

**Supplemental Report
Modified Improvement Plan
Technical Appendix**

**Foxwoods-Philadelphia
Proposed Slot Parlor/Casino
Development**

**on
Columbus Boulevard
between
Reed and Tasker Streets
City of Philadelphia**

October 4, 2006



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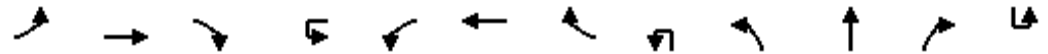
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**CAPACITY ANALYSIS - PHASE I WITH DOCKSIDE RESIDENCES AND
DEPARTMENT OF STREETS SUGGESTED IMPROVEMENTS**

1: I-95 NB On Ramp & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations						↕↕			↕	↕↕↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0			4.0	4.0		
Lane Util. Factor						0.95			1.00	0.91		
Frt						0.95			1.00	1.00		
Flt Protected						0.98			0.95	1.00		
Satd. Flow (prot)						3283			1770	5075		
Flt Permitted						0.98			0.95	1.00		
Satd. Flow (perm)						3283			1770	5075		
Volume (vph)	0	0	0	1	8	5	7	4	363	1632	23	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1	9	5	8	4	395	1774	25	5
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	0	0	0	15	0	0	399	1798	0	0
Turn Type				Split	Split			Prot	Prot			Prot
Protected Phases				8	8	8		1	1	6		5
Permitted Phases												
Actuated Green, G (s)						2.8			30.5	84.6		
Effective Green, g (s)						4.8			31.5	85.6		
Actuated g/C Ratio						0.04			0.29	0.78		
Clearance Time (s)						6.0			5.0	5.0		
Vehicle Extension (s)						3.0			3.0	3.0		
Lane Grp Cap (vph)						143			507	3949		
v/s Ratio Prot						c0.00			c0.23	0.35		
v/s Ratio Perm												
v/c Ratio						0.11			0.79	0.46		
Uniform Delay, d1						50.5			36.2	4.2		
Progression Factor						1.00			1.09	0.17		
Incremental Delay, d2						0.3			5.4	0.3		
Delay (s)						50.9			44.9	1.0		
Level of Service						D			D	A		
Approach Delay (s)		0.0				50.9				8.9		
Approach LOS		A				D				A		
Intersection Summary												
HCM Average Control Delay			12.6			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			65.4%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

1: I-95 NB On Ramp & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	SBL	SBT	SBR
Lane Configurations			
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	1.00	0.91	
Frt	1.00	0.99	
Flt Protected	0.95	1.00	
Satd. Flow (prot)	1770	5018	
Flt Permitted	0.95	1.00	
Satd. Flow (perm)	1770	5018	
Volume (vph)	17	1363	132
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	18	1482	143
RTOR Reduction (vph)	0	7	0
Lane Group Flow (vph)	23	1618	0
Turn Type	Prot		
Protected Phases	5	2	
Permitted Phases			
Actuated Green, G (s)	6.6	60.7	
Effective Green, g (s)	7.6	61.7	
Actuated g/C Ratio	0.07	0.56	
Clearance Time (s)	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	
Lane Grp Cap (vph)	122	2815	
v/s Ratio Prot	0.01	c0.32	
v/s Ratio Perm			
v/c Ratio	0.19	0.57	
Uniform Delay, d1	48.3	15.6	
Progression Factor	1.00	1.00	
Incremental Delay, d2	0.8	0.9	
Delay (s)	49.0	16.5	
Level of Service	D	B	
Approach Delay (s)		17.0	
Approach LOS		B	

Intersection Summary

2: I-676 On & I-676/95 Off Ramp & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↖	↖	↖↖		↖↖		↖↖	↖↖↖			↖	↖↖↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88		0.95		0.97	0.91			1.00	0.91
Frt	1.00	1.00	0.85		0.96		1.00	1.00			1.00	0.99
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1700	2787		3320		3367	4979			1763	4963
Flt Permitted	0.95	0.96	1.00		0.98		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1700	2787		3320		3367	4979			1763	4963
Volume (vph)	139	17	1233	19	11	11	459	1846	30	10	17	1239
Peak-hour factor, PHF	0.81	0.92	0.92	0.92	0.92	0.92	0.80	0.76	0.92	0.92	0.92	0.92
Adj. Flow (vph)	172	18	1340	21	12	12	574	2429	33	11	18	1347
RTOR Reduction (vph)	0	0	300	0	11	0	0	1	0	0	0	10
Lane Group Flow (vph)	93	97	1040	0	34	0	574	2461	0	0	29	1480
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	2%	3%	2%	3%
Turn Type	Split		pt+ov	Split			Prot			Prot	Prot	
Protected Phases	4	4	4 1	8	8		1	6		5	5	2
Permitted Phases												
Actuated Green, G (s)	12.4	12.4	51.4		4.3		33.0	66.2			5.1	37.3
Effective Green, g (s)	14.4	14.4	53.4		5.3		35.0	68.2			6.1	39.3
Actuated g/C Ratio	0.13	0.13	0.49		0.05		0.32	0.62			0.06	0.36
Clearance Time (s)	6.0	6.0			5.0		6.0	6.0			5.0	6.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	220	223	1353		160		1071	3087			98	1773
v/s Ratio Prot	0.06	0.06	c0.37		c0.01		0.17	c0.49			0.02	c0.30
v/s Ratio Perm												
v/c Ratio	0.42	0.43	0.77		0.21		0.54	0.80			0.30	0.83
Uniform Delay, d1	44.0	44.1	23.2		50.3		30.8	15.7			49.9	32.4
Progression Factor	1.00	1.00	1.00		1.00		0.79	0.70			1.00	0.49
Incremental Delay, d2	1.3	1.4	2.7		0.7		0.4	1.9			1.4	4.2
Delay (s)	45.3	45.4	25.9		51.0		24.9	13.0			51.1	20.0
Level of Service	D	D	C		D		C	B			D	B
Approach Delay (s)		28.3			51.0			15.2				20.6
Approach LOS		C			D			B				C

Intersection Summary		
HCM Average Control Delay	20.1	HCM Level of Service C
HCM Volume to Capacity ratio	0.75	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	82.9%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

Movement	SBR
Line Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	110
Peak-hour factor, PHF	0.77
Adj. Flow (vph)	143
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	3%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

3: Christian St. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↔		↖	↗↗↗		↖	↗↗↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583			1787		1770	5082		1770	5008	
Flt Permitted	0.75	1.00			0.80		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1388	1583			1491		1770	5082		1770	5008	
Volume (vph)	250	0	93	15	3	0	183	2053	10	2	2252	254
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	0	101	16	3	0	199	2232	11	2	2448	276
RTOR Reduction (vph)	0	80	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	272	21	0	0	19	0	199	2243	0	2	2712	0
Turn Type	Perm		Perm			Prot		Prot				
Protected Phases	4		8			1		6		5		2
Permitted Phases	4		8									
Actuated Green, G (s)	21.0	21.0			21.0		13.0	72.0		1.0	60.0	
Effective Green, g (s)	23.0	23.0			23.0		14.0	73.0		2.0	61.0	
Actuated g/C Ratio	0.21	0.21			0.21		0.13	0.66		0.02	0.55	
Clearance Time (s)	6.0	6.0			6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	290	331			312		225	3373		32	2777	
v/s Ratio Prot	0.01					c0.11		0.44		0.00		c0.54
v/s Ratio Perm	c0.20		0.01									
v/c Ratio	0.94	0.06			0.06		0.88	0.66		0.06	0.98	
Uniform Delay, d1	42.8	34.9			34.8		47.2	11.1		53.1	23.8	
Progression Factor	1.00	1.00			1.00		1.17	0.69		0.81	0.71	
Incremental Delay, d2	36.2	0.1			0.1		22.3	0.7		0.5	8.7	
Delay (s)	79.0	35.0			34.9		77.8	8.4		43.7	25.6	
Level of Service	E	C			C		E	A		D	C	
Approach Delay (s)	67.1		34.9			14.0		25.6				
Approach LOS	E		C			B		C				

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

4: Washington Ave. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	13	12	12	16	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.95	0.91	0.95		1.00			0.97	0.91		1.00	0.95
Flt	1.00	1.00	0.85		0.98			1.00	1.00		1.00	1.00
Flt Protected	0.95	0.95	1.00		0.96			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1665	1648	1504		2030			3433	5084		1652	3657
Flt Permitted	0.95	0.95	1.00		0.96			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1665	1648	1504		2030			3433	5084		1652	3657
Volume (vph)	607	0	329	20	2	4	21	291	1641	4	3	1590
Peak-hour factor, PHF	0.80	0.92	0.92	0.69	0.69	0.69	0.92	0.92	0.92	0.92	0.89	0.89
Adj. Flow (vph)	759	0	358	29	3	6	23	316	1784	4	3	1787
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	380	379	358	0	32	0	0	339	1788	0	3	1787
Heavy Vehicles (%)	3%	2%	2%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Free	Split			Prot	Prot			Prot	
Protected Phases	8	8		4	4		1	1	6		5	2
Permitted Phases			Free									
Actuated Green, G (s)	24.0	24.0	110.0		2.4			10.0	55.8		5.8	51.6
Effective Green, g (s)	26.0	26.0	110.0		4.4			11.0	56.8		6.8	52.6
Actuated g/C Ratio	0.24	0.24	1.00		0.04			0.10	0.52		0.06	0.48
Clearance Time (s)	6.0	6.0			6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	394	390	1504		81			343	2625		102	1749
v/s Ratio Prot	0.23	c0.23			0.02			c0.10	0.35		0.00	c0.49
v/s Ratio Perm			0.24									
v/c Ratio	0.96	0.97	0.24		0.40			0.99	0.68		0.03	1.02
Uniform Delay, d1	41.5	41.6	0.0		51.5			49.4	19.8		48.5	28.7
Progression Factor	1.00	1.00	1.00		1.00			0.67	0.32		0.86	1.42
Incremental Delay, d2	35.8	37.9	0.4		3.2			41.8	1.3		0.0	19.6
Delay (s)	77.4	79.6	0.4		54.7			74.8	7.6		41.9	60.5
Level of Service	E	E	A		D			E	A		D	E
Approach Delay (s)		53.4			54.7			18.3				40.7
Approach LOS		D			D			B				D

Intersection Summary			
HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	784
Peak-hour factor, PHF	0.89
Adj. Flow (vph)	881
RTOR Reduction (vph)	0
Lane Group Flow (vph)	881
Heavy Vehicles (%)	2%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	110.0
Effective Green, g (s)	110.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.56
v/c Ratio	0.56
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.6
Delay (s)	0.6
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

5: I-95 NB Off Ramp & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↖↗		↖					↖↗↘			↘	↖↗↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.91			1.00	0.91
Frt	1.00		0.85					1.00			1.00	1.00
Flt Protected	0.95		1.00					1.00			0.95	1.00
Satd. Flow (prot)	3433		1583					5085			1805	5036
Flt Permitted	0.95		1.00					1.00			0.95	1.00
Satd. Flow (perm)	3433		1583					5085			1805	5036
Volume (vph)	427	0	325	0	0	0	0	1490	0	7	0	1937
Peak-hour factor, PHF	0.94	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.44	0.92	0.97
Adj. Flow (vph)	454	0	342	0	0	0	0	1620	0	16	0	1997
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	454	0	342	0	0	0	0	1620	0	0	16	1997
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	3%
Turn Type	Prot		Free							Prot	Prot	
Protected Phases	3							6		5	5	2
Permitted Phases			Free									
Actuated Green, G (s)	19.4		110.0					68.2			6.4	79.6
Effective Green, g (s)	21.4		110.0					69.2			7.4	80.6
Actuated g/C Ratio	0.19		1.00					0.63			0.07	0.73
Clearance Time (s)	6.0							5.0			5.0	5.0
Vehicle Extension (s)	3.0							3.0			3.0	3.0
Lane Grp Cap (vph)	668		1583					3199			121	3690
v/s Ratio Prot	c0.13							0.32			0.01	c0.40
v/s Ratio Perm			0.22									
v/c Ratio	0.68		0.22					0.51			0.13	0.54
Uniform Delay, d1	41.1		0.0					11.1			48.3	6.5
Progression Factor	1.00		1.00					0.22			0.64	0.27
Incremental Delay, d2	2.8		0.3					0.4			0.2	0.3
Delay (s)	43.9		0.3					2.8			31.1	2.0
Level of Service	D		A					A			C	A
Approach Delay (s)		25.2			0.0			2.8				2.3
Approach LOS		C			A			A				A

Intersection Summary		
HCM Average Control Delay	6.6	HCM Level of Service A
HCM Volume to Capacity ratio	0.57	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	56.3%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group



Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Flt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	0
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

6: Reed St. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	13	12	10	10	11	12	10	10
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0			4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95			1.00	0.91			1.00
Fr _t	1.00	1.00	0.85	1.00	0.92			1.00	1.00			1.00
Fl _t Protected	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1625	1652	1531	1698	1701			1625	4898			1620
Fl _t Permitted	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1625	1652	1531	1698	1701			1625	4898			1620
Volume (vph)	218	38	128	41	37	41	19	107	1220	18	11	97
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.75	0.75	0.80	0.47	0.92	0.87
Adj. Flow (vph)	237	41	139	49	44	49	25	143	1525	38	12	111
RTOR Reduction (vph)	0	0	121	0	37	0	0	0	4	0	0	0
Lane Group Flow (vph)	135	143	18	49	56	0	0	168	1559	0	0	123
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	4%	2%	2%	4%	4%
Turn Type	Split		Prot	Split			Prot	Prot			Prot	Prot
Protected Phases	3	3	3	7	7		1	1	6		5	5
Permitted Phases												
Actuated Green, G (s)	12.6	12.6	12.6	4.7	4.7			13.4	43.2			27.5
Effective Green, g (s)	14.6	14.6	14.6	6.7	6.7			14.4	44.2			28.5
Actuated g/C Ratio	0.13	0.13	0.13	0.06	0.06			0.13	0.40			0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	216	219	203	103	104			213	1968			420
v/s Ratio Prot	0.08	c0.09	0.01	0.03	c0.03			0.10	c0.32			0.08
v/s Ratio Perm												
v/c Ratio	0.62	0.65	0.09	0.48	0.54			0.79	0.79			0.29
Uniform Delay, d ₁	45.1	45.3	41.9	50.0	50.2			46.3	28.9			32.7
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.16	1.00			0.63
Incremental Delay, d ₂	5.5	6.8	0.2	3.4	5.7			16.5	3.2			0.3
Delay (s)	50.7	52.1	42.1	53.4	55.8			70.3	32.2			20.8
Level of Service	D	D	D	D	E			E	C			C
Approach Delay (s)		48.3			55.0				35.9			
Approach LOS		D			D				D			

Intersection Summary		
HCM Average Control Delay	28.1	HCM Level of Service C
HCM Volume to Capacity ratio	0.84	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	73.8%	ICU Level of Service D
Analysis Period (min)	15	
c Critical Lane Group		



Movement	SBT	SBR
Lane Configurations	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900
Lane Width	10	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.91	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	4631	
Flt Permitted	1.00	
Satd. Flow (perm)	4631	
Volume (vph)	1932	220
Peak-hour factor, PHF	0.97	0.80
Adj. Flow (vph)	1992	275
RTOR Reduction (vph)	16	0
Lane Group Flow (vph)	2251	0
Heavy Vehicles (%)	3%	0%
Turn Type		
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	57.3	
Effective Green, g (s)	58.3	
Actuated g/C Ratio	0.53	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2454	
v/s Ratio Prot	0.49	
v/s Ratio Perm		
v/c Ratio	0.92	
Uniform Delay, d1	23.6	
Progression Factor	0.46	
Incremental Delay, d2	6.2	
Delay (s)	17.1	
Level of Service	B	
Approach Delay (s)	17.3	
Approach LOS	B	
Intersection Summary		

7: Dickinson St. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations						TT		TTT		TT	TT	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0		4.0		4.0	4.0	
Lane Util. Factor						0.88		0.91		0.97	0.95	
Frt						0.85		1.00		1.00	1.00	
Flt Protected						1.00		1.00		0.95	1.00	
Satd. Flow (prot)						2787		4968		3433	3532	
Flt Permitted						1.00		1.00		0.95	1.00	
Satd. Flow (perm)						2787		4968		3433	3532	
Volume (vph)	0	0	0	0	0	51	0	1310	39	125	1969	27
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.75	0.82	0.92	0.92	0.84	0.84
Adj. Flow (vph)	0	0	0	0	0	55	0	1598	42	136	2344	32
RTOR Reduction (vph)	0	0	0	0	0	49	0	1	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	0	6	0	1639	0	136	2375	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type						Over				Prot		
Protected Phases						1		2		1	2	
Permitted Phases												
Actuated Green, G (s)						9.9		89.1		9.9	89.1	
Effective Green, g (s)						11.9		90.1		11.9	90.1	
Actuated g/C Ratio						0.11		0.82		0.11	0.82	
Clearance Time (s)						6.0		5.0		6.0	5.0	
Vehicle Extension (s)						3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)						302		4069		371	2893	
v/s Ratio Prot						0.00		0.33		c0.04	c0.67	
v/s Ratio Perm												
v/c Ratio						0.02		0.40		0.37	0.82	
Uniform Delay, d1						43.8		2.7		45.6	5.5	
Progression Factor						1.00		0.23		0.88	1.30	
Incremental Delay, d2						0.0		0.3		0.4	1.7	
Delay (s)						43.9		0.9		40.4	8.9	
Level of Service						D		A		D	A	
Approach Delay (s)		0.0			43.9			0.9			10.6	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

8: Tasker Street Ext. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙		↑↑↑			↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Volume (vph)	154	0	1349	0	0	1969
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	0	1466	0	0	2140
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	167	0	1466	0	0	2140
Turn Type						
Protected Phases	1		2			2
Permitted Phases						
Actuated Green, G (s)	9.9		89.1			89.1
Effective Green, g (s)	11.9		90.1			90.1
Actuated g/C Ratio	0.11		0.82			0.82
Clearance Time (s)	6.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	371		4165			4165
v/s Ratio Prot	c0.05		0.29			c0.42
v/s Ratio Perm						
v/c Ratio	0.45		0.35			0.51
Uniform Delay, d1	46.0		2.5			3.1
Progression Factor	1.00		0.27			0.20
Incremental Delay, d2	0.9		0.2			0.2
Delay (s)	46.9		0.9			0.9
Level of Service	D		A			A
Approach Delay (s)	46.9		0.9			0.9
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			2.9		HCM Level of Service	A
HCM Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

9: Tasker St. & Chris Columbus Blvd.

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕				↕↕	↕	↕↕↕		↕	↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0				4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95				0.88	1.00	0.91		1.00	0.95	
Frt		0.94				0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3274				2787	1770	5037		1770	3495	
Flt Permitted		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3274				2787	1770	5037		1770	3495	
Volume (vph)	79	78	109	0	0	104	24	1158	78	125	1747	159
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99
Adj. Flow (vph)	89	88	122	0	0	113	26	1259	85	136	1765	161
RTOR Reduction (vph)	0	107	0	0	0	99	0	6	0	0	4	0
Lane Group Flow (vph)	0	192	0	0	0	14	26	1338	0	136	1922	0
Turn Type	Split			Over			Prot			Prot		
Protected Phases	4	4				1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.5				13.1	3.4	69.4		13.1	79.1	
Effective Green, g (s)		13.5				14.1	4.4	70.4		14.1	80.1	
Actuated g/C Ratio		0.12				0.13	0.04	0.64		0.13	0.73	
Clearance Time (s)		6.0				5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		402				357	71	3224		227	2545	
v/s Ratio Prot		c0.06				0.01	0.01	0.27		c0.08	c0.55	
v/s Ratio Perm												
v/c Ratio		0.48				0.04	0.37	0.41		0.60	0.76	
Uniform Delay, d1		45.0				42.0	51.4	9.7		45.3	9.0	
Progression Factor		1.00				1.00	1.00	1.00		1.05	0.88	
Incremental Delay, d2		0.9				0.0	3.1	0.4		3.7	1.9	
Delay (s)		45.9				42.1	54.6	10.1		51.1	9.8	
Level of Service		D				D	D	B		D	A	
Approach Delay (s)		45.9			42.1			10.9			12.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

10: Morris St & Chris Columbus Blvd.

Phase I
Friday Peak Hour

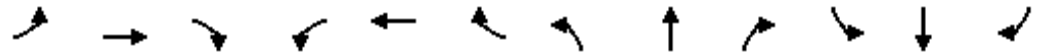


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↙	↑↑↑	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			1.00	0.91	0.91	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			1770	5085	5085	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			1770	5085	5085	1583
Volume (vph)	0	0	166	1264	1432	424
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	180	1374	1557	461
RTOR Reduction (vph)	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	180	1374	1557	365
Turn Type			Prot			Perm
Protected Phases			5	2	6	
Permitted Phases						6
Actuated Green, G (s)			30.0	110.0	70.0	70.0
Effective Green, g (s)			31.0	110.0	71.0	71.0
Actuated g/C Ratio			0.28	1.00	0.65	0.65
Clearance Time (s)			5.0	5.0	5.0	5.0
Vehicle Extension (s)			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)			499	5085	3282	1022
v/s Ratio Prot			c0.10	0.27	c0.31	
v/s Ratio Perm						0.23
v/c Ratio			0.36	0.27	0.47	0.36
Uniform Delay, d1			31.6	0.0	10.0	9.0
Progression Factor			1.00	1.00	0.69	0.36
Incremental Delay, d2			0.4	0.1	0.4	0.7
Delay (s)			32.0	0.1	7.2	3.9
Level of Service			C	A	A	A
Approach Delay (s)	0.0			3.8	6.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

11: Morris St & Water St

Phase I
Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations					↕			↕							
Sign Control		Stop			Stop			Stop			Stop				
Volume (vph)	0	0	0	0	526	64	51	390	0	0	0	0			
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			
Hourly flow rate (vph)	0	0	0	0	572	70	55	424	0	0	0	0			
Direction, Lane #	WB 1	NB 1													
Volume Total (vph)	641	479													
Volume Left (vph)	0	55													
Volume Right (vph)	70	0													
Hadj (s)	-0.03	0.06													
Departure Headway (s)	5.4	5.8													
Degree Utilization, x	0.96	0.77													
Capacity (veh/h)	661	610													
Control Delay (s)	47.4	25.8													
Approach Delay (s)	47.4	25.8													
Approach LOS	E	D													
Intersection Summary															
Delay			38.1												
HCM Level of Service			E												
Intersection Capacity Utilization			61.6%					ICU Level of Service			B				
Analysis Period (min)			15												

1: I-95 NB On Ramp & Chris Columbus Blvd.

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations					↕↕			↙	↕↕↕		↙	↕↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0	4.0		4.0	4.0
Lane Util. Factor					0.95			1.00	0.91		1.00	0.91
Frt					0.94			1.00	0.99		1.00	0.99
Flt Protected					0.98			0.95	1.00		0.95	1.00
Satd. Flow (prot)					3313			1788	5036		1736	5045
Flt Permitted					0.98			0.95	1.00		0.95	1.00
Satd. Flow (perm)					3313			1788	5036		1736	5045
Volume (vph)	0	0	0	7	3	8	6	510	1047	59	27	1266
Peak-hour factor, PHF	0.92	0.92	0.92	0.64	0.64	0.64	0.25	0.95	0.82	0.66	0.65	0.85
Adj. Flow (vph)	0	0	0	11	5	12	24	537	1277	89	42	1489
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	5	0	0	5
Lane Group Flow (vph)	0	0	0	0	17	0	0	561	1361	0	42	1579
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	1%	2%	2%	4%	2%
Turn Type				Split			Prot		Prot		Prot	
Protected Phases				8	8		1	1	6		5	2
Permitted Phases												
Actuated Green, G (s)					4.2			42.6	92.6		7.2	57.2
Effective Green, g (s)					6.2			43.6	93.6		8.2	58.2
Actuated g/C Ratio					0.05			0.36	0.78		0.07	0.49
Clearance Time (s)					6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)					3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)					171			650	3928		119	2447
v/s Ratio Prot					c0.01			c0.31	0.27		0.02	c0.31
v/s Ratio Perm												
v/c Ratio					0.10			0.86	0.35		0.35	0.65
Uniform Delay, d1					54.2			35.4	4.0		53.4	23.2
Progression Factor					1.00			0.87	0.35		1.00	1.00
Incremental Delay, d2					0.2			10.0	0.2		1.8	1.3
Delay (s)					54.5			40.8	1.6		55.2	24.5
Level of Service					D			D	A		E	C
Approach Delay (s)		0.0			54.5				13.0			25.3
Approach LOS		A			D				B			C






















Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	79
Peak-hour factor, PHF	0.83
Adj. Flow (vph)	95
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

2: I-676 On & I-676/95 Off Ramp & Chris Columbus Bl

Saturday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	0.88		0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85		0.96		1.00	1.00		1.00	0.99	
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1665	1686	2814		3324		3467	5074		1770	5070	
Flt Permitted	0.95	0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1665	1686	2814		3324		3467	5074		1770	5070	
Volume (vph)	134	15	1213	18	12	11	634	1473	25	15	1162	104
Peak-hour factor, PHF	0.81	0.92	0.90	0.92	0.92	0.92	0.94	0.84	0.92	0.92	0.93	0.89
Adj. Flow (vph)	165	16	1348	20	13	12	674	1754	27	16	1249	117
RTOR Reduction (vph)	0	0	276	0	11	0	0	1	0	0	9	0
Lane Group Flow (vph)	88	93	1072	0	34	0	674	1780	0	16	1357	0
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	2%	2%	2%	1%	1%
Turn Type	Split		pt+ov	Split			Prot			Prot		
Protected Phases	4	4	4 1	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	18.5	18.5	53.9		5.6		35.4	70.1		3.8	37.5	
Effective Green, g (s)	20.5	20.5	57.9		6.6		37.4	72.1		4.8	39.5	
Actuated g/C Ratio	0.17	0.17	0.48		0.05		0.31	0.60		0.04	0.33	
Clearance Time (s)	6.0	6.0			5.0		6.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	288	1358		183		1081	3049		71	1669	
v/s Ratio Prot	0.05	0.06	c0.38		c0.01		0.19	0.35		0.01	c0.27	
v/s Ratio Perm												
v/c Ratio	0.31	0.32	0.79		0.18		0.62	0.58		0.23	0.81	
Uniform Delay, d1	43.6	43.7	26.0		54.1		35.3	14.7		55.8	36.9	
Progression Factor	1.00	1.00	1.00		1.00		0.83	0.43		0.51	0.55	
Incremental Delay, d2	0.6	0.7	3.1		0.5		0.8	0.6		1.3	3.6	
Delay (s)	44.2	44.3	29.1		54.6		30.0	7.0		29.7	23.7	
Level of Service	D	D	C		D		C	A		C	C	
Approach Delay (s)		30.9			54.6			13.3			23.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM Average Control Delay			21.3				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			80.5%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

3: Christian St. & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘	↗			↔		↘	↑↑↑			↘	↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91			1.00	0.91
Frt	1.00	0.86			0.98		1.00	1.00			1.00	0.98
Flt Protected	0.95	1.00			0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1629			1774		1805	5081			1805	5031
Flt Permitted	0.74	1.00			0.77		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1374	1629			1413		1805	5081			1805	5031
Volume (vph)	157	2	142	13	2	2	172	1958	9	5	16	2043
Peak-hour factor, PHF	0.82	0.25	0.89	0.60	0.50	0.50	0.87	0.84	0.56	0.62	0.31	0.95
Adj. Flow (vph)	191	8	160	22	4	4	198	2331	16	8	52	2151
RTOR Reduction (vph)	0	129	0	0	3	0	0	0	0	0	0	15
Lane Group Flow (vph)	191	39	0	0	27	0	198	2347	0	0	60	2474
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%	1%
Turn Type	Perm			Perm			Prot			Prot	Prot	
Protected Phases		4			8		1	6		5	5	2
Permitted Phases	4			8								
Actuated Green, G (s)	21.1	21.1			21.1		16.9	75.8			7.1	66.0
Effective Green, g (s)	23.1	23.1			23.1		17.9	76.8			8.1	67.0
Actuated g/C Ratio	0.19	0.19			0.19		0.15	0.64			0.07	0.56
Clearance Time (s)	6.0	6.0			6.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	264	314			272		269	3252			122	2809
v/s Ratio Prot		0.02					0.11	c0.46			0.03	c0.49
v/s Ratio Perm	c0.14				0.02							
v/c Ratio	0.72	0.12			0.10		0.74	0.72			0.49	0.88
Uniform Delay, d1	45.5	40.1			39.9		48.8	14.4			54.0	23.0
Progression Factor	1.00	1.00			1.00		0.77	0.51			1.20	0.69
Incremental Delay, d2	9.4	0.2			0.2		7.6	1.1			1.8	2.6
Delay (s)	54.9	40.3			40.0		45.1	8.5			66.8	18.4
Level of Service	D	D			D		D	A			E	B
Approach Delay (s)		48.0			40.0			11.3				19.5
Approach LOS		D			D			B				B

Intersection Summary		
HCM Average Control Delay	17.7	HCM Level of Service B
HCM Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	78.1%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

Movement	SBR
Line Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	328
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	338
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

4: Washington Ave. & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	12	13	12	12	16	12	12	12	12	12	12	10	
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0	4.0			4.0	
Lane Util. Factor	0.95	0.91	0.95		1.00			0.97	0.91			1.00	
Flt	1.00	1.00	0.85		0.95			1.00	1.00			1.00	
Flt Protected	0.95	0.95	1.00		0.99			0.95	1.00			0.95	
Satd. Flow (prot)	1665	1657	1504		2019			3433	5082			1652	
Flt Permitted	0.95	0.95	1.00		0.99			0.95	1.00			0.95	
Satd. Flow (perm)	1665	1657	1504		2019			3433	5082			1652	
Volume (vph)	522	4	416	4	4	5	2	352	1608	3	6	0	
Peak-hour factor, PHF	0.96	0.25	0.92	0.50	0.33	0.42	0.91	0.91	0.85	0.38	0.75	0.92	
Adj. Flow (vph)	544	16	452	8	12	12	2	387	1892	8	8	0	
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	0	
Lane Group Flow (vph)	273	287	452	0	21	0	0	389	1900	0	0	8	
Heavy Vehicles (%)	3%	2%	2%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Turn Type	Split		Free	Split			Prot	Prot			Prot	Prot	
Protected Phases	8	8		4	4		1	1	6		5	5	
Permitted Phases			Free										
Actuated Green, G (s)	22.5	22.5	120.0		4.2			13.0	66.1			5.2	
Effective Green, g (s)	24.5	24.5	120.0		6.2			14.0	67.1			6.2	
Actuated g/C Ratio	0.20	0.20	1.00		0.05			0.12	0.56			0.05	
Clearance Time (s)	6.0	6.0			6.0			5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0			3.0	
Lane Grp Cap (vph)	340	338	1504		104			401	2842			85	
v/s Ratio Prot	0.16	c0.17			0.01			c0.11	0.37			0.00	
v/s Ratio Perm			0.30										
v/c Ratio	0.80	0.85	0.30		0.20			0.97	0.67			0.09	
Uniform Delay, d1	45.5	46.0	0.0		54.5			52.8	18.6			54.2	
Progression Factor	1.00	1.00	1.00		1.00			0.75	0.37			1.45	
Incremental Delay, d2	12.8	17.7	0.5		0.9			31.7	1.0			0.3	
Delay (s)	58.3	63.7	0.5		55.5			71.5	7.9			78.9	
Level of Service	E	E	A		E			E	A			E	
Approach Delay (s)		34.0			55.5				18.8				
Approach LOS		C			E				B				
Intersection Summary													
HCM Average Control Delay			22.9									HCM Level of Service	C
HCM Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			93.9%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

4: Washington Ave. & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1900	1900
Lane Width	13	12
Total Lost time (s)	4.0	4.0
Lane Util. Factor	*1.00	1.00
Flt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3850	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3850	1583
Volume (vph)	1750	441
Peak-hour factor, PHF	0.92	0.90
Adj. Flow (vph)	1902	490
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1902	490
Heavy Vehicles (%)	2%	2%
Turn Type		Free
Protected Phases	2	
Permitted Phases		Free
Actuated Green, G (s)	58.3	120.0
Effective Green, g (s)	59.3	120.0
Actuated g/C Ratio	0.49	1.00
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1903	1583
v/s Ratio Prot	c0.49	
v/s Ratio Perm		c0.31
v/c Ratio	1.00	0.31
Uniform Delay, d1	30.3	0.0
Progression Factor	0.38	1.00
Incremental Delay, d2	15.4	0.3
Delay (s)	27.1	0.3
Level of Service	C	A
Approach Delay (s)	21.8	
Approach LOS	C	

Intersection Summary

5: I-95 NB Off Ramp & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↕↕		↕					↕↕↕			↕	↕↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.91			1.00	*1.00
Frt	1.00		0.85					1.00			1.00	1.00
Flt Protected	0.95		1.00					1.00			0.95	1.00
Satd. Flow (prot)	3433		1568					5085			1805	5644
Flt Permitted	0.95		1.00					1.00			0.95	1.00
Satd. Flow (perm)	3433		1568					5085			1805	5644
Volume (vph)	404	0	349	0	0	0	0	1526	0	24	0	2149
Peak-hour factor, PHF	0.76	0.92	0.72	0.92	0.92	0.92	0.92	0.92	0.92	0.26	0.26	0.96
Adj. Flow (vph)	532	0	485	0	0	0	0	1659	0	92	0	2239
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	532	0	485	0	0	0	0	1659	0	0	92	2239
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	0%	0%	1%
Turn Type	Prot		Free							Prot	Prot	
Protected Phases	3							6		5	5	2
Permitted Phases			Free									
Actuated Green, G (s)	23.1		120.0					61.4			19.5	85.9
Effective Green, g (s)	25.1		120.0					62.4			20.5	86.9
Actuated g/C Ratio	0.21		1.00					0.52			0.17	0.72
Clearance Time (s)	6.0							5.0			5.0	5.0
Vehicle Extension (s)	3.0							3.0			3.0	3.0
Lane Grp Cap (vph)	718		1568					2644			308	4087
v/s Ratio Prot	c0.15							c0.33			0.05	c0.40
v/s Ratio Perm			0.31									
v/c Ratio	0.74		0.31					0.63			0.30	0.55
Uniform Delay, d1	44.4		0.0					20.5			43.5	7.6
Progression Factor	1.00		1.00					0.24			0.64	0.17
Incremental Delay, d2	4.1		0.5					0.7			0.3	0.3
Delay (s)	48.5		0.5					5.6			28.1	1.6
Level of Service	D		A					A			C	A
Approach Delay (s)		25.6			0.0			5.6				2.6
Approach LOS		C			A			A				A

Intersection Summary		
HCM Average Control Delay	8.3	HCM Level of Service A
HCM Volume to Capacity ratio	0.63	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	59.7%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	0
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

6: Reed St. & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	13	12	10	10	11	12	10	10
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0			4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95			1.00	0.91			1.00
Fr _t	1.00	1.00	0.85	1.00	0.91			1.00	1.00			1.00
Fl _t Protected	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1625	1659	1561	1681	1694			1636	4899			1652
Fl _t Permitted	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1625	1659	1561	1681	1694			1636	4899			1652
Volume (vph)	189	35	158	37	26	53	18	144	1283	20	2	119
Peak-hour factor, PHF	0.87	0.83	1.00	0.70	0.50	0.65	0.92	0.92	0.80	0.47	0.69	0.69
Adj. Flow (vph)	217	42	158	53	52	82	20	157	1604	43	3	172
RTOR Reduction (vph)	0	0	139	0	47	0	0	0	3	0	0	0
Lane Group Flow (vph)	125	134	19	53	87	0	0	177	1644	0	0	175
Heavy Vehicles (%)	2%	1%	0%	2%	0%	0%	3%	3%	2%	0%	2%	2%
Turn Type	Split		Prot	Split			Prot	Prot			Prot	Prot
Protected Phases	3	3	3	7	7		1	1	6		5	5
Permitted Phases												
Actuated Green, G (s)	12.2	12.2	12.2	6.9	6.9			15.6	48.3			30.6
Effective Green, g (s)	14.2	14.2	14.2	8.9	8.9			16.6	49.3			31.6
Actuated g/C Ratio	0.12	0.12	0.12	0.07	0.07			0.14	0.41			0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	192	196	185	125	126			226	2013			435
v/s Ratio Prot	0.08	c0.08	0.01	0.03	c0.05			0.11	c0.34			0.11
v/s Ratio Perm												
v/c Ratio	0.65	0.68	0.10	0.42	0.69			0.78	0.82			0.40
Uniform Delay, d ₁	50.5	50.7	47.2	53.1	54.2			50.0	31.3			36.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.24	1.15			0.62
Incremental Delay, d ₂	7.7	9.5	0.2	2.3	14.5			15.2	3.6			0.5
Delay (s)	58.2	60.2	47.4	55.4	68.7			77.4	39.8			23.1
Level of Service	E	E	D	E	E			E	D			C
Approach Delay (s)		54.8			65.0				43.4			
Approach LOS		D			E				D			
Intersection Summary												
HCM Average Control Delay			41.3			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			83.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBT	SBR
Lane Configurations	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900
Lane Width	10	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.91	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	4672	
Flt Permitted	1.00	
Satd. Flow (perm)	4672	
Volume (vph)	2168	226
Peak-hour factor, PHF	0.94	0.78
Adj. Flow (vph)	2306	290
RTOR Reduction (vph)	13	0
Lane Group Flow (vph)	2583	0
Heavy Vehicles (%)	2%	1%
Turn Type		
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	63.3	
Effective Green, g (s)	64.3	
Actuated g/C Ratio	0.54	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2503	
v/s Ratio Prot	0.55	
v/s Ratio Perm		
v/c Ratio	1.03	
Uniform Delay, d1	27.9	
Progression Factor	0.40	
Incremental Delay, d2	25.8	
Delay (s)	37.1	
Level of Service	D	
Approach Delay (s)	36.2	
Approach LOS	D	
Intersection Summary		

7: Dickinson St & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations						TT		TTT		TT	TT	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0		4.0		4.0	4.0	
Lane Util. Factor						0.88		0.91		0.97	0.95	
Frt						0.85		0.99		1.00	1.00	
Flt Protected						1.00		1.00		0.95	1.00	
Satd. Flow (prot)						2787		5056		3433	3539	
Flt Permitted						1.00		1.00		0.95	1.00	
Satd. Flow (perm)						2787		5056		3433	3539	
Volume (vph)	0	0	0	0	0	104	0	1361	60	295	2085	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.87	0.85	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	113	0	1601	65	321	2266	0
RTOR Reduction (vph)	0	0	0	0	0	70	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	43	0	1664	0	321	2266	0
Turn Type						Over				Prot		
Protected Phases						1		2		1	2	
Permitted Phases												
Actuated Green, G (s)						16.5		92.5		16.5	92.5	
Effective Green, g (s)						18.5		93.5		18.5	93.5	
Actuated g/C Ratio						0.15		0.78		0.15	0.78	
Clearance Time (s)						6.0		5.0		6.0	5.0	
Vehicle Extension (s)						3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)						430		3939		529	2757	
v/s Ratio Prot						0.02		0.33		c0.09	c0.64	
v/s Ratio Perm												
v/c Ratio						0.10		0.42		0.61	0.82	
Uniform Delay, d1						43.6		4.4		47.4	8.1	
Progression Factor						1.00		0.17		0.95	0.92	
Incremental Delay, d2						0.1		0.3		0.6	0.9	
Delay (s)						43.7		1.1		45.5	8.4	
Level of Service						D		A		D	A	
Approach Delay (s)		0.0			43.7			1.1			13.0	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

8: Tasker St. Ext. & Chris Columbus Bl



















Phase I
Saturday Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔		↑↑↑			↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Volume (vph)	255	0	1421	0	0	2085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	0	1545	0	0	2266
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	277	0	1545	0	0	2266
Turn Type						
Protected Phases	1		2			2
Permitted Phases						
Actuated Green, G (s)	16.5		92.5			92.5
Effective Green, g (s)	18.5		93.5			93.5
Actuated g/C Ratio	0.15		0.78			0.78
Clearance Time (s)	6.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	529		3962			3962
v/s Ratio Prot	c0.08		0.30			c0.45
v/s Ratio Perm						
v/c Ratio	0.52		0.39			0.57
Uniform Delay, d1	46.7		4.2			5.3
Progression Factor	1.00		0.61			0.15
Incremental Delay, d2	0.9		0.3			0.3
Delay (s)	47.6		2.8			1.1
Level of Service	D		A			A
Approach Delay (s)	47.6		2.8			1.1
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			4.9		HCM Level of Service	A
HCM Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			54.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

9: Tasker St & Chris Columbus Bl

Saturday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0				4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95				0.88	1.00	0.91		1.00	0.95	
Frt		0.94				0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3288				2682	1787	4996		1805	3525	
Flt Permitted		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3288				2682	1787	4996		1805	3525	
Volume (vph)	91	108	120	0	0	164	31	1168	119	98	2047	194
Peak-hour factor, PHF	0.91	0.83	0.78	0.61	0.77	0.94	0.75	0.88	0.58	0.92	0.94	0.82
Adj. Flow (vph)	100	130	154	0	0	174	41	1327	205	107	2178	237
RTOR Reduction (vph)	0	69	0	0	0	157	0	16	0	0	7	0
Lane Group Flow (vph)	0	315	0	0	0	17	41	1516	0	107	2408	0
Heavy Vehicles (%)	1%	0%	4%	2%	3%	6%	1%	2%	0%	0%	1%	0%
Turn Type	Split					Over			Prot		Prot	
Protected Phases	4	4				1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		14.2				10.8	4.1	79.0		10.8	85.7	
Effective Green, g (s)		16.2				11.8	5.1	80.0		11.8	86.7	
Actuated g/C Ratio		0.13				0.10	0.04	0.67		0.10	0.72	
Clearance Time (s)		6.0				5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		444				264	76	3331		177	2547	
v/s Ratio Prot		c0.10				0.01	0.02	0.30		c0.06	c0.68	
v/s Ratio Perm												
v/c Ratio		0.71				0.06	0.54	0.46		0.60	0.95	
Uniform Delay, d1		49.6				49.1	56.3	9.6		51.9	14.6	
Progression Factor		1.00				1.00	1.00	1.00		1.06	0.49	
Incremental Delay, d2		5.1				0.1	7.0	0.4		4.8	7.7	
Delay (s)		54.8				49.2	63.3	10.0		59.8	14.8	
Level of Service		D				D	E	B		E	B	
Approach Delay (s)		54.8			49.2			11.4			16.7	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM Average Control Delay			19.3			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			85.6%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

10: Morris St. & Chris Columbus Bl

Phase I
Saturday Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑↑	↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			1.00	0.91	0.91	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			1770	5085	5085	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			1770	5085	5085	1583
Volume (vph)	0	0	140	1318	1679	488
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	152	1433	1825	530
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	152	1433	1825	530
Turn Type			Prot			Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			35.0	120.0	75.0	120.0
Effective Green, g (s)			36.0	120.0	76.0	120.0
Actuated g/C Ratio			0.30	1.00	0.63	1.00
Clearance Time (s)			5.0	5.0	5.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			531	5085	3221	1583
v/s Ratio Prot			0.09	0.28	c0.36	
v/s Ratio Perm						c0.33
v/c Ratio			0.29	0.28	0.57	0.33
Uniform Delay, d1			32.2	0.0	12.6	0.0
Progression Factor			1.00	1.00	0.70	1.00
Incremental Delay, d2			0.3	0.1	0.3	0.2
Delay (s)			32.5	0.1	9.0	0.2
Level of Service			C	A	A	A
Approach Delay (s)	0.0			3.2	7.1	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	5.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

11: Morris St & Water St.

Phase I
Saturday Peak Hour

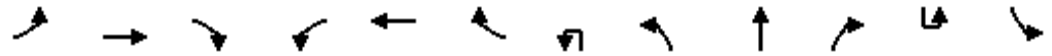


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕				
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	0	558	70	74	680	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	607	76	80	739	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	683	820
Volume Left (vph)	0	80
Volume Right (vph)	76	0
Hadj (s)	-0.03	0.05
Departure Headway (s)	5.7	5.8
Degree Utilization, x	1.09	1.33
Capacity (veh/h)	631	631
Control Delay (s)	85.1	176.3
Approach Delay (s)	85.1	176.3
Approach LOS	F	F

Intersection Summary	
Delay	134.9
HCM Level of Service	F
Intersection Capacity Utilization	80.2%
ICU Level of Service	D
Analysis Period (min)	15

**CAPACITY ANALYSIS - PHASE II WITH DOCKSIDE RESIDENCES AND
DEPARTMENT OF STREETS SUGGESTED IMPROVEMENTS**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations					↕↕			↕	↕↕↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)					4.0			4.0	4.0			4.0	
Lane Util. Factor					0.95			1.00	0.91			1.00	
Frt					0.95			1.00	1.00			1.00	
Flt Protected					0.98			0.95	1.00			0.95	
Satd. Flow (prot)					3276			1770	5075			1770	
Flt Permitted					0.98			0.95	1.00			0.95	
Satd. Flow (perm)					3276			1770	5075			1770	
Volume (vph)	0	0	0	10	5	8	4	385	1689	24	5	17	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	11	5	9	4	418	1836	26	5	18	
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	1	0	0	0	
Lane Group Flow (vph)	0	0	0	0	16	0	0	422	1861	0	0	23	
Turn Type				Split			Prot	Prot			Prot	Prot	
Protected Phases				8	8		1	1	6		5	5	
Permitted Phases													
Actuated Green, G (s)					2.8			32.2	79.2			2.0	
Effective Green, g (s)					4.8			33.2	80.2			3.0	
Actuated g/C Ratio					0.05			0.33	0.80			0.03	
Clearance Time (s)					6.0			5.0	5.0			5.0	
Vehicle Extension (s)					3.0			3.0	3.0			3.0	
Lane Grp Cap (vph)					157			588	4070			53	
v/s Ratio Prot					c0.01			c0.24	0.37			0.01	
v/s Ratio Perm													
v/c Ratio					0.10			0.72	0.46			0.43	
Uniform Delay, d1					45.5			29.3	3.1			47.7	
Progression Factor					1.00			0.47	0.12			1.00	
Incremental Delay, d2					0.3			2.5	0.2			5.6	
Delay (s)					45.8			16.3	0.6			53.3	
Level of Service					D			B	A			D	
Approach Delay (s)		0.0			45.8				3.5				
Approach LOS		A			D				A				
Intersection Summary													
HCM Average Control Delay			11.1									HCM Level of Service	B
HCM Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			67.9%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

1: I-95 NB On Ramp & Chris Columbus Blvd.



Movement	SBT	SBR
Lane Configurations	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	
Lane Util. Factor	0.91	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	5019	
Flt Permitted	1.00	
Satd. Flow (perm)	5019	
Volume (vph)	1422	136
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1546	148
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	1684	0
Turn Type		
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	49.0	
Effective Green, g (s)	50.0	
Actuated g/C Ratio	0.50	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2510	
v/s Ratio Prot	0.34	
v/s Ratio Perm		
v/c Ratio	0.67	
Uniform Delay, d1	18.8	
Progression Factor	1.00	
Incremental Delay, d2	1.4	
Delay (s)	20.3	
Level of Service	C	
Approach Delay (s)	20.7	
Approach LOS	C	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↖	↖	↖↖		↖↖		↖↖	↖↖↖			↖	↖↖↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88		0.95		0.97	0.91			1.00	0.91
Frt	1.00	1.00	0.85		0.96		1.00	1.00			1.00	0.99
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1700	2787		3320		3367	4979			1763	4964
Flt Permitted	0.95	0.96	1.00		0.98		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1700	2787		3320		3367	4979			1763	4964
Volume (vph)	143	17	794	19	11	11	485	1922	31	11	17	1294
Peak-hour factor, PHF	0.81	0.92	0.92	0.92	0.92	0.92	0.80	0.76	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	18	863	21	12	12	606	2529	34	12	18	1407
RTOR Reduction (vph)	0	0	424	0	11	0	0	1	0	0	0	12
Lane Group Flow (vph)	95	100	439	0	34	0	606	2562	0	0	30	1543
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	2%	3%	2%	3%
Turn Type	Split		pt+ov	Split			Prot			Prot	Prot	
Protected Phases	4	4	4 1	8	8		1	6		5	5	2
Permitted Phases												
Actuated Green, G (s)	13.0	13.0	38.5		4.2		25.5	56.8			3.0	33.3
Effective Green, g (s)	15.0	15.0	42.5		6.2		27.5	58.8			4.0	35.3
Actuated g/C Ratio	0.15	0.15	0.42		0.06		0.28	0.59			0.04	0.35
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0			5.0	6.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	252	255	1184		206		926	2928			71	1752
v/s Ratio Prot	0.06	c0.06	0.16		c0.01		0.18	c0.51			0.02	c0.31
v/s Ratio Perm												
v/c Ratio	0.38	0.39	0.37		0.16		0.65	0.88			0.42	0.88
Uniform Delay, d1	38.3	38.4	19.6		44.4		32.0	17.5			46.9	30.4
Progression Factor	1.00	1.00	1.00		1.00		0.99	0.57			0.53	0.49
Incremental Delay, d2	0.9	1.0	0.2		0.4		1.4	3.3			3.3	5.6
Delay (s)	39.2	39.4	19.8		44.8		33.2	13.3			27.9	20.5
Level of Service	D	D	B		D		C	B			C	C
Approach Delay (s)		23.4			44.8			17.1				20.6
Approach LOS		C			D			B				C
























Intersection Summary

HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	114
Peak-hour factor, PHF	0.77
Adj. Flow (vph)	148
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	3%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583			1787		1770	5081		1770	4991	
Flt Permitted	0.75	1.00			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1388	1583			1504		1770	5081		1770	4991	
Volume (vph)	258	0	96	15	3	0	189	2154	11	2	1861	262
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	280	0	104	16	3	0	205	2341	12	2	2023	285
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	19	0
Lane Group Flow (vph)	280	25	0	0	19	0	205	2353	0	2	2289	0
Turn Type	Perm		Perm			Prot			Prot			
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Actuated Green, G (s)	22.1	22.1			22.1		16.7	60.5		1.4	45.2	
Effective Green, g (s)	24.1	24.1			24.1		17.7	61.5		2.4	46.2	
Actuated g/C Ratio	0.24	0.24			0.24		0.18	0.62		0.02	0.46	
Clearance Time (s)	6.0	6.0			6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	335	382			362		313	3125		42	2306	
v/s Ratio Prot		0.02					0.12	c0.46		0.00	c0.46	
v/s Ratio Perm	c0.20				0.01							
v/c Ratio	0.84	0.07			0.05		0.65	0.75		0.05	0.99	
Uniform Delay, d1	36.1	29.3			29.2		38.3	13.8		47.7	26.7	
Progression Factor	1.00	1.00			1.00		0.67	0.22		1.43	0.47	
Incremental Delay, d2	16.3	0.1			0.1		2.6	0.9		0.3	14.1	
Delay (s)	52.4	29.3			29.2		28.3	4.0		68.3	26.7	
Level of Service	D	C			C		C	A		E	C	
Approach Delay (s)		46.1			29.2			5.9			26.7	
Approach LOS		D			C			A			C	
Intersection Summary												
HCM Average Control Delay			18.0				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			78.1%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

4: Washington Ave. & Chris Columbus Blvd.

Friday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT		
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	12	13	12	12	16	12	12	12	12	12	10	13		
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0	4.0		4.0	4.0		
Lane Util. Factor	0.95	0.91	0.95		1.00			0.97	0.91		1.00	0.95		
Flt	1.00	1.00	0.85		0.98			1.00	1.00		1.00	1.00		
Flt Protected	0.95	0.95	1.00		0.96			0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1665	1648	1504		2030			3433	5084		1652	3657		
Flt Permitted	0.95	0.95	1.00		0.96			0.95	1.00		0.95	1.00		
Satd. Flow (perm)	1665	1648	1504		2030			3433	5084		1652	3657		
Volume (vph)	626	0	347	20	2	4	21	303	1722	4	3	1179		
Peak-hour factor, PHF	0.80	0.92	0.92	0.69	0.69	0.69	0.92	0.92	0.92	0.92	0.89	0.89		
Adj. Flow (vph)	782	0	377	29	3	6	23	329	1872	4	3	1325		
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0		
Lane Group Flow (vph)	391	391	377	0	32	0	0	352	1876	0	3	1325		
Heavy Vehicles (%)	3%	2%	2%	0%	0%	0%	2%	2%	2%	2%	2%	2%		
Turn Type	Split		Free	Split			Prot	Prot			Prot			
Protected Phases	8	8		4	4		1	1	6		5	2		
Permitted Phases			Free											
Actuated Green, G (s)	25.1	25.1	100.0		4.2			12.0	41.7		7.0	36.7		
Effective Green, g (s)	27.1	27.1	100.0		6.2			13.0	42.7		8.0	37.7		
Actuated g/C Ratio	0.27	0.27	1.00		0.06			0.13	0.43		0.08	0.38		
Clearance Time (s)	6.0	6.0			6.0			5.0	5.0		5.0	5.0		
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	451	447	1504		126			446	2171		132	1379		
v/s Ratio Prot	0.23	c0.24			0.02			0.10	c0.37		0.00	c0.36		
v/s Ratio Perm			0.25											
v/c Ratio	0.87	0.87	0.25		0.26			0.79	0.86		0.02	0.96		
Uniform Delay, d1	34.7	34.8	0.0		44.7			42.2	26.0		42.4	30.4		
Progression Factor	1.00	1.00	1.00		1.00			0.90	0.79		0.51	0.33		
Incremental Delay, d2	15.9	17.1	0.4		1.1			7.9	4.3		0.0	10.4		
Delay (s)	50.7	51.9	0.4		45.8			45.7	24.9		21.8	20.5		
Level of Service	D	D	A		D			D	C		C	C		
Approach Delay (s)		34.7			45.8				28.2			12.5		
Approach LOS		C			D				C			B		
Intersection Summary														
HCM Average Control Delay			23.4									HCM Level of Service	C	
HCM Volume to Capacity ratio			0.89											
Actuated Cycle Length (s)			100.0						12.0					
Intersection Capacity Utilization			75.5%										ICU Level of Service	D
Analysis Period (min)			15											
c Critical Lane Group														

4: Washington Ave. & Chris Columbus Blvd.



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	807
Peak-hour factor, PHF	0.89
Adj. Flow (vph)	907
RTOR Reduction (vph)	0
Lane Group Flow (vph)	907
Heavy Vehicles (%)	2%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	100.0
Effective Green, g (s)	100.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.57
v/c Ratio	0.57
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.8
Delay (s)	0.8
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↔↔		↔					↔↔↔			↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.91			1.00	0.91
Frt	1.00		0.85					1.00			1.00	1.00
Flt Protected	0.95		1.00					1.00			0.95	1.00
Satd. Flow (prot)	3433		1583					5085			1805	5036
Flt Permitted	0.95		1.00					1.00			0.95	1.00
Satd. Flow (perm)	3433		1583					5085			1805	5036
Volume (vph)	440	0	358	0	0	0	0	1570	0	8	0	1545
Peak-hour factor, PHF	0.94	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.44	0.92	0.97
Adj. Flow (vph)	468	0	377	0	0	0	0	1707	0	18	0	1593
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	468	0	377	0	0	0	0	1707	0	0	18	1593
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	3%
Turn Type	Prot		Free							Prot	Prot	
Protected Phases	3							6		5	5	2
Permitted Phases			Free									
Actuated Green, G (s)	18.4		100.0					64.0			1.6	70.6
Effective Green, g (s)	20.4		100.0					65.0			2.6	71.6
Actuated g/C Ratio	0.20		1.00					0.65			0.03	0.72
Clearance Time (s)	6.0							5.0			5.0	5.0
Vehicle Extension (s)	3.0							3.0			3.0	3.0
Lane Grp Cap (vph)	700		1583					3305			47	3606
v/s Ratio Prot	c0.14							c0.34			0.01	c0.32
v/s Ratio Perm			0.24									
v/c Ratio	0.67		0.24					0.52			0.38	0.44
Uniform Delay, d1	36.7		0.0					9.2			47.9	5.9
Progression Factor	1.00		1.00					0.51			1.29	0.29
Incremental Delay, d2	2.4		0.4					0.4			3.3	0.3
Delay (s)	39.1		0.4					5.2			65.3	1.9
Level of Service	D		A					A			E	A
Approach Delay (s)		21.8			0.0			5.2				2.7
Approach LOS		C			A			A				A

Intersection Summary






















HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

5: I-95 NB Off Ramp & Chris Columbus Blvd.



Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	0
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	13	12	12	13	12	10	10	11	12	10	10
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0			4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95			1.00	0.91			1.00
Flt	1.00	1.00	0.85	1.00	0.92			1.00	1.00			1.00
Flt Protected	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1793	1768	1583	1698	1693			1624	4899			1620
Flt Permitted	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1793	1768	1583	1698	1693			1624	4899			1620
Volume (vph)	224	41	132	45	39	48	19	141	1287	18	12	84
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.75	0.75	0.80	0.47	0.92	0.87
Adj. Flow (vph)	243	45	143	54	46	57	25	188	1609	38	13	97
RTOR Reduction (vph)	0	0	126	0	46	0	0	0	2	0	0	0
Lane Group Flow (vph)	143	145	17	54	57	0	0	213	1645	0	0	110
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	4%	2%	2%	4%	4%
Turn Type	Split		Prot	Split			Prot	Prot			Prot	Prot
Protected Phases	3	3	3	7	7		1	1	6		5	5
Permitted Phases												
Actuated Green, G (s)	10.0	10.0	10.0	8.0	8.0			15.2	49.5			10.5
Effective Green, g (s)	12.0	12.0	12.0	10.0	10.0			16.2	50.5			11.5
Actuated g/C Ratio	0.12	0.12	0.12	0.10	0.10			0.16	0.50			0.12
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	215	212	190	170	169			263	2474			186
v/s Ratio Prot	0.08	c0.08	0.01	0.03	c0.03			c0.13	0.34			0.07
v/s Ratio Perm												
v/c Ratio	0.67	0.68	0.09	0.32	0.34			0.81	0.66			0.59
Uniform Delay, d1	42.1	42.2	39.1	41.8	41.9			40.4	18.4			42.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			0.66	0.31			1.33
Incremental Delay, d2	7.5	8.8	0.2	1.1	1.2			14.6	1.2			4.7
Delay (s)	49.6	51.0	39.4	42.9	43.1			41.3	6.9			60.3
Level of Service	D	D	D	D	D			D	A			E
Approach Delay (s)		46.7			43.0				10.9			
Approach LOS		D			D				B			
Intersection Summary												
HCM Average Control Delay			17.7			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			74.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

6: Reed St. & Chris Columbus Blvd.
























Movement	SBT	SBR
Lane Configurations	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900
Lane Width	10	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.91	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	4615	
Flt Permitted	1.00	
Satd. Flow (perm)	4615	
Volume (vph)	1579	227
Peak-hour factor, PHF	0.97	0.80
Adj. Flow (vph)	1628	284
RTOR Reduction (vph)	23	0
Lane Group Flow (vph)	1889	0
Heavy Vehicles (%)	3%	0%
Turn Type		
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	44.8	
Effective Green, g (s)	45.8	
Actuated g/C Ratio	0.46	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2114	
v/s Ratio Prot	0.41	
v/s Ratio Perm		
v/c Ratio	0.89	
Uniform Delay, d1	24.9	
Progression Factor	0.29	
Incremental Delay, d2	5.9	
Delay (s)	13.3	
Level of Service	B	
Approach Delay (s)	15.8	
Approach LOS	B	

Intersection Summary

7: Dickinson St. & Chris Columbus Blvd.



















Friday Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0			4.0		4.0		4.0	4.0		
Lane Util. Factor		0.91	0.91			0.88		0.91		0.97	0.95		
Frt		0.95	0.85			0.85		1.00		1.00	1.00		
Flt Protected		0.99	1.00			1.00		1.00		0.95	1.00		
Satd. Flow (prot)		3199	1441			2787		4964		3433	3530		
Flt Permitted		0.99	1.00			1.00		1.00		0.95	1.00		
Satd. Flow (perm)		3199	1441			2787		4964		3433	3530		
Volume (vph)	34	172	306	0	0	67	0	1362	50	93	1655	28	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.75	0.82	0.92	0.92	0.84	0.84	
Adj. Flow (vph)	37	187	333	0	0	73	0	1661	54	101	1970	33	
RTOR Reduction (vph)	0	61	171	0	0	64	0	3	0	0	1	0	
Lane Group Flow (vph)	0	279	46	0	0	9	0	1712	0	101	2002	0	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%	
Turn Type	Split		Perm			Over					Prot		
Protected Phases	4	4				1		2			1	2	
Permitted Phases			4										
Actuated Green, G (s)		13.5	13.5			10.4		59.1		10.4	59.1		
Effective Green, g (s)		15.5	15.5			12.4		60.1		12.4	60.1		
Actuated g/C Ratio		0.16	0.16			0.12		0.60		0.12	0.60		
Clearance Time (s)		6.0	6.0			6.0		5.0		6.0	5.0		
Vehicle Extension (s)		3.0	3.0			3.0		3.0		3.0	3.0		
Lane Grp Cap (vph)		496	223			346		2983		426	2122		
v/s Ratio Prot		c0.09				0.00		0.34		c0.03	c0.57		
v/s Ratio Perm			0.03										
v/c Ratio		0.56	0.21			0.03		0.57		0.24	0.94		
Uniform Delay, d1		39.1	36.9			38.5		12.2		39.5	18.4		
Progression Factor		1.00	1.00			1.00		0.09		1.27	0.27		
Incremental Delay, d2		1.5	0.5			0.0		0.7		0.2	7.4		
Delay (s)		40.6	37.4			38.5		1.8		50.6	12.4		
Level of Service		D	D			D		A		D	B		
Approach Delay (s)		39.3			38.5			1.8			14.2		
Approach LOS		D			D			A			B		
Intersection Summary													
HCM Average Control Delay			13.0			HCM Level of Service				B			
HCM Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization			65.9%			ICU Level of Service				C			
Analysis Period (min)			15										
c Critical Lane Group													

8: Tasker St. Ext. & Chris Columbus Blvd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔		↑↑↑			↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Volume (vph)	177	0	1412	0	0	1961
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	192	0	1535	0	0	2132
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	192	0	1535	0	0	2132
Turn Type						
Protected Phases	1		2			2
Permitted Phases						
Actuated Green, G (s)	10.4		59.1			59.1
Effective Green, g (s)	12.4		60.1			60.1
Actuated g/C Ratio	0.12		0.60			0.60
Clearance Time (s)	6.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	426		3056			3056
v/s Ratio Prot	c0.06		0.30			c0.42
v/s Ratio Perm						
v/c Ratio	0.45		0.50			0.70
Uniform Delay, d1	40.6		11.4			13.7
Progression Factor	1.00		0.16			0.29
Incremental Delay, d2	0.8		0.5			0.6
Delay (s)	41.4		2.3			4.6
Level of Service	D		A			A
Approach Delay (s)	41.4		2.3			4.6
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			5.5		HCM Level of Service	A
HCM Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	27.5
Intersection Capacity Utilization			50.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

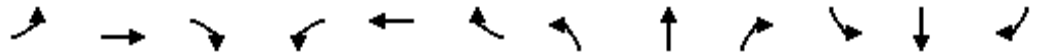
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0				4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95				0.88	1.00	0.91		1.00	0.95	
Frt		0.94				0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3274				2787	1770	5027		1770	3494	
Flt Permitted		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3274				2787	1770	5027		1770	3494	
Volume (vph)	82	82	113	0	0	122	28	1201	99	93	1788	165
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99
Adj. Flow (vph)	92	92	127	0	0	133	30	1305	108	101	1806	167
RTOR Reduction (vph)	0	95	0	0	0	88	0	10	0	0	7	0
Lane Group Flow (vph)	0	216	0	0	0	45	30	1403	0	101	1966	0
Turn Type	Split					Over	Prot			Prot		
Protected Phases	4	4				1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.3				33.0	3.4	39.7		33.0	69.3	
Effective Green, g (s)		13.3				34.0	4.4	40.7		34.0	70.3	
Actuated g/C Ratio		0.13				0.34	0.04	0.41		0.34	0.70	
Clearance Time (s)		6.0				5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		435				948	78	2046		602	2456	
v/s Ratio Prot		c0.07				0.02	0.02	c0.28		0.06	c0.56	
v/s Ratio Perm												
v/c Ratio		0.50				0.05	0.38	0.69		0.17	0.80	
Uniform Delay, d1		40.2				22.1	46.5	24.4		23.1	10.1	
Progression Factor		1.00				1.00	1.00	1.00		0.68	0.48	
Incremental Delay, d2		0.9				0.0	3.1	1.8		0.1	2.1	
Delay (s)		41.1				22.2	49.5	26.2		15.8	6.9	
Level of Service		D				C	D	C		B	A	
Approach Delay (s)		41.1			22.2			26.7			7.3	
Approach LOS		D			C			C			A	
Intersection Summary												
HCM Average Control Delay			17.5			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			76.3%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

10: Morris St. & Chris Columbus Blvd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↵	↑↑↑	↑↑↑	↵
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			1.00	0.91	0.91	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			1770	5085	5085	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			1770	5085	5085	1583
Volume (vph)	0	0	171	1328	1466	435
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	186	1443	1593	473
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	186	1443	1593	473
Turn Type			Prot			Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			25.0	100.0	65.0	100.0
Effective Green, g (s)			26.0	100.0	66.0	100.0
Actuated g/C Ratio			0.26	1.00	0.66	1.00
Clearance Time (s)			5.0	5.0	5.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			460	5085	3356	1583
v/s Ratio Prot			c0.11	0.28	c0.31	
v/s Ratio Perm						0.30
v/c Ratio			0.40	0.28	0.47	0.30
Uniform Delay, d1			30.6	0.0	8.4	0.0
Progression Factor			1.00	1.00	0.27	1.00
Incremental Delay, d2			0.6	0.1	0.3	0.3
Delay (s)			31.2	0.1	2.6	0.3
Level of Service			C	A	A	A
Approach Delay (s)	0.0			3.7	2.1	
Approach LOS	A			A	A	
Intersection Summary						
HCM Average Control Delay			2.8		HCM Level of Service	A
HCM Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			56.7%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

11: Morris St. & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Sign Control		Stop			Stop			Stop			Stop				
Volume (vph)	0	0	0	0	540	66	53	402	0	0	0	0			
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			
Hourly flow rate (vph)	0	0	0	0	587	72	58	437	0	0	0	0			
Direction, Lane #	WB 1	NB 1													
Volume Total (vph)	659	495													
Volume Left (vph)	0	58													
Volume Right (vph)	72	0													
Hadj (s)	-0.03	0.06													
Departure Headway (s)	5.4	5.9													
Degree Utilization, x	0.99	0.81													
Capacity (veh/h)	657	609													
Control Delay (s)	56.2	28.9													
Approach Delay (s)	56.2	28.9													
Approach LOS	F	D													
Intersection Summary															
Delay			44.5												
HCM Level of Service			E												
Intersection Capacity Utilization			63.2%					ICU Level of Service			B				
Analysis Period (min)			15												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations					↕↕			↕	↕↕↕		↕	↕↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0	4.0		4.0	4.0
Lane Util. Factor					0.95			1.00	0.91		1.00	0.91
Frt					0.94			1.00	0.99		1.00	0.99
Flt Protected					0.98			0.95	1.00		0.95	1.00
Satd. Flow (prot)					3318			1788	5036		1736	5046
Flt Permitted					0.98			0.95	1.00		0.95	1.00
Satd. Flow (perm)					3318			1788	5036		1736	5046
Volume (vph)	0	0	0	10	3	9	6	557	1102	61	28	1341
Peak-hour factor, PHF	0.92	0.92	0.92	0.64	0.64	0.64	0.25	0.95	0.82	0.66	0.65	0.85
Adj. Flow (vph)	0	0	0	16	5	14	24	586	1344	92	43	1578
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	6	0	0	6
Lane Group Flow (vph)	0	0	0	0	22	0	0	610	1430	0	43	1671
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	1%	2%	2%	4%	2%
Turn Type				Split				Prot	Prot		Prot	
Protected Phases				8	8		1	1	6		5	2
Permitted Phases												
Actuated Green, G (s)					3.3			42.9	85.9		4.8	47.8
Effective Green, g (s)					5.3			43.9	86.9		5.8	48.8
Actuated g/C Ratio					0.05			0.40	0.79		0.05	0.44
Clearance Time (s)					6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)					3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)					160			714	3978		92	2239
v/s Ratio Prot					c0.01			c0.34	0.28		0.02	c0.33
v/s Ratio Perm												
v/c Ratio					0.14			0.85	0.36		0.47	0.75
Uniform Delay, d1					50.2			30.1	3.4		50.6	25.5
Progression Factor					1.00			0.78	0.34		1.00	1.00
Incremental Delay, d2					0.4			8.7	0.2		3.7	2.3
Delay (s)					50.5			32.3	1.4		54.3	27.8
Level of Service					D			C	A		D	C
Approach Delay (s)		0.0			50.5				10.6			28.4
Approach LOS		A			D				B			C

Intersection Summary

HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

1: I-95 NB On Ramp & Chris Columbus Blvd.



Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	82
Peak-hour factor, PHF	0.83
Adj. Flow (vph)	99
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	0.88		0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85		0.96		1.00	1.00		1.00	0.99	
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1665	1685	2814		3324		3467	5074		1770	5072	
Flt Permitted	0.95	0.96	1.00		0.98		0.95	1.00		0.11	1.00	
Satd. Flow (perm)	1665	1685	2814		3324		3467	5074		209	5072	
Volume (vph)	139	15	725	18	12	11	685	1572	26	15	1235	107
Peak-hour factor, PHF	0.81	0.92	0.90	0.92	0.92	0.92	0.94	0.84	0.92	0.92	0.93	0.89
Adj. Flow (vph)	172	16	806	20	13	12	729	1871	28	16	1328	120
RTOR Reduction (vph)	0	0	309	0	11	0	0	1	0	0	9	0
Lane Group Flow (vph)	91	97	497	0	34	0	729	1898	0	16	1439	0
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	2%	2%	2%	1%	1%
Turn Type	Split		pt+ov	Split			Prot			Perm		
Protected Phases	4	4	4 1	8	8		1	6				2
Permitted Phases										2		
Actuated Green, G (s)	13.0	13.0	48.0		4.3		35.0	74.7		33.7	33.7	
Effective Green, g (s)	15.0	15.0	52.0		6.3		37.0	76.7		35.7	35.7	
Actuated g/C Ratio	0.14	0.14	0.47		0.06		0.34	0.70		0.32	0.32	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	227	230	1330		190		1166	3538		68	1646	
v/s Ratio Prot	0.05	c0.06	0.18		c0.01		c0.21	0.37			c0.28	
v/s Ratio Perm										0.08		
v/c Ratio	0.40	0.42	0.37		0.18		0.63	0.54		0.24	0.87	
Uniform Delay, d1	43.4	43.5	18.6		49.4		30.7	8.1		27.2	35.0	
Progression Factor	1.00	1.00	1.00		1.00		0.85	0.24		0.20	0.43	
Incremental Delay, d2	1.2	1.2	0.2		0.4		0.6	0.4		5.8	5.0	
Delay (s)	44.6	44.8	18.7		49.8		26.7	2.3		11.2	20.0	
Level of Service	D	D	B		D		C	A		B	C	
Approach Delay (s)		23.7			49.8			9.1			19.9	
Approach LOS		C			D			A			B	
Intersection Summary												
HCM Average Control Delay			15.4				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			74.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

3: Christian St. & Chris Columbus Blvd.

Saturday Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91			1.00	0.91
Frt	1.00	0.86			0.98		1.00	1.00			1.00	0.97
Flt Protected	0.95	1.00			0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1628			1774		1805	5081			1805	5005
Flt Permitted	0.74	1.00			0.77		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1374	1628			1409		1805	5081			1805	5005
Volume (vph)	162	2	146	13	2	2	177	2104	10	5	16	1618
Peak-hour factor, PHF	0.82	0.25	0.89	0.60	0.50	0.50	0.87	0.84	0.56	0.62	0.31	0.95
Adj. Flow (vph)	198	8	164	22	4	4	203	2505	18	8	52	1703
RTOR Reduction (vph)	0	132	0	0	3	0	0	1	0	0	0	28
Lane Group Flow (vph)	198	40	0	0	27	0	203	2522	0	0	60	2023
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%	1%
Turn Type	Perm			Perm			Prot			Prot	Prot	
Protected Phases		4			8		1	6		5	5	2
Permitted Phases	4			8								
Actuated Green, G (s)	19.3	19.3			19.3		21.4	68.2			6.5	53.3
Effective Green, g (s)	21.3	21.3			21.3		22.4	69.2			7.5	54.3
Actuated g/C Ratio	0.19	0.19			0.19		0.20	0.63			0.07	0.49
Clearance Time (s)	6.0	6.0			6.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	266	315			273		368	3196			123	2471
v/s Ratio Prot		0.02					0.11	c0.50			0.03	c0.40
v/s Ratio Perm	c0.14				0.02							
v/c Ratio	0.74	0.13			0.10		0.55	0.79			0.49	0.82
Uniform Delay, d1	41.8	36.7			36.5		39.3	15.0			49.4	23.7
Progression Factor	1.00	1.00			1.00		0.61	0.18			1.45	0.34
Incremental Delay, d2	10.7	0.2			0.2		1.2	1.3			2.2	2.3
Delay (s)	52.5	36.8			36.6		25.2	4.0			73.8	10.4
Level of Service	D	D			D		C	A			E	B
Approach Delay (s)		45.2			36.6			5.6				12.2
Approach LOS		D			D			A				B

Intersection Summary		
HCM Average Control Delay	11.2	HCM Level of Service B
HCM Volume to Capacity ratio	0.78	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	70.4%	ICU Level of Service C
Analysis Period (min)	15	





















c Critical Lane Group

3: Christian St. & Chris Columbus Blvd.

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	338
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	348
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

4: Washington Ave. & Chris Columbus Blvd.

Saturday Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	12	13	12	12	16	12	12	12	12	12	12	10	
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0	4.0			4.0	
Lane Util. Factor	0.95	0.91	0.95		1.00			0.97	0.91			1.00	
Flt	1.00	1.00	0.85		0.95			1.00	1.00			1.00	
Flt Protected	0.95	0.95	1.00		0.99			0.95	1.00			0.95	
Satd. Flow (prot)	1665	1657	1504		2019			3433	5082			1652	
Flt Permitted	0.95	0.95	1.00		0.99			0.95	1.00			0.95	
Satd. Flow (perm)	1665	1657	1504		2019			3433	5082			1652	
Volume (vph)	539	4	445	4	4	5	2	372	1742	3	6	0	
Peak-hour factor, PHF	0.96	0.25	0.92	0.50	0.33	0.42	0.91	0.91	0.85	0.38	0.75	0.92	
Adj. Flow (vph)	561	16	484	8	12	12	2	409	2049	8	8	0	
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	0	
Lane Group Flow (vph)	281	296	484	0	21	0	0	411	2057	0	0	8	
Heavy Vehicles (%)	3%	2%	2%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Turn Type	Split		Free	Split			Prot	Prot			Prot	Prot	
Protected Phases	8	8		4	4		1	1	6		5	5	
Permitted Phases			Free										
Actuated Green, G (s)	20.8	20.8	110.0		4.2			14.1	55.1			7.9	
Effective Green, g (s)	22.8	22.8	110.0		6.2			15.1	56.1			8.9	
Actuated g/C Ratio	0.21	0.21	1.00		0.06			0.14	0.51			0.08	
Clearance Time (s)	6.0	6.0			6.0			5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0			3.0	
Lane Grp Cap (vph)	345	343	1504		114			471	2592			134	
v/s Ratio Prot	0.17	c0.18			0.01			c0.12	c0.40			0.00	
v/s Ratio Perm			c0.32										
v/c Ratio	0.81	0.86	0.32		0.18			0.87	0.79			0.06	
Uniform Delay, d1	41.6	42.1	0.0		49.5			46.5	22.2			46.7	
Progression Factor	1.00	1.00	1.00		1.00			0.93	0.46			0.76	
Incremental Delay, d2	13.7	19.5	0.6		0.8			12.0	1.8			0.1	
Delay (s)	55.3	61.6	0.6		50.2			55.2	12.1			35.6	
Level of Service	E	E	A		D			E	B			D	
Approach Delay (s)		32.1			50.2				19.3				
Approach LOS		C			D				B				
Intersection Summary													
HCM Average Control Delay			18.1									HCM Level of Service	B
HCM Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			83.3%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

4: Washington Ave. & Chris Columbus Blvd.



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1900	1900
Lane Width	13	12
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Flt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3657	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3657	1583
Volume (vph)	1316	454
Peak-hour factor, PHF	0.92	0.90
Adj. Flow (vph)	1430	504
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1430	504
Heavy Vehicles (%)	2%	2%
Turn Type		Free
Protected Phases	2	
Permitted Phases		Free
Actuated Green, G (s)	48.9	110.0
Effective Green, g (s)	49.9	110.0
Actuated g/C Ratio	0.45	1.00
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1659	1583
v/s Ratio Prot	0.39	
v/s Ratio Perm		0.32
v/c Ratio	0.86	0.32
Uniform Delay, d1	27.0	0.0
Progression Factor	0.26	1.00
Incremental Delay, d2	4.1	0.3
Delay (s)	11.3	0.3
Level of Service	B	A
Approach Delay (s)	8.5	
Approach LOS	A	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↔↔		↔					↔↔↔			↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.91			1.00	0.91
Frt	1.00		0.85					1.00			1.00	1.00
Flt Protected	0.95		1.00					1.00			0.95	1.00
Satd. Flow (prot)	3433		1568					5085			1805	5136
Flt Permitted	0.95		1.00					1.00			0.95	1.00
Satd. Flow (perm)	3433		1568					5085			1805	5136
Volume (vph)	416	0	410	0	0	0	0	1669	0	25	0	1743
Peak-hour factor, PHF	0.76	0.92	0.72	0.92	0.92	0.92	0.92	0.92	0.92	0.26	0.26	0.96
Adj. Flow (vph)	547	0	569	0	0	0	0	1814	0	96	0	1816
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	547	0	569	0	0	0	0	1814	0	0	96	1816
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	0%	0%	1%
Turn Type	Prot		Free							Prot	Prot	
Protected Phases	3							6		5	5	2
Permitted Phases			Free									
Actuated Green, G (s)	20.0		110.0					54.1			19.9	79.0
Effective Green, g (s)	22.0		110.0					55.1			20.9	80.0
Actuated g/C Ratio	0.20		1.00					0.50			0.19	0.73
Clearance Time (s)	6.0							5.0			5.0	5.0
Vehicle Extension (s)	3.0							3.0			3.0	3.0
Lane Grp Cap (vph)	687		1568					2547			343	3735
v/s Ratio Prot	c0.16							c0.36			0.05	c0.35
v/s Ratio Perm			0.36									
v/c Ratio	0.80		0.36					0.71			0.28	0.49
Uniform Delay, d1	41.9		0.0					21.3			38.1	6.3
Progression Factor	1.00		1.00					0.47			0.45	0.29
Incremental Delay, d2	6.4		0.7					1.2			0.3	0.3
Delay (s)	48.2		0.7					11.1			17.4	2.2
Level of Service	D		A					B			B	A
Approach Delay (s)		24.0			0.0			11.1				2.9
Approach LOS		C			A			B				A

Intersection Summary






















HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

5: I-95 NB Off Ramp & Chris Columbus Blvd.



Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	0
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	13	12	12	13	12	10	10	11	12	10	10
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0			4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95			1.00	0.91			1.00
Flt	1.00	1.00	0.85	1.00	0.90			1.00	1.00			1.00
Flt Protected	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1793	1777	1615	1681	1685			1636	4900			1652
Flt Permitted	0.95	0.97	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1793	1777	1615	1681	1685			1636	4900			1652
Volume (vph)	194	40	163	46	29	68	18	180	1404	20	2	100
Peak-hour factor, PHF	0.87	0.83	1.00	0.70	0.50	0.65	0.92	0.92	0.80	0.47	0.69	0.69
Adj. Flow (vph)	223	48	163	66	58	105	20	196	1755	43	3	145
RTOR Reduction (vph)	0	0	142	0	59	0	0	0	2	0	0	0
Lane Group Flow (vph)	133	138	21	66	104	0	0	216	1796	0	0	148
Heavy Vehicles (%)	2%	1%	0%	2%	0%	0%	3%	3%	2%	0%	2%	2%
Turn Type	Split		Prot	Split			Prot	Prot			Prot	Prot
Protected Phases	3	3	3	7	7		1	1	6		5	5
Permitted Phases												
Actuated Green, G (s)	12.4	12.4	12.4	7.6	7.6			14.0	53.4			14.6
Effective Green, g (s)	14.4	14.4	14.4	9.6	9.6			15.0	54.4			15.6
Actuated g/C Ratio	0.13	0.13	0.13	0.09	0.09			0.14	0.49			0.14
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	235	233	211	147	147			223	2423			234
v/s Ratio Prot	0.07	c0.08	0.01	0.04	c0.06			c0.13	0.37			0.09
v/s Ratio Perm												
v/c Ratio	0.57	0.59	0.10	0.45	0.71			0.97	0.74			0.63
Uniform Delay, d1	44.9	45.0	42.1	47.7	48.8			47.3	22.2			44.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			0.69	0.39			0.62
Incremental Delay, d2	3.1	4.0	0.2	2.2	14.3			46.6	1.8			5.0
Delay (s)	48.0	49.0	42.3	49.9	63.1			79.1	10.4			32.8
Level of Service	D	D	D	D	E			E	B			C
Approach Delay (s)		46.2			59.3				17.8			
Approach LOS		D			E				B			
Intersection Summary												
HCM Average Control Delay			32.4			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			79.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

6: Reed St. & Chris Columbus Blvd.






















Movement	SBT	SBR
Lane Configurations	↑↑↑	↑
Ideal Flow (vphpl)	1900	1900
Lane Width	10	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.91	
Fr _t	0.98	
Fl _t Protected	1.00	
Satd. Flow (prot)	4658	
Fl _t Permitted	1.00	
Satd. Flow (perm)	4658	
Volume (vph)	1835	233
Peak-hour factor, PHF	0.94	0.78
Adj. Flow (vph)	1952	299
RTOR Reduction (vph)	19	0
Lane Group Flow (vph)	2233	0
Heavy Vehicles (%)	2%	1%
Turn Type		
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	54.0	
Effective Green, g (s)	55.0	
Actuated g/C Ratio	0.50	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2329	
v/s Ratio Prot	0.48	
v/s Ratio Perm		
v/c Ratio	0.96	
Uniform Delay, d ₁	26.4	
Progression Factor	1.12	
Incremental Delay, d ₂	10.4	
Delay (s)	40.1	
Level of Service	D	
Approach Delay (s)	39.6	
Approach LOS	D	

Intersection Summary

7: Dickinson St. & Chris Columbus Blvd.

Saturday Peak Hour



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0		4.0		4.0	4.0	
Lane Util. Factor		0.91	0.91			0.88		0.91		0.97	0.95	
Frt		1.00	0.85			0.85		0.99		1.00	1.00	
Flt Protected		1.00	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (prot)		3374	1441			2787		5046		3433	3539	
Flt Permitted		1.00	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (perm)		3374	1441			2787		5046		3433	3539	
Volume (vph)	31	290	280	0	0	145	0	1445	85	238	1824	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.87	0.85	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	315	304	0	0	158	0	1700	92	259	1983	0
RTOR Reduction (vph)	0	0	263	0	0	134	0	4	0	0	0	0
Lane Group Flow (vph)	0	349	41	0	0	24	0	1788	0	259	1983	0
Turn Type	Split		Prot			Over				Prot		
Protected Phases	4	4	4			1		2		1	2	
Permitted Phases												
Actuated Green, G (s)		12.9	12.9			14.7		65.4		14.7	65.4	
Effective Green, g (s)		14.9	14.9			16.7		66.4		16.7	66.4	
Actuated g/C Ratio		0.14	0.14			0.15		0.60		0.15	0.60	
Clearance Time (s)		6.0	6.0			6.0		5.0		6.0	5.0	
Vehicle Extension (s)		3.0	3.0			3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		457	195			423		3046		521	2136	
v/s Ratio Prot		c0.10	0.03			0.01		0.35		c0.08	c0.56	
v/s Ratio Perm												
v/c Ratio		0.76	0.21			0.06		0.59		0.50	0.93	
Uniform Delay, d1		45.9	42.3			39.9		13.4		42.8	19.7	
Progression Factor		1.00	1.00			1.00		0.12		1.27	0.23	
Incremental Delay, d2		7.4	0.5			0.1		0.7		0.3	4.2	
Delay (s)		53.3	42.9			40.0		2.4		54.7	8.7	
Level of Service		D	D			D		A		D	A	
Approach Delay (s)		48.4			40.0			2.4			14.0	
Approach LOS		D			D			A			B	
Intersection Summary												
HCM Average Control Delay			15.2			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			69.0%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

8: Tasker St. Ext. & Chris Columbus Blvd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔		↑↑↑			↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Volume (vph)	312	0	1530	0	0	2104
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	339	0	1663	0	0	2287
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	339	0	1663	0	0	2287
Turn Type						
Protected Phases	1		2			2
Permitted Phases						
Actuated Green, G (s)	14.7		65.4			65.4
Effective Green, g (s)	16.7		66.4			66.4
Actuated g/C Ratio	0.15		0.60			0.60
Clearance Time (s)	6.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	521		3069			3069
v/s Ratio Prot	c0.10		0.33			c0.45
v/s Ratio Perm						
v/c Ratio	0.65		0.54			0.75
Uniform Delay, d1	43.9		12.8			15.7
Progression Factor	1.00		0.74			0.21
Incremental Delay, d2	2.9		0.6			0.7
Delay (s)	46.8		10.0			4.0
Level of Service	D		B			A
Approach Delay (s)	46.8		10.0			4.0
Approach LOS	D		B			A
Intersection Summary						
HCM Average Control Delay			9.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	26.9
Intersection Capacity Utilization			56.2%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

9: Tasker St. & Chris Columbus Blvd.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0				4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95				0.88	1.00	0.91		1.00	0.95	
Frt		0.94				0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3292				2682	1787	4973		1805	3525	
Flt Permitted		0.99				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3292				2682	1787	4973		1805	3525	
Volume (vph)	93	116	124	0	0	211	32	1225	165	79	2137	203
Peak-hour factor, PHF	0.91	0.83	0.78	0.61	0.77	0.94	0.75	0.88	0.58	0.92	0.94	0.82
Adj. Flow (vph)	102	140	159	0	0	224	43	1392	284	86	2273	248
RTOR Reduction (vph)	0	73	0	0	0	153	0	18	0	0	7	0
Lane Group Flow (vph)	0	328	0	0	0	71	43	1658	0	86	2514	0
Heavy Vehicles (%)	1%	0%	4%	2%	3%	6%	1%	2%	0%	0%	1%	0%
Turn Type	Split					Over			Prot		Prot	
Protected Phases	4	4				1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		12.5				9.1	3.0	72.4		9.1	78.5	
Effective Green, g (s)		14.5				10.1	4.0	73.4		10.1	79.5	
Actuated g/C Ratio		0.13				0.09	0.04	0.67		0.09	0.72	
Clearance Time (s)		6.0				5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		434				246	65	3318		166	2548	
v/s Ratio Prot		c0.10				0.03	0.02	c0.33		0.05	c0.71	
v/s Ratio Perm												
v/c Ratio		0.76				0.29	0.66	0.50		0.52	0.99	
Uniform Delay, d1		46.0				46.6	52.3	9.1		47.6	14.7	
Progression Factor		1.00				1.00	1.00	1.00		1.21	0.62	
Incremental Delay, d2		7.3				0.6	22.0	0.5		1.8	11.7	
Delay (s)		53.4				47.2	74.3	9.7		59.2	20.9	
Level of Service		D				D	E	A		E	C	
Approach Delay (s)		53.4			47.2			11.3			22.1	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM Average Control Delay			22.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			82.2%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

10: Morris St. & Chris Columbus Blvd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↙	↑↑↑	↑↑↑	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			1.00	0.91	0.91	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			1770	5085	5085	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			1770	5085	5085	1583
Volume (vph)	0	0	145	1422	1752	509
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	158	1546	1904	553
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	158	1546	1904	553
Turn Type			Prot			Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			35.0	110.0	65.0	110.0
Effective Green, g (s)			36.0	110.0	66.0	110.0
Actuated g/C Ratio			0.33	1.00	0.60	1.00
Clearance Time (s)			5.0	5.0	5.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			579	5085	3051	1583
v/s Ratio Prot			0.09	0.30	c0.37	
v/s Ratio Perm						c0.35
v/c Ratio			0.27	0.30	0.62	0.35
Uniform Delay, d1			27.3	0.0	14.1	0.0
Progression Factor			1.00	1.00	0.38	1.00
Incremental Delay, d2			0.3	0.2	0.3	0.2
Delay (s)			27.6	0.2	5.7	0.2
Level of Service			C	A	A	A
Approach Delay (s)	0.0			2.7	4.5	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

11: Morris St & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations					↕			↕							
Sign Control		Stop			Stop			Stop			Stop				
Volume (vph)	0	0	0	0	576	78	76	701	0	0	0	0			
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			
Hourly flow rate (vph)	0	0	0	0	626	85	83	762	0	0	0	0			
Direction, Lane #	WB 1	NB 1													
Volume Total (vph)	711	845													
Volume Left (vph)	0	83													
Volume Right (vph)	85	0													
Hadj (s)	-0.04	0.05													
Departure Headway (s)	5.7	5.8													
Degree Utilization, x	1.13	1.37													
Capacity (veh/h)	633	622													
Control Delay (s)	100.2	193.1													
Approach Delay (s)	100.2	193.1													
Approach LOS	F	F													
Intersection Summary															
Delay			150.6												
HCM Level of Service			F												
Intersection Capacity Utilization			82.8%					ICU Level of Service			E				
Analysis Period (min)			15												