-		-		0 1.2		-		-			

Mid-Term 2030 PM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive

HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	155	25	0	0	0	0	0	5	60
Future Volume (vph)	0	0	0	155	25	0	0	0	0	0	5	60
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	194	31	0	0	0	0	0	6	75
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	225	81										
Volume Left (vph)	194	0										
Volume Right (vph)	0	75										
Hadj (s)	0.22	-0.52										
Departure Headway (s)	4.3	3.9										
Degree Utilization, x	0.27	0.09										
Capacity (veh/h)	822	868										
Control Delay (s)	8.9	7.3										
Approach Delay (s)	8.9	7.3										
Approach LOS	A	A										
Intersection Summary												
Delay				8.4								
Level of Service				A								
Intersection Capacity Utilization				21.5%			ICU Level of Service			A		
Analysis Period (min)				15								

										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Lane Configurations										
Sign Control		Stop			Yield		Stop		Yield	
Traffic Volume (vph)	0	0	0	0	180	110	0	0	45	160
Future Volume (vph)	0	0	0	0	180	110	0	0	45	160
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	0	198	121	0	0	49	176
Direction, Lane #	WB 1	NE 1								
Volume Total (vph)	319	225								
Volume Left (vph)	0	0								
Volume Right (vph)	121	176								
Hadj (s)	-0.13	-0.40								
Departure Headway (s)	4.3	4.2								
Degree Utilization, x	0.38	0.26								
Capacity (veh/h)	802	800								
Control Delay (s)	9.9	8.7								
Approach Delay (s)	9.9	8.7								
Approach LOS	A	A								
Intersection Summary										
Delay			9.4							
Level of Service			A							
Intersection Capacity Utilization			35.2%		ICU Level of Service				A	
Analysis Period (min)			15							

Mid-Term 2030 PM
SR 303 Corridor Study

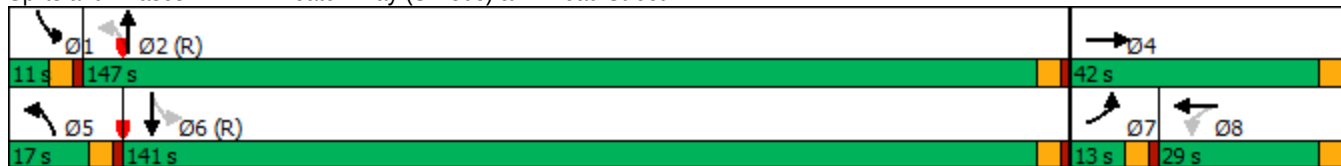
17: Wheaton Way (SR 303) & E Broad Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	5	115	20	5	50	80	1985	30	20	1585	55
Future Volume (vph)	35	5	115	20	5	50	80	1985	30	20	1585	55
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	5	125	22	5	54	87	2158	33	22	1723	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	130	0	22	59	0	87	2191	0	22	1783	0
Turn Type	Prot	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2			6		
Detector Phase	7	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	29.0		29.0	29.0		11.0	23.0		11.0	23.0	
Total Split (s)	13.0	42.0		29.0	29.0		17.0	147.0		11.0	141.0	
Total Split (%)	6.5%	21.0%		14.5%	14.5%		8.5%	73.5%		5.5%	70.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	8.0	24.8		14.0	14.0		163.9	158.6		158.3	152.3	
Actuated g/C Ratio	0.04	0.12		0.07	0.07		0.82	0.79		0.79	0.76	
v/c Ratio	0.54	0.47		0.25	0.36		0.45	0.78		0.19	0.66	
Control Delay	121.0	32.2		90.8	26.3		13.9	6.6		9.6	19.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	121.0	32.2		90.8	26.3		13.9	6.6		9.6	19.2	
LOS	F	C		F	C		B	A		A	B	
Approach Delay		52.3			43.8			6.9			19.1	
Approach LOS		D			D			A			B	
Intersection Summary												
Cycle Length: 200												
Actuated Cycle Length: 200												
Offset: 168 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 140												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.78												
Intersection Signal Delay: 14.4												
Intersection LOS: B												
Intersection Capacity Utilization 81.9%												
ICU Level of Service D												

Analysis Period (min) 15

Splits and Phases: 17: Wheaton Way (SR 303) & E Broad Street





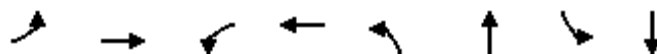
Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	606	412	506	288	18	137	550
v/c Ratio	0.82	0.53	0.89	0.50	0.14	0.71	0.84
Control Delay	56.3	42.6	73.6	20.0	54.0	69.3	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	14.0
Total Delay	56.3	42.6	73.6	20.0	54.0	69.3	46.0
Queue Length 50th (ft)	657	376	508	84	13	100	425
Queue Length 95th (ft)	704	426	#642	145	34	m199	403
Internal Link Dist (ft)		535	532		72	193	
Turn Bay Length (ft)							
Base Capacity (vph)	735	771	571	577	220	205	665
Starvation Cap Reductn	0	0	0	0	0	0	107
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.53	0.89	0.50	0.08	0.67	0.99

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	259	526	80	830	305	563	79	673
v/c Ratio	0.85	0.83	0.18	0.93	0.82	0.42	0.27	0.76
Control Delay	89.9	77.9	48.3	76.2	51.8	20.2	19.3	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.9	77.9	48.3	76.2	51.8	20.2	19.3	28.7
Queue Length 50th (ft)	305	307	74	491	186	141	16	65
Queue Length 95th (ft)	#459	383	129	#611	m303	189	m33	#129
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	323	666	443	916	399	1345	291	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.79	0.18	0.91	0.76	0.42	0.27	0.76

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1144	399	904	80	979	90	718	814
v/c Ratio	1.07	0.38	1.10	0.56	1.03	0.84	0.76	0.89
Control Delay	102.1	19.7	119.6	58.7	91.4	76.7	48.8	20.8
Queue Delay	0.0	0.0	1.1	0.0	0.0	0.0	0.0	1.3
Total Delay	102.1	19.7	120.7	58.7	91.4	76.7	48.8	22.1
Queue Length 50th (ft)	~724	226	~586	64	~462	46	323	648
Queue Length 95th (ft)	#861	302	#727	m102	m#727	m#84	m426	m#841
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	1070	1063	819	144	952	107	949	913
Starvation Cap Reductn	0	0	0	0	0	0	0	25
Spillback Cap Reductn	0	0	136	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.38	1.32	0.56	1.03	0.84	0.76	0.92

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	338	51	2462	1894
v/c Ratio	1.03	0.14	1.00	0.80
Control Delay	118.8	42.5	27.0	12.1
Queue Delay	0.0	0.0	19.6	0.2
Total Delay	118.8	42.5	46.6	12.3
Queue Length 50th (ft)	~400	37	628	147
Queue Length 95th (ft)	#612	78	m582	158
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	327	375	2463	2372
Starvation Cap Reductn	0	0	134	0
Spillback Cap Reductn	0	0	0	80
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.03	0.14	1.06	0.83
Intersection Summary				
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.				
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.				
m Volume for 95th percentile queue is metered by upstream signal.				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	209	146	2427	1703	203
v/c Ratio	0.69	0.73	0.80	0.67	0.18
Control Delay	72.6	69.8	6.8	15.3	1.6
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	72.6	69.8	7.1	15.3	1.6
Queue Length 50th (ft)	95	167	438	513	2
Queue Length 95th (ft)	141	m166	m446	666	30
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	346	252	3025	2531	1150
Starvation Cap Reductn	0	0	152	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.58	0.84	0.67	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	77	46	165	130	132	196	186	2052	253	201	1459
v/c Ratio	0.65	0.37	0.63	0.87	0.87	0.63	0.81	0.97	0.27	0.89	0.68
Control Delay	114.2	96.2	21.7	134.0	132.9	18.5	108.9	49.6	10.1	104.0	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.2	96.2	21.7	134.0	132.9	18.5	108.9	49.6	10.1	104.0	46.9
Queue Length 50th (ft)	101	59	0	181	183	0	242	1340	78	254	1039
Queue Length 95th (ft)	164	108	85	#318	#321	92	331	#1549	131	m#450	1120
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	150	158	285	155	158	318	286	2125	945	227	2137
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.29	0.58	0.84	0.84	0.62	0.65	0.97	0.27	0.89	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	111	101	141	141	116	177	152	1904	152	146	1429
v/c Ratio	0.82	0.71	0.58	0.85	0.67	0.61	0.79	0.87	0.16	0.84	0.67
Control Delay	129.9	115.7	21.5	127.7	106.4	21.9	125.4	12.0	0.5	115.8	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	129.9	115.7	21.5	127.7	106.4	21.9	125.4	12.0	0.5	115.8	24.7
Queue Length 50th (ft)	146	132	3	185	150	12	207	706	1	177	336
Queue Length 95th (ft)	#258	205	82	#312	227	100	m212	m896	m2	#309	818
Internal Link Dist (ft)		362			350			2575			2015
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	144	170	264	175	202	309	236	2197	974	186	2134
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.59	0.53	0.81	0.57	0.57	0.64	0.87	0.16	0.78	0.67

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

						
Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	46	5	2088	36	1624
v/c Ratio	0.60	0.32	0.09	0.74	0.46	0.53
Control Delay	109.9	24.8	112.2	3.5	85.2	8.2
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.1
Total Delay	109.9	24.8	112.2	3.8	85.2	8.3
Queue Length 50th (ft)	94	0	7	20	44	518
Queue Length 95th (ft)	155	48	m8	39	m80	414
Internal Link Dist (ft)				377		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	149	170	57	2829	82	3036
Starvation Cap Reductn	0	0	0	223	0	0
Spillback Cap Reductn	0	0	0	0	0	289
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.27	0.09	0.80	0.44	0.59
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	191	128	181	106	154	149	165	1835	144	1378	202
v/c Ratio	0.88	0.50	0.49	0.74	0.87	0.53	0.67	0.88	0.84	0.63	0.22
Control Delay	121.8	87.0	13.5	118.0	127.2	17.5	35.1	24.8	95.7	18.4	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.1	0.0	0.1	0.0
Total Delay	121.8	87.0	13.5	118.0	127.2	17.6	35.1	25.9	95.7	18.5	6.5
Queue Length 50th (ft)	249	156	0	139	202	0	57	515	161	325	32
Queue Length 95th (ft)	#381	240	84	212	#330	80	m130	963	m#256	357	m62
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	236	262	373	182	191	290	305	2080	179	2171	917
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	100	0
Spillback Cap Reductn	0	0	0	0	0	3	0	93	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.49	0.49	0.58	0.81	0.52	0.54	0.92	0.80	0.67	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	79	194	84	32	1816	195	200	1463	47
v/c Ratio	0.32	0.43	0.90	0.31	0.46	0.90	0.21	0.90	0.61	0.05
Control Delay	92.9	15.8	124.6	12.5	118.0	20.9	2.9	123.3	21.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	92.9	15.8	124.6	12.5	118.0	21.6	2.9	123.3	21.0	1.2
Queue Length 50th (ft)	46	0	255	0	44	844	9	263	620	0
Queue Length 95th (ft)	90	42	#405	48	m53	1041	m19	#419	691	10
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	157	213	226	282	78	2029	930	231	2389	993
Starvation Cap Reductn	0	0	0	0	0	53	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.37	0.86	0.30	0.41	0.92	0.21	0.87	0.61	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	10	89	273	11	1905	11	184	1558	26
v/c Ratio	0.18	0.04	0.52	0.76	0.12	0.88	0.01	0.82	0.57	0.02
Control Delay	51.1	31.7	59.0	29.4	61.4	26.0	0.0	80.1	9.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	31.7	59.0	29.4	61.4	26.0	0.0	80.1	9.1	0.9
Queue Length 50th (ft)	8	3	65	59	8	558	0	137	166	0
Queue Length 95th (ft)	26	20	117	153	31	#1086	0	#319	598	5
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	143	517	390	575	222	2171	962	224	2714	1192
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.02	0.23	0.47	0.05	0.88	0.01	0.82	0.57	0.02

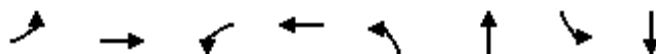
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	148	163	199	102	138	255	1561	291	209	1327	219
v/c Ratio	1.02	0.57	0.46	0.96	0.39	0.41	0.93	0.97	0.39	1.01	0.89	0.30
Control Delay	121.9	57.1	10.6	108.2	51.0	10.6	91.7	49.2	14.9	119.7	41.8	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.9	57.1	10.6	108.2	51.0	10.6	91.7	49.2	14.9	119.7	41.8	9.1
Queue Length 50th (ft)	163	110	0	154	74	0	196	591	78	163	480	28
Queue Length 95th (ft)	#391	176	58	#367	126	53	#433	#991	191	#389	#808	100
Internal Link Dist (ft)		722			684			2563			834	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	205	530	559	207	535	547	273	1607	740	207	1495	742
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.28	0.29	0.96	0.19	0.25	0.93	0.97	0.39	1.01	0.89	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	130	22	59	87	2191	22	1783
v/c Ratio	0.54	0.47	0.25	0.36	0.45	0.78	0.19	0.66
Control Delay	121.0	32.2	90.8	26.3	13.9	6.6	9.6	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.0	32.2	90.8	26.3	13.9	6.6	9.6	19.2
Queue Length 50th (ft)	50	52	29	6	11	208	4	876
Queue Length 95th (ft)	#102	122	62	58	m12	144	m14	840
Internal Link Dist (ft)		414		230		2015		377
Turn Bay Length (ft)					100		100	
Base Capacity (vph)	74	365	150	240	228	2800	118	2683
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.36	0.15	0.25	0.38	0.78	0.19	0.66

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Appendix E-3

Future No Build Horizon Traffic Operations Results

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Horizon 2040 AM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	685	515	5	5	230	60	5	5	5	195	5	405
Future Volume (vph)	685	515	5	5	230	60	5	5	5	195	5	405
Confl. Peds. (#/hr)	22		34	34		22				14	14	
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	778	585	6	6	261	68	6	6	6	222	6	460
Shared Lane Traffic (%)												
Lane Group Flow (vph)	778	591	0	0	267	68	0	18	0	0	228	460
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	57.0	57.0		26.0	26.0	26.0	26.0	26.0		21.0	21.0	21.0
Total Split (%)	43.8%	43.8%		20.0%	20.0%	20.0%	20.0%	20.0%		16.2%	16.2%	16.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)	57.3	57.3			21.9	21.9		12.2			23.1	23.1
Actuated g/C Ratio	0.44	0.44			0.17	0.17		0.09			0.18	0.18
v/c Ratio	1.01	0.73			0.85	0.21		0.11			0.72	0.71
Control Delay	71.5	38.0			77.3	4.6		38.2			59.7	28.6
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Delay	71.5	38.0			77.3	4.6		38.2			59.7	28.6
LOS	E	D			E	A		D			E	C
Approach Delay		57.0			62.6			38.3			38.9	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 3:EBTL, Start of Green, Master Intersection

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 52.5

Intersection LOS: D

Intersection Capacity Utilization 83.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)



Horizon 2040 AM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	295	40	40	170	40	35	595	45	85	555	115
Future Volume (vph)	175	295	40	40	170	40	35	595	45	85	555	115
Confl. Peds. (#/hr)	15						15	25		3	3	25
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	186	314	43	43	181	43	37	633	48	90	590	122
Shared Lane Traffic (%)	10%			10%								
Lane Group Flow (vph)	167	376	0	39	228	0	37	681	0	90	712	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	35.0	35.0		27.0	27.0		13.0	51.0		17.0	55.0	
Total Split (%)	26.9%	26.9%		20.8%	20.8%		10.0%	39.2%		13.1%	42.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	22.0	22.0		14.3	14.3		74.1	66.9		78.2	70.6	
Actuated g/C Ratio	0.17	0.17		0.11	0.11		0.57	0.51		0.60	0.54	
v/c Ratio	0.62	0.67		0.22	0.61		0.09	0.38		0.21	0.38	
Control Delay	59.6	54.8		54.3	57.6		2.3	3.9		2.2	8.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.6	54.8		54.3	57.6		2.3	3.9		2.2	8.0	
LOS	E	D		D	E		A	A		A	A	
Approach Delay		56.3			57.1			3.8			7.4	
Approach LOS		E			E			A			A	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 48 (37%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 23.4

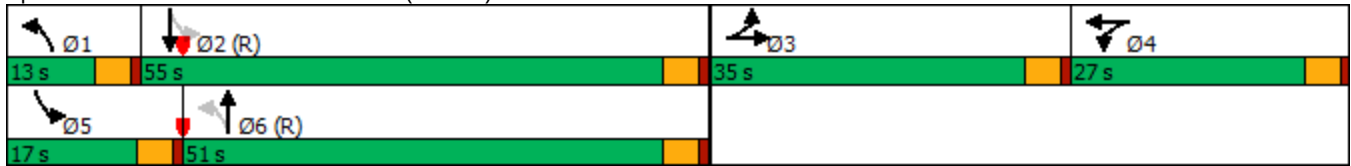
Intersection LOS: C

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street



Horizon 2040 AM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	740	245	35	0	320	65	15	780	20	60	740	620
Future Volume (vph)	740	245	35	0	320	65	15	780	20	60	740	620
Confl. Peds. (#/hr)	5		4	4		5	8		5	5		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	796	263	38	0	344	70	16	839	22	65	796	667
Shared Lane Traffic (%)												
Lane Group Flow (vph)	796	301	0	0	414	0	16	861	0	65	796	667
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	43.0	72.5			29.5		11.5	45.9		11.6	46.0	43.0
Total Split (%)	33.1%	55.8%			22.7%		8.8%	35.3%		8.9%	35.4%	33.1%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	36.6	62.4			20.3		50.4	45.3		53.5	50.9	86.5
Actuated g/C Ratio	0.28	0.48			0.16		0.39	0.35		0.41	0.39	0.67
v/c Ratio	0.83	0.35			0.76		0.07	0.71		0.34	0.59	0.60
Control Delay	52.6	21.3			59.8		16.5	37.5		15.0	17.1	8.7
Queue Delay	0.3	0.0			1.8		0.0	0.0		0.0	0.0	0.0
Total Delay	52.9	21.3			61.5		16.5	37.5		15.0	17.1	8.7
LOS	D	C			E		B	D		B	B	A
Approach Delay		44.2			61.5			37.1			13.3	
Approach LOS		D			E			D			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 105 (81%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 32.4

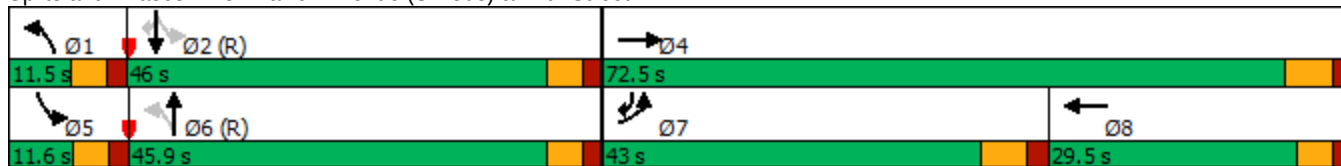
Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street



Horizon 2040 AM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	5	20	5	20	5	0	1580	5	0	1405	145
Future Volume (vph)	190	5	20	5	20	5	0	1580	5	0	1405	145
Confl. Peds. (#/hr)			4	4			13		3	3		13
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	216	6	23	6	23	6	0	1795	6	0	1597	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	245	0	0	35	0	0	1801	0	0	1762	0
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	41.6	41.6		41.6	41.6			88.4			88.4	
Total Split (%)	32.0%	32.0%		32.0%	32.0%			68.0%			68.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effect Green (s)		29.0			29.0			92.0			92.0	
Actuated g/C Ratio		0.22			0.22			0.71			0.71	
v/c Ratio		0.82			0.10			0.73			0.73	
Control Delay		68.2			32.6			18.0			2.1	
Queue Delay		0.0			0.0			1.3			0.1	
Total Delay		68.2			32.6			19.3			2.2	
LOS		E			C			B			A	
Approach Delay		68.2			32.6			19.3			2.2	
Approach LOS		E			C			B			A	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Offset: 63 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 14.7						Intersection LOS: B						
Intersection Capacity Utilization 70.0%						ICU Level of Service C						

Analysis Period (min) 15

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Traffic Volume (vph)	80	40	305	1465	1500	390
Future Volume (vph)	80	40	305	1465	1500	390
Confl. Peds. (#/hr)		56	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	94	47	359	1724	1765	459
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	0	359	1724	1765	459
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	19.5		35.0	110.5	75.5	75.5
Total Split (%)	15.0%		26.9%	85.0%	58.1%	58.1%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Effect Green (s)	13.3		29.2	107.7	74.0	74.0
Actuated g/C Ratio	0.10		0.22	0.83	0.57	0.57
v/c Ratio	0.40		0.91	0.59	0.89	0.44
Control Delay	38.8		61.8	4.6	23.7	1.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.8		61.8	4.6	23.7	1.7
LOS	D		E	A	C	A
Approach Delay	38.8			14.5	19.2	
Approach LOS	D			B	B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 45 (35%), Referenced to phase 4:SBT and 8:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 17.6

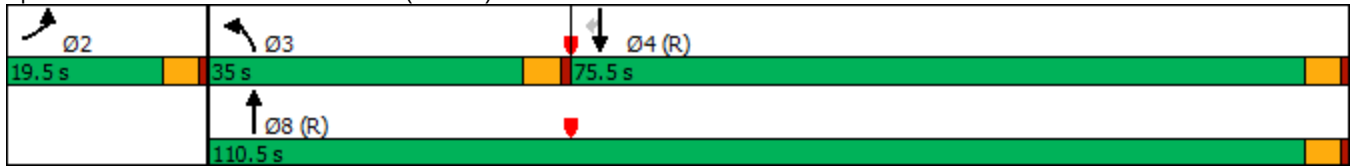
Intersection LOS: B

Intersection Capacity Utilization 81.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Horizon 2040 AM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	40	235	220	50	105	105	1145	145	265	1385	25
Future Volume (vph)	35	40	235	220	50	105	105	1145	145	265	1385	25
Confl. Peds. (#/hr)	4		1	1		4	3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	43	253	237	54	113	113	1231	156	285	1489	27
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	38	43	253	145	146	113	113	1231	156	285	1516	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	17.0	55.0	55.0	29.0	67.0	
Total Split (%)	16.9%	16.9%	16.9%	18.5%	18.5%	18.5%	13.1%	42.3%	42.3%	22.3%	51.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	11.6	11.6	11.6	15.9	15.9	15.9	12.4	58.0	58.0	24.5	70.2	
Actuated g/C Ratio	0.09	0.09	0.09	0.12	0.12	0.12	0.10	0.45	0.45	0.19	0.54	
v/c Ratio	0.24	0.26	0.82	0.73	0.72	0.37	0.69	0.79	0.20	0.86	0.80	
Control Delay	56.6	56.9	37.8	75.4	74.2	7.0	76.3	29.3	5.1	75.1	17.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.6	56.9	37.8	75.4	74.2	7.0	76.3	29.3	5.1	75.1	17.8	
LOS	E	E	D	E	E	A	E	C	A	E	B	
Approach Delay		42.4			55.8			30.3			26.9	
Approach LOS		D			E			C			C	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 91 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road



Horizon 2040 AM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	90	175	130	70	115	110	1010	130	100	1350	40
Future Volume (vph)	100	90	175	130	70	115	110	1010	130	100	1350	40
Confl. Peds. (#/hr)	15		3	3		15	4		1	1		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	108	97	188	140	75	124	118	1086	140	108	1452	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	97	188	140	75	124	118	1086	140	108	1495	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	21.0	24.0	24.0	19.0	22.0	22.0	17.0	67.0	67.0	20.0	70.0	70.0
Total Split (%)	16.2%	18.5%	18.5%	14.6%	16.9%	16.9%	13.1%	51.5%	51.5%	15.4%	53.8%	53.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)	13.0	13.4	13.4	13.3	13.7	13.7	12.3	70.7	70.7	12.6	71.0	71.0
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.11	0.11	0.09	0.54	0.54	0.10	0.55	0.55
v/c Ratio	0.64	0.52	0.58	0.79	0.39	0.46	0.71	0.57	0.16	0.64	0.78	0.78
Control Delay	72.7	64.4	14.5	85.6	59.3	14.5	88.0	4.0	0.3	91.0	11.2	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	64.4	14.5	85.6	59.3	14.5	88.0	4.0	0.3	91.0	11.2	11.2
LOS	E	E	B	F	E	B	F	A	A	F	B	B
Approach Delay		42.8			53.8			11.0			16.5	
Approach LOS		D			D			B			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 9 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.7

Intersection LOS: C

Intersection Capacity Utilization 71.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way



Horizon 2040 AM
SR 303 Corridor Study

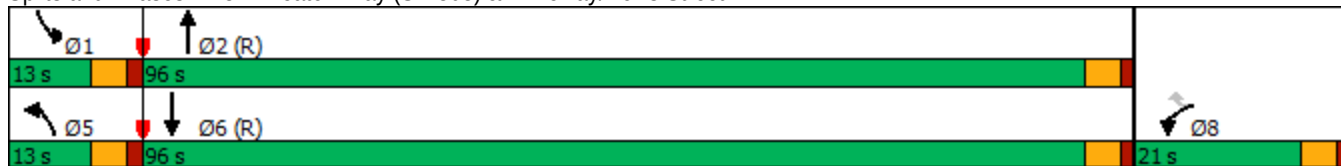
8: Wheaton Way (SR 303) & Driveway/Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	35	0	20	15	1080	45	15	1480	5
Future Volume (vph)	0	0	0	35	0	20	15	1080	45	15	1480	5
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	38	0	22	16	1187	49	16	1626	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	38	0	22	16	1236	0	16	1631	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				21.0		21.0	13.0	96.0		13.0	96.0	
Total Split (%)				16.2%		16.2%	10.0%	73.8%		10.0%	73.8%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effect Green (s)				9.4		9.4	7.8	108.3		7.8	108.3	
Actuated g/C Ratio				0.07		0.07	0.06	0.83		0.06	0.83	
v/c Ratio				0.32		0.14	0.16	0.43		0.15	0.56	
Control Delay				63.5		1.8	54.9	3.2		59.9	3.0	
Queue Delay				0.0		0.0	0.0	0.2		0.0	0.1	
Total Delay				63.5		1.8	54.9	3.4		59.9	3.1	
LOS				E		A	D	A		E	A	
Approach Delay					40.8			4.0			3.7	
Approach LOS					D			A			A	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Offset: 53 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.56												
Intersection Signal Delay: 4.6						Intersection LOS: A						
Intersection Capacity Utilization 51.9%						ICU Level of Service A						

Analysis Period (min) 15

Splits and Phases: 8: Wheaton Way (SR 303) & Driveway/Hollis Street



Horizon 2040 AM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	60	200	40	60	135	110	860	65	65	1255	115
Future Volume (vph)	155	60	200	40	60	135	110	860	65	65	1255	115
Confl. Peds. (#/hr)	1					1	2		3	3		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	165	64	213	43	64	144	117	915	69	69	1335	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	64	213	43	64	144	117	984	0	69	1335	122
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	26.0	32.0	32.0	13.0	19.0	19.0	16.0	74.0		11.0	69.0	69.0
Total Split (%)	20.0%	24.6%	24.6%	10.0%	14.6%	14.6%	12.3%	56.9%		8.5%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effect Green (s)	16.5	20.7	20.7	7.7	9.7	9.7	83.8	79.3		84.8	74.8	74.8
Actuated g/C Ratio	0.13	0.16	0.16	0.06	0.07	0.07	0.64	0.61		0.65	0.58	0.58
v/c Ratio	0.74	0.22	0.56	0.42	0.47	0.58	0.48	0.47		0.20	0.66	0.13
Control Delay	73.9	48.7	21.4	71.5	68.3	18.5	15.2	20.0		5.6	11.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	73.9	48.7	21.4	71.5	68.3	18.5	15.2	20.0		5.6	11.3	0.4
LOS	E	D	C	E	E	B	B	C		A	B	A
Approach Delay		45.0			40.3			19.5			10.2	
Approach LOS		D			D			B			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 37 (28%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road



Horizon 2040 AM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	35	50	5	15	25	975	85	60	1380	25
Future Volume (vph)	20	5	35	50	5	15	25	975	85	60	1380	25
Confl. Peds. (#/hr)			1	1			2		2	2		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	21	5	36	52	5	16	26	1016	89	63	1438	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	36	0	57	16	26	1016	89	63	1438	26
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	64.0	64.0	15.0	68.0	68.0
Total Split (%)	18.5%	18.5%	18.5%	20.8%	20.8%	20.8%	8.5%	49.2%	49.2%	11.5%	52.3%	52.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		9.5	9.5		9.6	9.6	7.5	88.2	88.2	10.5	93.2	93.2
Actuated g/C Ratio		0.07	0.07		0.07	0.07	0.06	0.68	0.68	0.08	0.72	0.72
v/c Ratio		0.22	0.18		0.44	0.08	0.26	0.43	0.08	0.44	0.57	0.02
Control Delay		58.5	2.0		67.5	0.7	60.8	9.6	2.5	66.0	14.5	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		58.5	2.0		67.5	0.7	60.8	9.6	2.5	66.0	14.5	0.0
LOS		E	A		E	A	E	A	A	E	B	A
Approach Delay		25.7			52.9			10.2			16.4	
Approach LOS		C			D			B			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 27 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane/Driveway

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	64 s	27 s	24 s
 Ø5	 Ø6 (R)		
11 s	68 s		

Horizon 2040 AM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	15	35	5	150	15	970	20	165	1300	5
Future Volume (vph)	20	5	15	35	5	150	15	970	20	165	1300	5
Confl. Peds. (#/hr)			1	1			2		1	1		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	22	6	17	39	6	167	17	1078	22	183	1444	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	23	0	39	173	0	17	1078	22	183	1444	6
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		22.6	22.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	40.0	40.0		40.0	40.0		20.0	61.0	61.0	29.0	70.0	70.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		15.4%	46.9%	46.9%	22.3%	53.8%	53.8%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effect Green (s)	11.3	11.3		11.3	11.3		7.3	32.2	32.2	14.8	48.3	48.3
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.10	0.43	0.43	0.20	0.65	0.65
v/c Ratio	0.15	0.09		0.20	0.47		0.10	0.72	0.03	0.52	0.63	0.01
Control Delay	34.1	18.7		33.6	10.8		44.0	21.5	0.1	37.1	11.8	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	18.7		33.6	10.8		44.0	21.5	0.1	37.1	11.8	0.0
LOS	C	B		C	B		D	C	A	D	B	A
Approach Delay		26.2			15.0			21.4			14.6	
Approach LOS		C			B			C			B	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 74.1

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 17.3

Intersection LOS: B

Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Horizon 2040 AM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	45	130	170	60	150	110	915	90	85	1155	110
Future Volume (vph)	150	45	130	170	60	150	110	915	90	85	1155	110
Confl. Peds. (#/hr)	1		3	3		1	1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	165	49	143	187	66	165	121	1005	99	93	1269	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	49	143	187	66	165	121	1005	99	93	1269	121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	16.0	49.0	49.0	21.0	54.0	54.0
Total Split (%)	15.4%	30.8%	30.8%	15.4%	30.8%	30.8%	12.3%	37.7%	37.7%	16.2%	41.5%	41.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effect Green (s)	14.2	12.5	12.5	15.1	13.4	13.4	11.1	46.0	46.0	10.9	45.8	45.8
Actuated g/C Ratio	0.14	0.12	0.12	0.15	0.13	0.13	0.11	0.44	0.44	0.11	0.44	0.44
v/c Ratio	0.70	0.22	0.46	0.73	0.28	0.48	0.66	0.66	0.13	0.51	0.82	0.17
Control Delay	61.5	43.4	11.5	62.6	44.2	10.9	65.7	27.5	2.7	56.7	32.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	43.4	11.5	62.6	44.2	10.9	65.7	27.5	2.7	56.7	32.0	7.0
LOS	E	D	B	E	D	B	E	C	A	E	C	A
Approach Delay		39.0			39.3			29.3			31.5	
Approach LOS		D			D			C			C	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 103.7

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 32.4

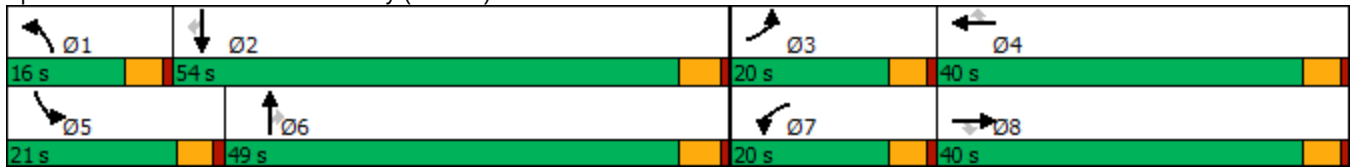
Intersection LOS: C

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	15	0	0	25	0	705	45	0	590	35
Future Vol, veh/h	0	0	15	0	0	25	0	705	45	0	590	35
Conflicting Peds, #/hr	9	0	24	24	0	9	8	0	6	6	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	17	0	0	28	0	792	51	0	663	39
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	383	-	-	833	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	621	0	0	372	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	602	-	-	367	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.2		15.6		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		602 367		-		-			
HCM Lane V/C Ratio	-		-		0.028 0.077		-		-			
HCM Control Delay (s)	-		-		11.2 15.6		-		-			
HCM Lane LOS	-		-		B C		-		-			
HCM 95th %tile Q(veh)	-		-		0.1 0.2		-		-			

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	5	0	670	60	0	620	15
Future Vol, veh/h	0	0	5	0	0	5	0	670	60	0	620	15
Conflicting Peds, #/hr	13	0	14	14	0	13	14	0	8	8	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	6	0	744	67	0	689	17
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	381	-	-	799	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	623	0	0	389	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	606	-	-	381	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11		14.6		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	-		-		606		381		-			
HCM Lane V/C Ratio	-		-		0.009		0.015		-			
HCM Control Delay (s)	-		-		11		14.6		-			
HCM Lane LOS	-		-		B		B		-			
HCM 95th %tile Q(veh)	-		-		0		0		-			

Horizon 2040 AM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive
HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	115	15	0	0	0	0	0	5	65
Future Volume (vph)	0	0	0	115	15	0	0	0	0	0	5	65
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	144	19	0	0	0	0	0	6	81
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	163	87										
Volume Left (vph)	144	0										
Volume Right (vph)	0	81										
Hadj (s)	0.23	-0.52										
Departure Headway (s)	4.3	3.8										
Degree Utilization, x	0.19	0.09										
Capacity (veh/h)	818	913										
Control Delay (s)	8.3	7.1										
Approach Delay (s)	8.3	7.1										
Approach LOS	A	A										
Intersection Summary												
Delay				7.9								
Level of Service				A								
Intersection Capacity Utilization				18.5%			ICU Level of Service			A		
Analysis Period (min)				15								

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations											
Sign Control		Stop			Yield		Stop		Yield		
Traffic Volume (vph)	0	0	0	0	130	80	0	0	25	230	
Future Volume (vph)	0	0	0	0	130	80	0	0	25	230	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Hourly flow rate (vph)	0	0	0	0	155	95	0	0	30	274	
Direction, Lane #	WB 1	NE 1									
Volume Total (vph)	250	304									
Volume Left (vph)	0	0									
Volume Right (vph)	95	274									
Hadj (s)	-0.13	-0.47									
Departure Headway (s)	4.4	4.0									
Degree Utilization, x	0.31	0.34									
Capacity (veh/h)	767	854									
Control Delay (s)	9.4	9.1									
Approach Delay (s)	9.4	9.1									
Approach LOS	A	A									
Intersection Summary											
Delay			9.2								
Level of Service			A								
Intersection Capacity Utilization			34.2%				ICU Level of Service				A
Analysis Period (min)			15								

Horizon 2040 AM
SR 303 Corridor Study

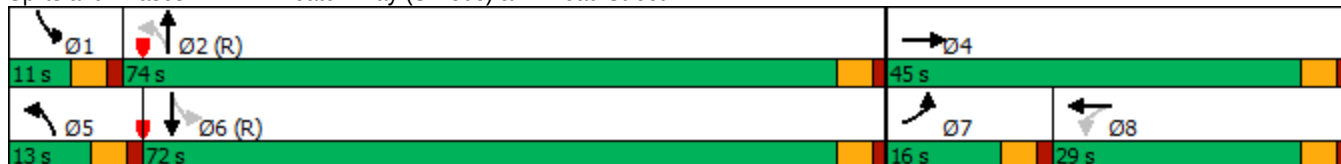
17: Wheaton Way (SR 303) & E Broad Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	5	65	20	5	25	100	1025	50	25	1430	65
Future Volume (vph)	105	5	65	20	5	25	100	1025	50	25	1430	65
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	114	5	71	22	5	27	109	1114	54	27	1554	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	76	0	22	32	0	109	1168	0	27	1625	0
Turn Type	Prot	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2			6		
Detector Phase	7	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	29.0		29.0	29.0		11.0	23.0		11.0	23.0	
Total Split (s)	16.0	45.0		29.0	29.0		13.0	74.0		11.0	72.0	
Total Split (%)	12.3%	34.6%		22.3%	22.3%		10.0%	56.9%		8.5%	55.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	10.6	21.3		7.9	7.9		97.9	91.9		90.9	84.7	
Actuated g/C Ratio	0.08	0.16		0.06	0.06		0.75	0.71		0.70	0.65	
v/c Ratio	0.79	0.24		0.28	0.26		0.48	0.47		0.08	0.71	
Control Delay	93.2	12.8		66.2	28.6		28.4	4.6		1.8	14.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.7	
Total Delay	93.2	12.8		66.2	28.6		28.4	4.6		1.8	15.5	
LOS	F	B		E	C		C	A		A	B	
Approach Delay		61.0			43.9			6.7			15.2	
Approach LOS		E			D			A			B	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Offset: 87 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 15.0						Intersection LOS: B						
Intersection Capacity Utilization 72.1%						ICU Level of Service C						

Analysis Period (min) 15

Splits and Phases: 17: Wheaton Way (SR 303) & E Broad Street





Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	778	591	267	68	18	228	460
v/c Ratio	1.01	0.73	0.85	0.21	0.11	0.72	0.71
Control Delay	71.5	38.0	77.3	4.6	38.2	59.7	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	38.0	77.3	4.6	38.2	59.7	28.6
Queue Length 50th (ft)	~749	436	221	0	10	199	197
Queue Length 95th (ft)	#957	572	#365	15	31	#373	318
Internal Link Dist (ft)		535	532		72	193	
Turn Bay Length (ft)							
Base Capacity (vph)	772	810	314	328	287	315	652
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.73	0.85	0.21	0.06	0.72	0.71

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	167	376	39	228	37	681	90	712
v/c Ratio	0.62	0.67	0.22	0.61	0.09	0.38	0.21	0.38
Control Delay	59.6	54.8	54.3	57.6	2.3	3.9	2.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	54.8	54.3	57.6	2.3	3.9	2.2	8.0
Queue Length 50th (ft)	145	160	34	94	2	17	1	140
Queue Length 95th (ft)	215	203	71	136	m2	m100	m17	385
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	374	778	276	574	426	1783	473	1861
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.48	0.14	0.40	0.09	0.38	0.19	0.38
Intersection Summary								
m Volume for 95th percentile queue is metered by upstream signal.								



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	796	301	414	16	861	65	796	667
v/c Ratio	0.83	0.35	0.76	0.07	0.71	0.34	0.59	0.60
Control Delay	52.6	21.3	59.8	16.5	37.5	15.0	17.1	8.7
Queue Delay	0.3	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	21.3	61.5	16.5	37.5	15.0	17.1	8.7
Queue Length 50th (ft)	324	149	171	7	388	7	72	0
Queue Length 95th (ft)	405	207	222	m23	456	m23	329	645
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	970	920	641	221	1206	189	1359	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	6
Spillback Cap Reductn	18	0	105	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.33	0.77	0.07	0.71	0.34	0.59	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	245	35	1801	1762
v/c Ratio	0.82	0.10	0.73	0.73
Control Delay	68.2	32.6	18.0	2.1
Queue Delay	0.0	0.0	1.3	0.1
Total Delay	68.2	32.6	19.3	2.2
Queue Length 50th (ft)	194	19	471	6
Queue Length 95th (ft)	266	44	600	12
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	381	440	2480	2409
Starvation Cap Reductn	0	0	434	0
Spillback Cap Reductn	0	0	0	46
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.08	0.88	0.75
Intersection Summary				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	141	359	1724	1765	459
v/c Ratio	0.40	0.91	0.59	0.89	0.44
Control Delay	38.8	61.8	4.6	23.7	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	61.8	4.6	23.7	1.7
Queue Length 50th (ft)	37	260	30	780	7
Queue Length 95th (ft)	65	#414	451	608	10
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	395	411	2903	1994	1045
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.87	0.59	0.89	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	43	253	145	146	113	113	1231	156	285	1516
v/c Ratio	0.24	0.26	0.82	0.73	0.72	0.37	0.69	0.79	0.20	0.86	0.80
Control Delay	56.6	56.9	37.8	75.4	74.2	7.0	76.3	29.3	5.1	75.1	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	56.9	37.8	75.4	74.2	7.0	76.3	29.3	5.1	75.1	17.8
Queue Length 50th (ft)	30	34	55	125	125	0	85	388	24	181	578
Queue Length 95th (ft)	64	70	149	198	201	32	#183	#646	40	m#354	767
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	231	243	365	238	243	342	171	1549	772	343	1904
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.69	0.61	0.60	0.33	0.66	0.79	0.20	0.83	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	108	97	188	140	75	124	118	1086	140	108	1495
v/c Ratio	0.64	0.52	0.58	0.79	0.39	0.46	0.71	0.57	0.16	0.64	0.78
Control Delay	72.7	64.4	14.5	85.6	59.3	14.5	88.0	4.0	0.3	91.0	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	64.4	14.5	85.6	59.3	14.5	88.0	4.0	0.3	91.0	11.2
Queue Length 50th (ft)	88	80	0	116	60	0	106	33	0	85	577
Queue Length 95th (ft)	149	132	69	#217	108	58	m138	48	m1	m125	462
Internal Link Dist (ft)		362			350			2575			2004
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	209	261	379	188	241	303	173	1905	878	203	1905
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.37	0.50	0.74	0.31	0.41	0.68	0.57	0.16	0.53	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

						
Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	22	16	1236	16	1631
v/c Ratio	0.32	0.14	0.16	0.43	0.15	0.56
Control Delay	63.5	1.8	54.9	3.2	59.9	3.0
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.1
Total Delay	63.5	1.8	54.9	3.4	59.9	3.1
Queue Length 50th (ft)	31	0	13	164	14	90
Queue Length 95th (ft)	67	0	m28	98	m24	94
Internal Link Dist (ft)				388		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	203	234	112	2875	112	2920
Starvation Cap Reductn	0	0	0	714	0	0
Spillback Cap Reductn	0	0	0	0	0	317
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.09	0.14	0.57	0.14	0.63
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	165	64	213	43	64	144	117	984	69	1335	122
v/c Ratio	0.74	0.22	0.56	0.42	0.47	0.58	0.48	0.47	0.20	0.66	0.13
Control Delay	73.9	48.7	21.4	71.5	68.3	18.5	15.2	20.0	5.6	11.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	48.7	21.4	71.5	68.3	18.5	15.2	20.0	5.6	11.3	0.4
Queue Length 50th (ft)	135	49	47	35	53	0	16	245	9	89	0
Queue Length 95th (ft)	207	86	120	76	98	64	110	445	m14	93	2
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	283	383	446	110	196	293	271	2093	348	2037	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.17	0.48	0.39	0.33	0.49	0.43	0.47	0.20	0.66	0.13

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	36	57	16	26	1016	89	63	1438	26
v/c Ratio	0.22	0.18	0.44	0.08	0.26	0.43	0.08	0.44	0.57	0.02
Control Delay	58.5	2.0	67.5	0.7	60.8	9.6	2.5	66.0	14.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	2.0	67.5	0.7	60.8	9.6	2.5	66.0	14.5	0.0
Queue Length 50th (ft)	21	0	47	0	22	95	1	52	339	0
Queue Length 95th (ft)	48	0	90	0	m44	284	m14	97	591	0
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	242	297	295	346	101	2377	1079	154	2538	1131
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.12	0.19	0.05	0.26	0.43	0.08	0.41	0.57	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

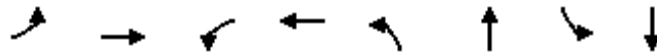


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	22	23	39	173	17	1078	22	183	1444	6
v/c Ratio	0.15	0.09	0.20	0.47	0.10	0.72	0.03	0.52	0.63	0.01
Control Delay	34.1	18.7	33.6	10.8	44.0	21.5	0.1	37.1	11.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	18.7	33.6	10.8	44.0	21.5	0.1	37.1	11.8	0.0
Queue Length 50th (ft)	8	2	14	2	6	168	0	64	102	0
Queue Length 95th (ft)	37	27	55	60	39	462	0	219	545	0
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	526	905	706	892	405	2818	1249	648	3106	1362
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.06	0.19	0.04	0.38	0.02	0.28	0.46	0.00
Intersection Summary										

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	165	49	143	187	66	165	121	1005	99	93	1269	121
v/c Ratio	0.70	0.22	0.46	0.73	0.28	0.48	0.66	0.66	0.13	0.51	0.82	0.17
Control Delay	61.5	43.4	11.5	62.6	44.2	10.9	65.7	27.5	2.7	56.7	32.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	43.4	11.5	62.6	44.2	10.9	65.7	27.5	2.7	56.7	32.0	7.0
Queue Length 50th (ft)	104	31	0	120	42	0	78	249	0	59	354	8
Queue Length 95th (ft)	#253	65	51	#298	80	54	#207	504	22	130	#695	53
Internal Link Dist (ft)		722			684			2563			834	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	263	636	626	265	642	646	192	1573	758	282	1690	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.08	0.23	0.71	0.10	0.26	0.63	0.64	0.13	0.33	0.75	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	76	22	32	109	1168	27	1625
v/c Ratio	0.79	0.24	0.28	0.26	0.48	0.47	0.08	0.71
Control Delay	93.2	12.8	66.2	28.6	28.4	4.6	1.8	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	93.2	12.8	66.2	28.6	28.4	4.6	1.8	15.5
Queue Length 50th (ft)	96	4	18	4	28	98	1	581
Queue Length 95th (ft)	#193	46	47	37	64	160	m2	124
Internal Link Dist (ft)		408		278		2004		388
Turn Bay Length (ft)					100		100	
Base Capacity (vph)	149	542	243	322	232	2484	339	2290
Starvation Cap Reductn	0	0	0	0	0	0	0	327
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.14	0.09	0.10	0.47	0.47	0.08	0.83

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Horizon 2040 PM
SR 303 Corridor Study

1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	540	365	5	5	450	260	5	5	5	115	5	495
Future Volume (vph)	540	365	5	5	450	260	5	5	5	115	5	495
Confl. Peds. (#/hr)	14		23	23		14	1			12	12	1
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	3	3		2	2		4	4		1	1	
Permitted Phases						2						1
Detector Phase	3	3		2	2	2	4	4		1	1	1
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		11.0	11.0	11.0
Total Split (s)	77.0	77.0		61.0	61.0	61.0	26.0	26.0		26.0	26.0	26.0
Total Split (%)	40.5%	40.5%		32.1%	32.1%	32.1%	13.7%	13.7%		13.7%	13.7%	13.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		None	None	None	None	None		None	None	None
Act Effect Green (s)	74.8	74.8			65.6	65.6		12.3			21.7	21.7
Actuated g/C Ratio	0.39	0.39			0.35	0.35		0.06			0.11	0.11
v/c Ratio	0.98	0.64			0.89	0.53		0.15			0.74	0.85
Control Delay	85.1	52.2			74.5	27.8		61.8			70.5	33.4
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	26.5
Total Delay	85.1	52.2			74.5	27.8		61.8			70.5	59.8
LOS	F	D			E	C		E			E	E
Approach Delay		71.8			57.5			61.8			61.9	
Approach LOS		E			E			E			E	

Intersection Summary

Cycle Length: 190

Actuated Cycle Length: 190

Offset: 162 (85%), Referenced to phase 3:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 64.5

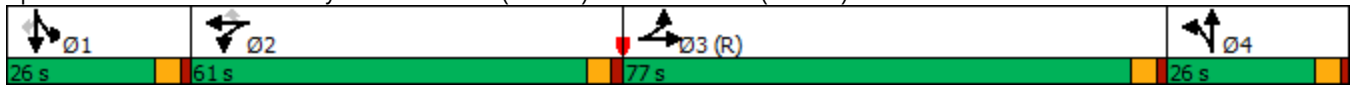
Intersection LOS: E

Intersection Capacity Utilization 79.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Driveway/Warren Avenue (SR 303) & Burwell Street (SR 304)



Horizon 2040 PM
SR 303 Corridor Study

2: Warren Avenue (SR 303) & 6th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	435	365	35	100	780	100	325	580	20	85	530	180
Future Volume (vph)	435	365	35	100	780	100	325	580	20	85	530	180
Confl. Peds. (#/hr)	21		9	9		21	43		11	11		43
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)	37%			10%								
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	3	3		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		10.5	22.5		10.5	22.5	
Total Split (s)	41.4	41.4		59.0	59.0		39.0	76.9		12.7	50.6	
Total Split (%)	21.8%	21.8%		31.1%	31.1%		20.5%	40.5%		6.7%	26.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	36.6	36.6		55.5	55.5		84.4	71.7		54.0	45.8	
Actuated g/C Ratio	0.19	0.19		0.29	0.29		0.44	0.38		0.28	0.24	
v/c Ratio	0.94	0.93		0.20	0.98		0.97	0.48		0.34	0.93	
Control Delay	112.7	97.1		52.5	88.7		89.7	25.3		16.4	32.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	112.7	97.1		52.5	88.7		89.7	25.3		16.4	32.0	
LOS	F	F		D	F		F	C		B	C	
Approach Delay		102.2			85.4			47.9			30.3	
Approach LOS		F			F			D			C	
Intersection Summary												
Cycle Length: 190												
Actuated Cycle Length: 190												
Offset: 28 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.98												
Intersection Signal Delay: 67.2												
Intersection LOS: E												
Intersection Capacity Utilization 92.4%												
ICU Level of Service F												
Analysis Period (min) 15												

Splits and Phases: 2: Warren Avenue (SR 303) & 6th Street

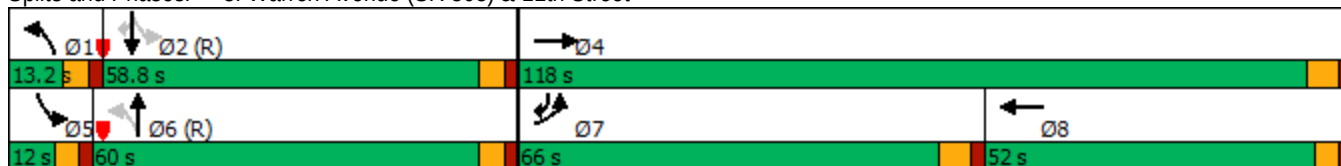
 Ø1	 Ø2 (R)	 Ø3	 Ø4
39 s	50.6 s	41.4 s	59 s
 Ø5	 Ø6 (R)		
12.7 s	76.9 s		

Horizon 2040 PM
SR 303 Corridor Study

3: Warren Avenue (SR 303) & 11th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1205	385	40	0	685	265	85	1015	20	100	755	860
Future Volume (vph)	1205	385	40	0	685	265	85	1015	20	100	755	860
Confl. Peds. (#/hr)	5		6	6		5	15		6	6		15
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA			NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		1	6		5	2	7
Permitted Phases							6			2		2
Detector Phase	7	4			8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	12.5	25.5			29.5		11.5	30.5		11.5	28.5	12.5
Total Split (s)	66.0	118.0			52.0		13.2	60.0		12.0	58.8	66.0
Total Split (%)	34.7%	62.1%			27.4%		6.9%	31.6%		6.3%	30.9%	34.7%
Yellow Time (s)	4.5	4.5			3.5		3.5	3.5		3.5	3.5	4.5
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5			5.5		5.5	5.5		5.5	5.5	6.5
Lead/Lag	Lead				Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None			None		None	C-Min		None	C-Min	None
Act Effct Green (s)	59.5	111.5			46.5		62.2	54.5		59.8	53.3	111.8
Actuated g/C Ratio	0.31	0.59			0.24		0.33	0.29		0.31	0.28	0.59
v/c Ratio	1.20	0.42			1.21		0.71	1.11		1.09	0.83	1.00
Control Delay	154.6	22.9			160.8		79.4	117.0		140.7	80.4	37.1
Queue Delay	0.0	0.0			0.0		0.0	1.3		0.0	2.8	1.4
Total Delay	154.6	22.9			160.8		79.4	118.3		140.7	83.2	38.5
LOS	F	C			F		E	F		F	F	D
Approach Delay		120.2			160.8			115.3			64.1	
Approach LOS		F			F			F			E	
Intersection Summary												
Cycle Length: 190												
Actuated Cycle Length: 190												
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												
Natural Cycle: 145												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.21												
Intersection Signal Delay: 108.6												
Intersection LOS: F												
Intersection Capacity Utilization 115.3%												
ICU Level of Service H												
Analysis Period (min) 15												

Splits and Phases: 3: Warren Avenue (SR 303) & 11th Street



Horizon 2040 PM
SR 303 Corridor Study

4: Warren Avenue (SR 303) & 13th Street
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	35	35	5	25	20	0	2475	5	0	1665	245
Future Volume (vph)	275	35	35	5	25	20	0	2475	5	0	1665	245
Confl. Peds. (#/hr)	1		14	14		1	11		8	8		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	15%	15%	15%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			2			6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Minimum Split (s)	19.5	19.5		26.5	26.5			19.5			17.5	
Total Split (s)	52.0	52.0		52.0	52.0			138.0			138.0	
Total Split (%)	27.4%	27.4%		27.4%	27.4%			72.6%			72.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5			3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None			C-Min			C-Min	
Act Effct Green (s)		47.5			47.5			133.5			133.5	
Actuated g/C Ratio		0.25			0.25			0.70			0.70	
v/c Ratio		1.17			0.15			1.12			0.90	
Control Delay		163.9			51.8			66.4			15.1	
Queue Delay		0.0			0.0			0.2			0.6	
Total Delay		163.9			51.8			66.6			15.8	
LOS		F			D			E			B	
Approach Delay		163.9			51.8			66.6			15.8	
Approach LOS		F			D			E			B	
Intersection Summary												
Cycle Length: 190												
Actuated Cycle Length: 190												
Offset: 4 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 120												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.17												
Intersection Signal Delay: 53.2						Intersection LOS: D						
Intersection Capacity Utilization 102.1%						ICU Level of Service G						
Analysis Period (min) 15												

Splits and Phases: 4: Warren Avenue (SR 303) & 13th Street



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	70	155	2615	1835	220
Future Volume (vph)	150	70	155	2615	1835	220
Confl. Peds. (#/hr)		22	6			6
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases						4
Detector Phase	2		3	8	4	4
Switch Phase						
Minimum Initial (s)	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	19.5		10.5	10.5	19.5	19.5
Total Split (s)	21.0		32.2	169.0	136.8	136.8
Total Split (%)	11.1%		16.9%	88.9%	72.0%	72.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Recall Mode	Min		None	C-Min	C-Min	C-Min
Act Efect Green (s)	15.5		22.5	165.5	138.4	138.4
Actuated g/C Ratio	0.08		0.12	0.87	0.73	0.73
v/c Ratio	0.78		0.78	0.89	0.75	0.20
Control Delay	91.5		80.7	7.9	18.6	2.4
Queue Delay	0.0		0.0	1.5	0.0	0.0
Total Delay	91.5		80.7	9.4	18.6	2.4
LOS	F		F	A	B	A
Approach Delay	91.5			13.4	16.8	
Approach LOS	F			B	B	
Intersection Summary						
Cycle Length: 190						
Actuated Cycle Length: 190						
Offset: 4 (2%), Referenced to phase 4:SBT and 8:NBT, Start of Green						
Natural Cycle: 110						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.89						
Intersection Signal Delay: 18.2				Intersection LOS: B		
Intersection Capacity Utilization 89.7%				ICU Level of Service E		
Analysis Period (min) 15						

Splits and Phases: 5: Warren Avenue (SR 303) & 16th Street



Horizon 2040 PM
SR 303 Corridor Study

6: Wheaton Way (SR 303) & Sheridan Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	50	180	235	50	215	200	2230	275	220	1530	60
Future Volume (vph)	85	50	180	235	50	215	200	2230	275	220	1530	60
Confl. Peds. (#/hr)	7						7	6		5	5	6
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				40%								
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	22.0	22.0	22.0	24.0	24.0	24.0	40.0	125.0	125.0	29.0	114.0	
Total Split (%)	11.0%	11.0%	11.0%	12.0%	12.0%	12.0%	20.0%	62.5%	62.5%	14.5%	57.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effct Green (s)	14.3	14.3	14.3	19.0	19.0	19.0	28.7	120.0	120.0	26.7	117.9	
Actuated g/C Ratio	0.07	0.07	0.07	0.10	0.10	0.10	0.14	0.60	0.60	0.13	0.59	
v/c Ratio	0.70	0.39	0.65	0.94	0.94	0.69	0.83	1.10	0.31	0.97	0.79	
Control Delay	117.6	96.4	20.8	143.4	144.4	24.6	108.8	92.5	11.9	114.2	56.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	117.6	96.4	20.8	143.4	144.4	24.6	108.8	92.5	11.9	114.2	56.0	
LOS	F	F	C	F	F	C	F	F	B	F	E	
Approach Delay		59.0			92.6			85.5			63.1	
Approach LOS		E			F			F			E	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 40 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 77.0

Intersection LOS: E

Intersection Capacity Utilization 101.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Wheaton Way (SR 303) & Sheridan Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
29 s	125 s	24 s	22 s
 Ø5	 Ø6 (R)		
40 s	114 s		

Horizon 2040 PM
SR 303 Corridor Study

7: Wheaton Way (SR 303) & Sylvan Way

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	110	155	155	130	195	170	2115	170	165	1490	100
Future Volume (vph)	125	110	155	155	130	195	170	2115	170	165	1490	100
Confl. Peds. (#/hr)	15		9	9		15	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	24.0	24.0	11.0	21.0	21.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	24.0	24.0	24.0	23.0	23.0	23.0	36.0	128.0	128.0	25.0	117.0	
Total Split (%)	12.0%	12.0%	12.0%	11.5%	11.5%	11.5%	18.0%	64.0%	64.0%	12.5%	58.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effct Green (s)	17.7	17.2	17.2	18.0	17.4	17.4	24.5	124.4	124.4	20.5	120.3	
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.09	0.09	0.12	0.62	0.62	0.10	0.60	
v/c Ratio	0.84	0.73	0.62	1.00	0.81	0.72	0.80	0.98	0.18	0.93	0.77	
Control Delay	128.4	114.5	26.6	158.3	123.4	34.8	116.3	16.0	0.4	120.9	37.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	128.4	114.5	26.6	158.3	123.4	34.8	116.3	16.0	0.4	120.9	37.2	
LOS	F	F	C	F	F	C	F	B	A	F	D	
Approach Delay		83.9			98.7			21.9			45.1	
Approach LOS		F			F			C			D	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 41.9

Intersection LOS: D

Intersection Capacity Utilization 101.3%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 7: Wheaton Way (SR 303) & Sylvan Way

 Ø1 25 s	 Ø2 (R) 128 s	 Ø3 23 s	 Ø4 24 s
 Ø5 36 s	 Ø6 (R) 117 s	 Ø7 24 s	 Ø8 23 s

Horizon 2040 PM
SR 303 Corridor Study

8: Wheaton Way (SR 303) & Hollis Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	80	0	50	5	2195	70	40	1760	5
Future Volume (vph)	0	0	0	80	0	50	5	2195	70	40	1760	5
Confl. Peds. (#/hr)	6		1	1		6	15		6	6		15
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	9%	9%	9%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Detector Phase				8		8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				6.0		6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)				19.0		19.0	11.0	11.0		11.0	19.0	
Total Split (s)				23.0		23.0	11.0	162.0		15.0	166.0	
Total Split (%)				11.5%		11.5%	5.5%	81.0%		7.5%	83.0%	
Yellow Time (s)				3.5		3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5		1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0		5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None		None	None	C-Min		None	C-Min	
Act Effct Green (s)				15.3		15.3	6.4	162.6		9.5	172.5	
Actuated g/C Ratio				0.08		0.08	0.03	0.81		0.05	0.86	
v/c Ratio				0.65		0.33	0.09	0.83		0.49	0.60	
Control Delay				112.4		23.6	106.4	3.1		87.4	6.2	
Queue Delay				0.0		0.0	0.0	0.4		0.0	0.2	
Total Delay				112.4		23.6	106.4	3.5		87.4	6.5	
LOS				F		C	F	A		F	A	
Approach Delay					77.9			3.7			8.3	
Approach LOS					E			A			A	
Intersection Summary												
Cycle Length: 200												
Actuated Cycle Length: 200												
Offset: 139 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 8.0						Intersection LOS: A						
Intersection Capacity Utilization 77.5%						ICU Level of Service D						
Analysis Period (min) 15												

Splits and Phases: 8: Wheaton Way (SR 303) & Hollis Street



Horizon 2040 PM
SR 303 Corridor Study

9: Wheaton Way (SR 303) & NE Riddell Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	135	190	110	165	155	175	1885	50	150	1450	215
Future Volume (vph)	200	135	190	110	165	155	175	1885	50	150	1450	215
Confl. Peds. (#/hr)	5		2	2		5	11		8	8		11
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	6			2		6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	11.0	19.0	19.0	11.0	19.0	19.0	11.0	19.0		11.0	19.0	19.0
Total Split (s)	30.0	33.0	33.0	22.0	25.0	25.0	31.0	125.0		20.0	114.0	114.0
Total Split (%)	15.0%	16.5%	16.5%	11.0%	12.5%	12.5%	15.5%	62.5%		10.0%	57.0%	57.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
Act Effect Green (s)	25.0	29.0	29.0	16.0	20.0	20.0	135.0	120.0		135.0	116.0	116.0
Actuated g/C Ratio	0.12	0.14	0.14	0.08	0.10	0.10	0.68	0.60		0.68	0.58	0.58
v/c Ratio	0.97	0.54	0.52	0.85	0.97	0.61	0.77	0.99		0.95	0.75	0.26
Control Delay	138.0	87.9	15.5	133.2	144.6	30.6	62.8	40.9		101.5	31.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	38.5		0.0	0.2	0.0
Total Delay	138.0	87.9	15.5	133.2	144.6	30.9	62.8	79.4		101.5	31.9	14.1
LOS	F	F	B	F	F	C	E	E		F	C	B
Approach Delay		80.8			100.8			78.0			35.6	
Approach LOS		F			F			E			D	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 176 (88%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 64.5

Intersection LOS: E

Intersection Capacity Utilization 98.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Wheaton Way (SR 303) & NE Riddell Road

 Ø1 20 s	 Ø2 (R) 125 s	 Ø3 22 s	 Ø4 33 s
 Ø5 31 s	 Ø6 (R) 114 s	 Ø7 30 s	 Ø8 25 s

Horizon 2040 PM
SR 303 Corridor Study

10: Wheaton Way (SR 303) & NE Furneys Lane

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	5	85	200	5	90	35	1930	210	215	1560	50
Future Volume (vph)	35	5	85	200	5	90	35	1930	210	215	1560	50
Confl. Peds. (#/hr)			19	19			10		2	2		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3			2			6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	11.0	26.0	26.0	11.0	19.0	19.0
Total Split (s)	24.0	24.0	24.0	29.0	29.0	29.0	14.0	117.0	117.0	30.0	133.0	133.0
Total Split (%)	12.0%	12.0%	12.0%	14.5%	14.5%	14.5%	7.0%	58.5%	58.5%	15.0%	66.5%	66.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effect Green (s)		14.4	14.4		24.0	24.0	8.2	113.0	113.0	28.6	135.6	135.6
Actuated g/C Ratio		0.07	0.07		0.12	0.12	0.04	0.56	0.56	0.14	0.68	0.68
v/c Ratio		0.35	0.48		1.04	0.35	0.52	1.03	0.24	0.89	0.68	0.05
Control Delay		94.5	21.0		153.4	16.2	114.9	39.2	3.0	133.2	7.1	0.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	12.7	0.0	0.0	0.0	0.0
Total Delay		94.5	21.0		153.4	16.2	114.9	52.0	3.0	133.2	7.1	0.5
LOS		F	C		F	B	F	D	A	F	A	A
Approach Delay		44.5			111.5			48.3			21.8	
Approach LOS		D			F			D			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 195 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 41.4

Intersection LOS: D

Intersection Capacity Utilization 95.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 10: Wheaton Way (SR 303) & NE Furneys Lane

 Ø1	 Ø2 (R)	 Ø3	 Ø4
30 s	117 s	29 s	24 s
 Ø5	 Ø6 (R)		
14 s	133 s		

Horizon 2040 PM
SR 303 Corridor Study

11: Wheaton Way (SR 303) & NE Fuson Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	5	100	5	285	15	2030	15	195	1660	25
Future Volume (vph)	15	5	5	100	5	285	15	2030	15	195	1660	25
Confl. Peds. (#/hr)			5	5			3		3	3		3
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	4%	4%	4%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Detector Phase	8	8		4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	38.6	38.6		10.6	10.6		10.6	30.9	30.9	10.6	34.9	34.9
Total Split (s)	38.6	38.6		38.6	38.6		10.8	131.4	131.4	30.0	150.6	150.6
Total Split (%)	19.3%	19.3%		19.3%	19.3%		5.4%	65.7%	65.7%	15.0%	75.3%	75.3%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.9	3.9	3.6	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.9	4.9	4.6	4.9	4.9
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	25.2	25.2		25.2	25.2		6.6	133.9	133.9	26.8	158.3	158.3
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.03	0.67	0.67	0.13	0.79	0.79
v/c Ratio	0.42	0.04		0.63	0.92		0.28	0.92	0.02	0.88	0.63	0.02
Control Delay	110.1	48.8		98.1	72.3		100.3	13.0	0.0	118.1	10.3	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.1	48.8		98.1	72.3		100.3	13.0	0.0	118.1	10.3	0.7
LOS	F	D		F	E		F	B	A	F	B	A
Approach Delay		86.5			78.9			13.5			21.4	
Approach LOS		F			E			B			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 5 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 96.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 11: Wheaton Way (SR 303) & NE Fuson Road



Horizon 2040 PM
SR 303 Corridor Study

12: Wheaton Way (SR 303) & NE McWilliams Road

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	165	180	220	110	150	280	1715	320	230	1455	240
Future Volume (vph)	230	165	180	220	110	150	280	1715	320	230	1455	240
Confl. Peds. (#/hr)	1		4	4		1	2		19	19		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	39.6	39.6	10.6	39.6	39.6	10.6	38.0	38.0	10.6	40.0	40.0
Total Split (s)	30.0	39.7	39.7	29.9	39.6	39.6	37.3	100.4	100.4	30.0	93.1	93.1
Total Split (%)	15.0%	19.9%	19.9%	15.0%	19.8%	19.8%	18.7%	50.2%	50.2%	15.0%	46.6%	46.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	25.4	24.4	24.4	25.3	24.3	24.3	39.9	97.4	97.4	34.1	91.5	91.5
Actuated g/C Ratio	0.13	0.12	0.12	0.13	0.12	0.12	0.20	0.49	0.49	0.17	0.46	0.46
v/c Ratio	1.07	0.75	0.60	1.01	0.50	0.48	0.83	1.05	0.44	0.79	0.93	0.32
Control Delay	157.4	104.6	29.6	146.4	88.5	14.0	85.9	70.5	16.7	120.5	24.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.4	104.6	29.6	146.4	88.5	14.0	85.9	70.5	16.7	120.5	24.7	1.9
LOS	F	F	C	F	F	B	F	E	B	F	C	A
Approach Delay		102.3			91.7			64.9			33.3	
Approach LOS		F			F			E			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 122 (61%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 59.9

Intersection LOS: E

Intersection Capacity Utilization 99.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Wheaton Way (SR 303) & NE McWilliams Road

 Ø1 37.3 s	 Ø2 (R) 93.1 s	 Ø3 30 s	 Ø4 39.6 s
 Ø5 30 s	 Ø6 (R) 100.4 s	 Ø7 29.9 s	 Ø8 39.7 s

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	5	0	0	60	0	790	15	0	610	35
Future Vol, veh/h	0	0	5	0	0	60	0	790	15	0	610	35
Conflicting Peds, #/hr	16	0	11	11	0	16	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	75	0	988	19	0	763	44

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	417	-	-	1015	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	590	0	0	292	0	-
Stage 1	0	0	-	0	0	-	0	-
Stage 2	0	0	-	0	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	583	-	-	287	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	21.9	0	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	583	287	-
HCM Lane V/C Ratio	-	-	0.011	0.261	-
HCM Control Delay (s)	-	-	11.2	21.9	-
HCM Lane LOS	-	-	B	C	-
HCM 95th %tile Q(veh)	-	-	0	1	-

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↗			↗↘	
Traffic Vol, veh/h	0	0	5	0	0	80	0	845	5	0	640	25
Future Vol, veh/h	0	0	5	0	0	80	0	845	5	0	640	25
Conflicting Peds, #/hr	13	0	17	17	0	13	7	0	7	7	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	3	3	3
Mvmt Flow	0	0	6	0	0	100	0	1056	6	0	800	31

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	440	-	-	1079	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	570	0	0	268	0	-
Stage 1	0	0	-	0	0	-	0	-
Stage 2	0	0	-	0	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	557	-	-	263	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	26.8	0	0
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	557	263	-
HCM Lane V/C Ratio	-	-	0.011	0.38	-
HCM Control Delay (s)	-	-	11.5	26.8	-
HCM Lane LOS	-	-	B	D	-
HCM 95th %tile Q(veh)	-	-	0	1.7	-

Horizon 2040 PM
SR 303 Corridor Study

15: SR 303 SB On-Ramp/SR 303 SB Off-Ramp & Callahan Drive

HCM Unsignalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	0	0	0	175	25	0	0	0	0	0	5	65
Future Volume (vph)	0	0	0	175	25	0	0	0	0	0	5	65
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	219	31	0	0	0	0	0	6	81
Direction, Lane #	WB 1	SB 1										
Volume Total (vph)	250	87										
Volume Left (vph)	219	0										
Volume Right (vph)	0	81										
Hadj (s)	0.23	-0.52										
Departure Headway (s)	4.3	4.0										
Degree Utilization, x	0.30	0.10										
Capacity (veh/h)	819	853										
Control Delay (s)	9.1	7.4										
Approach Delay (s)	9.1	7.4										
Approach LOS	A	A										
Intersection Summary												
Delay				8.7								
Level of Service				A								
Intersection Capacity Utilization			22.6%		ICU Level of Service					A		
Analysis Period (min)			15									

										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Lane Configurations										
Sign Control		Stop			Yield		Stop		Yield	
Traffic Volume (vph)	0	0	0	0	200	125	0	0	50	185
Future Volume (vph)	0	0	0	0	200	125	0	0	50	185
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	0	220	137	0	0	55	203
Direction, Lane #	WB 1	NE 1								
Volume Total (vph)	357	258								
Volume Left (vph)	0	0								
Volume Right (vph)	137	203								
Hadj (s)	-0.13	-0.40								
Departure Headway (s)	4.4	4.3								
Degree Utilization, x	0.43	0.31								
Capacity (veh/h)	788	781								
Control Delay (s)	10.7	9.3								
Approach Delay (s)	10.7	9.3								
Approach LOS	B	A								
Intersection Summary										
Delay		10.1								
Level of Service		B								
Intersection Capacity Utilization		39.0%		ICU Level of Service					A	
Analysis Period (min)		15								

Horizon 2040 PM
SR 303 Corridor Study

17: Wheaton Way (SR 303) & E Broad Street

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	5	130	25	5	55	90	2215	35	20	1775	60
Future Volume (vph)	40	5	130	25	5	55	90	2215	35	20	1775	60
Confl. Peds. (#/hr)				55								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2			6		
Detector Phase	7	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	11.0	29.0		29.0	29.0		11.0	23.0		11.0	23.0	
Total Split (s)	11.0	40.0		29.0	29.0		21.0	149.0		11.0	139.0	
Total Split (%)	5.5%	20.0%		14.5%	14.5%		10.5%	74.5%		5.5%	69.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	7.0	26.5		14.5	14.5		163.4	156.9		153.6	147.6	
Actuated g/C Ratio	0.04	0.13		0.07	0.07		0.82	0.78		0.77	0.74	
v/c Ratio	0.69	0.49		0.34	0.38		0.57	0.88		0.24	0.77	
Control Delay	139.3	29.9		96.0	25.3		44.3	9.3		19.9	19.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	139.3	29.9		96.0	25.3		44.3	9.3		19.9	19.9	
LOS	F	C		F	C		D	A		B	B	
Approach Delay		54.8			46.0			10.6			19.9	
Approach LOS		D			D			B			B	
Intersection Summary												
Cycle Length: 200												
Actuated Cycle Length: 200												
Offset: 151 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 150												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.88												
Intersection Signal Delay: 16.9												
Intersection LOS: B												
Intersection Capacity Utilization 97.3%												
ICU Level of Service F												
Analysis Period (min) 15												

Splits and Phases: 17: Wheaton Way (SR 303) & E Broad Street



Horizon 2040 PM
SR 303 Corridor Study

18: Wheaton Way (SR 303) & NE Bentley Drive
Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	15	70	45	5	5	360	1595	35	60	1455	230
Future Volume (vph)	265	15	70	45	5	5	360	1595	35	60	1455	230
Confl. Peds. (#/hr)	5											
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8				4		1		6		5	
Permitted Phases	8		8	4					6			2
Detector Phase	8	8	8	4	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	39.6	39.6	39.6	8.6	8.6		8.6	32.0	32.0	8.6	37.0	37.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0		51.0	129.5	129.5	19.5	98.0	98.0
Total Split (%)	25.5%	25.5%	25.5%	25.5%	25.5%		25.5%	64.8%	64.8%	9.8%	49.0%	49.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	4.0	4.0	3.6	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	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6	4.6	4.6		4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		45.7	45.7	45.7	45.7		45.6	128.7	128.7	11.4	94.5	94.5
Actuated g/C Ratio		0.23	0.23	0.23	0.23		0.23	0.64	0.64	0.06	0.47	0.47
v/c Ratio		0.98	0.18	0.49	0.03		0.97	0.76	0.04	0.65	0.95	0.30
Control Delay		120.5	17.3	85.1	40.9		78.7	40.4	13.3	118.7	34.5	2.6
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		120.5	17.3	85.1	40.9		78.7	40.4	13.3	118.7	34.5	2.6
LOS		F	B	F	D		E	D	B	F	C	A
Approach Delay		99.9			77.6			46.9			33.2	
Approach LOS		F			E			D			C	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 93 (47%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 46.0

Intersection LOS: D

Intersection Capacity Utilization 94.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 18: Wheaton Way (SR 303) & NE Bentley Drive



Horizon 2040 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road

SR 303 Corridor Study

Timings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	100	320	85	90	85	340	1455	90	175	1275	90
Future Volume (vph)	130	100	320	85	90	85	340	1455	90	175	1275	90
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	10.6	44.6	44.6	10.6	41.6	41.6	10.6	35.0	35.0	10.6	38.0	38.0
Total Split (s)	22.0	44.9	44.9	18.7	41.6	41.6	49.0	105.3	105.3	31.1	87.4	87.4
Total Split (%)	11.0%	22.5%	22.5%	9.4%	20.8%	20.8%	24.5%	52.7%	52.7%	15.6%	43.7%	43.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.0	4.0	3.6	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	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	18.2	20.7	20.7	13.3	15.9	15.9	49.3	119.9	119.9	27.2	97.9	97.9
Actuated g/C Ratio	0.09	0.10	0.10	0.07	0.08	0.08	0.25	0.60	0.60	0.14	0.49	0.49
v/c Ratio	0.88	0.57	0.74	0.79	0.67	0.44	0.85	0.75	0.10	0.79	0.80	0.12
Control Delay	131.9	96.8	17.1	129.9	110.0	19.7	81.0	24.4	9.4	105.6	48.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.9	96.8	17.1	129.9	110.0	19.7	81.0	24.4	9.4	105.6	48.4	8.0
LOS	F	F	B	F	F	B	F	C	A	F	D	A
Approach Delay		58.7			87.0			33.9			52.5	
Approach LOS		E			F			C			D	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 74 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 47.2

Intersection LOS: D

Intersection Capacity Utilization 79.8%

ICU Level of Service D

Analysis Period (min) 15

Horizon 2040 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road SR 303 Corridor Study

Timings

Splits and Phases: 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road

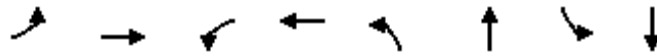
 Ø1 49 s		 Ø2 (R) 87.4 s		 Ø3 22 s		 Ø4 41.6 s	
 Ø5 31.1 s		 Ø6 (R) 105.3 s		 Ø7 18.7 s		 Ø8 44.9 s	



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	675	462	569	325	18	150	619
v/c Ratio	0.98	0.64	0.89	0.53	0.15	0.74	0.85
Control Delay	85.1	52.2	74.5	27.8	61.8	70.5	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	26.5
Total Delay	85.1	52.2	74.5	27.8	61.8	70.5	59.8
Queue Length 50th (ft)	~886	480	681	158	15	131	515
Queue Length 95th (ft)	#923	524	#821	221	37	m196	m495
Internal Link Dist (ft)		535	532		72	193	
Turn Bay Length (ft)							
Base Capacity (vph)	689	724	642	612	199	209	728
Starvation Cap Reductn	0	0	0	0	0	0	131
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.64	0.89	0.53	0.09	0.72	1.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	289	590	94	937	342	632	89	747
v/c Ratio	0.94	0.93	0.20	0.98	0.97	0.48	0.34	0.93
Control Delay	112.7	97.1	52.5	88.7	89.7	25.3	16.4	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.7	97.1	52.5	88.7	89.7	25.3	16.4	32.0
Queue Length 50th (ft)	396	402	98	643	350	222	15	56
Queue Length 95th (ft)	#610	#523	160	#805	m#470	m257	m31	#143
Internal Link Dist (ft)		555		538		206		1279
Turn Bay Length (ft)	225		100		50		75	
Base Capacity (vph)	309	637	466	960	356	1328	258	813
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.93	0.20	0.98	0.96	0.48	0.34	0.92

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1282	453	1011	90	1101	106	803	915
v/c Ratio	1.20	0.42	1.21	0.71	1.11	1.09	0.83	1.00
Control Delay	154.6	22.9	160.8	79.4	117.0	140.7	80.4	37.1
Queue Delay	0.0	0.0	0.0	0.0	1.3	0.0	2.8	1.4
Total Delay	154.6	22.9	160.8	79.4	118.3	140.7	83.2	38.5
Queue Length 50th (ft)	~998	300	~793	84	~800	~115	450	~208
Queue Length 95th (ft)	#1134	388	#936	m123	m#924	m#131	m546	m#866
Internal Link Dist (ft)		557	552		1279		556	
Turn Bay Length (ft)				60		150		250
Base Capacity (vph)	1064	1066	837	126	992	97	973	914
Starvation Cap Reductn	0	0	0	0	0	0	89	5
Spillback Cap Reductn	0	0	0	0	215	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.42	1.21	0.71	1.42	1.09	0.91	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	384	56	2756	2122
v/c Ratio	1.17	0.15	1.12	0.90
Control Delay	163.9	51.8	66.4	15.1
Queue Delay	0.0	0.0	0.2	0.6
Total Delay	163.9	51.8	66.6	15.8
Queue Length 50th (ft)	~567	50	~2117	238
Queue Length 95th (ft)	#797	95	m189	250
Internal Link Dist (ft)	216	218	556	995
Turn Bay Length (ft)				
Base Capacity (vph)	327	378	2462	2368
Starvation Cap Reductn	0	0	199	0
Spillback Cap Reductn	0	0	0	61
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.17	0.15	1.22	0.92
Intersection Summary				
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.				
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.				
m Volume for 95th percentile queue is metered by upstream signal.				



Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	229	161	2724	1911	229
v/c Ratio	0.78	0.78	0.89	0.75	0.20
Control Delay	91.5	80.7	7.9	18.6	2.4
Queue Delay	0.0	0.0	1.5	0.0	0.0
Total Delay	91.5	80.7	9.4	18.6	2.4
Queue Length 50th (ft)	125	207	411	724	15
Queue Length 95th (ft)	177	m182	m348	882	46
Internal Link Dist (ft)	370		995	759	
Turn Bay Length (ft)		90			300
Base Capacity (vph)	308	255	3052	2553	1153
Starvation Cap Reductn	0	0	172	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.63	0.95	0.75	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	88	52	186	145	149	222	206	2299	284	227	1639
v/c Ratio	0.70	0.39	0.65	0.94	0.94	0.69	0.83	1.10	0.31	0.97	0.79
Control Delay	117.6	96.4	20.8	143.4	144.4	24.6	108.8	92.5	11.9	114.2	56.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.6	96.4	20.8	143.4	144.4	24.6	108.8	92.5	11.9	114.2	56.0
Queue Length 50th (ft)	115	66	0	203	209	23	267	~1802	101	297	1179
Queue Length 95th (ft)	184	119	89	#368	#377	126	361	#1905	161	m#494	m1248
Internal Link Dist (ft)		478			1030			284			2575
Turn Bay Length (ft)			150	250		250	250			250	
Base Capacity (vph)	150	158	304	155	158	324	303	2082	928	235	2071
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.33	0.61	0.94	0.94	0.69	0.68	1.10	0.31	0.97	0.79

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	126	111	157	157	131	197	172	2136	172	167	1606
v/c Ratio	0.84	0.73	0.62	1.00	0.81	0.72	0.80	0.98	0.18	0.93	0.77
Control Delay	128.4	114.5	26.6	158.3	123.4	34.8	116.3	16.0	0.4	120.9	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.4	114.5	26.6	158.3	123.4	34.8	116.3	16.0	0.4	120.9	37.2
Queue Length 50th (ft)	165	144	20	211	172	45	226	1546	2	216	776
Queue Length 95th (ft)	#281	224	106	#384	#291	149	m206	m800	m1	m#355	1046
Internal Link Dist (ft)		362			350			2575			2005
Turn Bay Length (ft)	150		100	110		110	150		100	100	
Base Capacity (vph)	161	170	266	157	166	278	271	2179	967	179	2083
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.65	0.59	1.00	0.79	0.71	0.63	0.98	0.18	0.93	0.77

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	52	5	2335	41	1819
v/c Ratio	0.65	0.33	0.09	0.83	0.49	0.60
Control Delay	112.4	23.6	106.4	3.1	87.4	6.2
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.2
Total Delay	112.4	23.6	106.4	3.5	87.4	6.5
Queue Length 50th (ft)	107	0	7	40	54	335
Queue Length 95th (ft)	174	50	m7	53	m75	355
Internal Link Dist (ft)				387		1486
Turn Bay Length (ft)			50		90	
Base Capacity (vph)	149	175	55	2807	89	3022
Starvation Cap Reductn	0	0	0	119	0	0
Spillback Cap Reductn	0	0	0	0	0	459
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.30	0.09	0.87	0.46	0.71

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	213	144	202	117	176	165	186	2058	160	1543	229
v/c Ratio	0.97	0.54	0.52	0.85	0.97	0.61	0.77	0.99	0.95	0.75	0.26
Control Delay	138.0	87.9	15.5	133.2	144.6	30.6	62.8	40.9	101.5	31.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	38.5	0.0	0.2	0.0
Total Delay	138.0	87.9	15.5	133.2	144.6	30.9	62.8	79.4	101.5	31.9	14.1
Queue Length 50th (ft)	285	180	10	154	235	40	153	1081	177	496	73
Queue Length 95th (ft)	#475	266	100	#270	#410	132	m210	#1572	m#310	m780	m124
Internal Link Dist (ft)		512			374			1486		1076	
Turn Bay Length (ft)	100		170	100		350	100		150		200
Base Capacity (vph)	219	267	387	147	182	269	301	2071	169	2053	879
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	86	0
Spillback Cap Reductn	0	0	0	0	0	7	0	221	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.54	0.52	0.80	0.97	0.63	0.62	1.11	0.95	0.78	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	89	216	95	37	2032	221	226	1642	53
v/c Ratio	0.35	0.48	1.04	0.35	0.52	1.03	0.24	0.89	0.68	0.05
Control Delay	94.5	21.0	153.4	16.2	114.9	39.2	3.0	133.2	7.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	0.0	0.0
Total Delay	94.5	21.0	153.4	16.2	114.9	52.0	3.0	133.2	7.1	0.5
Queue Length 50th (ft)	52	0	~304	0	51	~1496	13	~320	155	0
Queue Length 95th (ft)	100	59	#497	64	m52	m#1527	m14	#521	259	m2
Internal Link Dist (ft)	334		206			1076			1399	
Turn Bay Length (ft)		160			100		90	225		90
Base Capacity (vph)	157	213	208	269	78	1979	910	253	2398	997
Starvation Cap Reductn	0	0	0	0	0	63	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.42	1.04	0.35	0.47	1.06	0.24	0.89	0.68	0.05

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
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Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	10	105	305	16	2137	16	205	1747	26
v/c Ratio	0.42	0.04	0.63	0.92	0.28	0.92	0.02	0.88	0.63	0.02
Control Delay	110.1	48.8	98.1	72.3	100.3	13.0	0.0	118.1	10.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.1	48.8	98.1	72.3	100.3	13.0	0.0	118.1	10.3	0.7
Queue Length 50th (ft)	20	6	133	199	22	147	0	238	1045	1
Queue Length 95th (ft)	51	27	201	322	m25	m114	m0	m#311	m1136	m2
Internal Link Dist (ft)		260		649		1399			2563	
Turn Bay Length (ft)	50		175		200		140	210		100
Base Capacity (vph)	51	299	224	388	57	2323	1026	239	2774	1210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.03	0.47	0.79	0.28	0.92	0.02	0.86	0.63	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

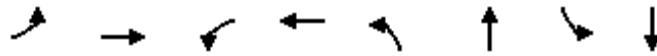
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	235	168	184	224	112	153	286	1750	327	235	1485	245
v/c Ratio	1.07	0.75	0.60	1.01	0.50	0.48	0.83	1.05	0.44	0.79	0.93	0.32
Control Delay	157.4	104.6	29.6	146.4	88.5	14.0	85.9	70.5	16.7	120.5	24.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.4	104.6	29.6	146.4	88.5	14.0	85.9	70.5	16.7	120.5	24.7	1.9
Queue Length 50th (ft)	~340	219	55	~305	141	0	336	~1357	218	323	471	0
Queue Length 95th (ft)	#539	293	141	#502	203	72	m#479	#1476	m268	m#411	m#980	m1
Internal Link Dist (ft)		722			684			2563			1661	
Turn Bay Length (ft)	150		120	200		350	470		170	500		280
Base Capacity (vph)	220	320	382	221	322	396	343	1673	740	298	1603	765
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.53	0.48	1.01	0.35	0.39	0.83	1.05	0.44	0.79	0.93	0.32

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	146	27	65	98	2446	22	1994
v/c Ratio	0.69	0.49	0.34	0.38	0.57	0.88	0.24	0.77
Control Delay	139.3	29.9	96.0	25.3	44.3	9.3	19.9	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.3	29.9	96.0	25.3	44.3	9.3	19.9	19.9
Queue Length 50th (ft)	58	53	35	6	36	67	5	637
Queue Length 95th (ft)	#146	127	71	60	m47	m1750	m15	736
Internal Link Dist (ft)		422		252		2005		387
Turn Bay Length (ft)					100		100	
Base Capacity (vph)	62	363	131	245	215	2770	90	2600
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.40	0.21	0.27	0.46	0.88	0.24	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

										
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	76	49	10	391	1734	38	65	1582	250
v/c Ratio	0.98	0.18	0.49	0.03	0.97	0.76	0.04	0.65	0.95	0.30
Control Delay	120.5	17.3	85.1	40.9	78.7	40.4	13.3	118.7	34.5	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	120.5	17.3	85.1	40.9	78.7	40.4	13.3	118.7	34.5	2.6
Queue Length 50th (ft)	401	12	57	5	543	783	11	89	1066	4
Queue Length 95th (ft)	#613	63	113	25	m524	m762	m12	m119	#962	m28
Internal Link Dist (ft)	138			143		1661			2141	
Turn Bay Length (ft)					350		50	150		375
Base Capacity (vph)	315	416	102	403	410	2278	1031	131	1672	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.18	0.48	0.02	0.95	0.76	0.04	0.50	0.95	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Horizon 2040 PM 19: Wheaton Way (SR 303) & NE Fairgrounds Road/NE John Carlson Road SR 303 Corridor Study

Queues



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	109	348	92	98	92	370	1582	98	190	1386	98
v/c Ratio	0.88	0.57	0.74	0.79	0.67	0.44	0.85	0.75	0.10	0.79	0.80	0.12
Control Delay	131.9	96.8	17.1	129.9	110.0	19.7	81.0	24.4	9.4	105.6	48.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.9	96.8	17.1	129.9	110.0	19.7	81.0	24.4	9.4	105.6	48.4	8.0
Queue Length 50th (ft)	188	141	4	121	128	0	487	544	24	246	801	9
Queue Length 95th (ft)	#340	211	118	#220	195	63	m587	m685	m42	333	1015	52
Internal Link Dist (ft)		447			465			2141			952	
Turn Bay Length (ft)	100		100	100		100	450		50	325		50
Base Capacity (vph)	161	375	594	124	344	367	444	2122	972	258	1732	817
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.29	0.59	0.74	0.28	0.25	0.83	0.75	0.10	0.74	0.80	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.