TAB TWO

EXISTING PEAK HOUR INTERSECTION

LEVEL OF SERVICE ANALYSES

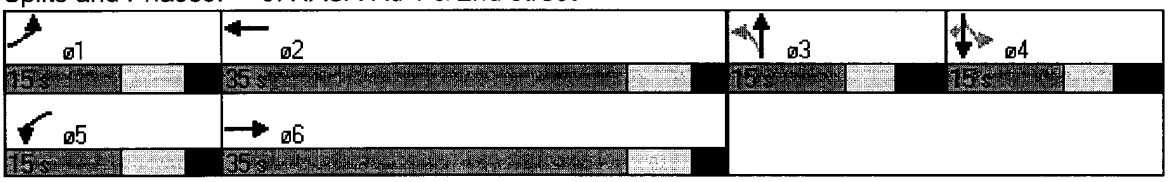
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	290		0	0		0	0		0
Storage Lanes	2		0	1		0	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.86	0.86	1.00	0.86	0.86	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.990			0.990			0.855				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.950	
Satd. Flow (prot)	3433	6344	0	1770	6344	0	3433	1593	0	1681	1681	1583
Flt Permitted	0.950			0.950			0.364			0.717	0.717	
Satd. Flow (perm)	3433	6344	0	1770	6344	0	1315	1593	0	1269	1269	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			21			59				8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			818			498			282	
Travel Time (s)		12.1			18.6			11.3			6.4	
Volume (vph)	60	1252	93	146	607	42	82	2	54	20	0	7
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
Adj. Flow (vph)	65	1361	101	159	660	46	89	2	59	22	0	8
Lane Group Flow (vph)	65	1462	0	159	706	0	89	61	0	11	11	8
Turn Type	Prot			Prot			Perm			Perm		Perm
Protected Phases	1	6		5	2			3			4	
Permitted Phases							3			4		4
Detector Phases	1	6		5	2		3	3		4	4	4
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	32.5		14.0	24.0		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	35.0	0.0	15.0	35.0	0.0	15.0	15.0	0.0	15.0	15.0	15.0
Total Split (%)	18.8%	43.8%	0.0%	18.8%	43.8%	0.0%	18.8%	18.8%	0.0%	18.8%	18.8%	18.8%
Maximum Green (s)	8.0	28.0		8.0	28.0		8.0	8.0		8.0	8.0	8.0
Yellow Time (s)	4.5	4.5		4.5	4.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	2.5	2.5		2.5	2.5		3.5	3.5		3.5	3.5	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	1.5
Recall Mode	None	Max		None	C-Max		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		20.0			12.0		3.0	3.0		3.0	3.0	3.0
Pedestrian Calls (#/hr)		0			0		0	0		0	0	0
Act Effct Green (s)	10.0	42.4		12.2	48.1		10.7	10.7		10.0	10.0	10.0
Actuated g/C Ratio	0.12	0.53		0.15	0.60		0.13	0.13		0.12	0.12	0.12
v/c Ratio	0.15	0.43		0.59	0.18		0.51	0.23		0.07	0.07	0.04
Control Delay	32.2	14.0		56.5	4.0		43.1	12.1		32.2	32.2	18.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	32.2	14.0		56.5	4.0		43.1	12.1		32.2	32.2	18.6
LOS	C	B		E	A		D	B		C	C	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		14.8			13.7			30.5			28.6	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 26 (33%), Referenced to phase 2:WBT, Start of Red
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 15.5 Intersection LOS: B
Intersection Capacity Utilization 46.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: NASA Rd 1 & 2nd street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			0	0	0
Storage Lanes	2			0	2	2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.86	0.86	0.86	0.97	0.88
Frt			0.948			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	6408	6075	0	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	6408	6075	0	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			178			170
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30	30		30	
Link Distance (ft)		818	764		228	
Travel Time (s)		18.6	17.4		5.2	
Volume (vph)	365	1045	664	353	341	156
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	1136	722	384	371	170
Lane Group Flow (vph)	397	1136	1106	0	371	170
Turn Type	Prot					Perm
Protected Phases	1	6	2		4	
Permitted Phases						4
Detector Phases	1	6	2		4	4
Minimum Initial (s)	7.0	15.0	15.0		7.0	7.0
Minimum Split (s)	14.0	23.0	28.0		24.0	24.0
Total Split (s)	26.0	56.0	30.0	0.0	24.0	24.0
Total Split (%)	32.5%	70.0%	37.5%	0.0%	30.0%	30.0%
Maximum Green (s)	19.0	49.0	23.0		17.0	17.0
Yellow Time (s)	4.5	4.5	4.5		3.5	3.5
All-Red Time (s)	2.5	2.5	2.5		3.5	3.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	3.0	3.0		2.0	2.0
Recall Mode	None	None	C-Max		None	None
Walk Time (s)			5.0		5.0	5.0
Flash Dont Walk (s)			16.0		12.0	12.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	16.0	56.2	36.2		15.8	15.8
Actuated g/C Ratio	0.20	0.70	0.45		0.20	0.20
v/c Ratio	0.58	0.25	0.39		0.55	0.25
Control Delay	21.3	10.5	13.4		31.7	5.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.3	10.5	13.4		31.7	5.3
LOS	C	B	B		C	A

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach Delay		13.3	13.4		23.4	
Approach LOS		B	B		C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 4 (5%), Referenced to phase 2:WBT, Start of Red

Natural Cycle: 70

Control Type: Actuated-Coordinated

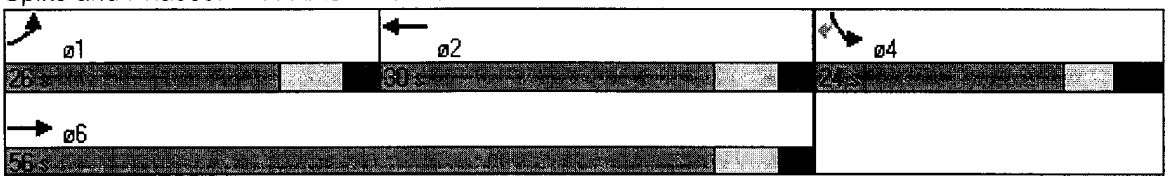
Maximum v/c Ratio: 0.58

Intersection Signal Delay: 15.1 Intersection LOS: B

Intersection Capacity Utilization 45.7% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: NASA Rd 1 & Saturn Ln



Lane Group	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
Storage Length (ft)	300		0	282		0	0		0	0		0
Storage Lanes	2		0	1		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50			
Trailing Detector (ft)	0	0		0	0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.86	0.86	1.00	0.91	1.00	0.95	0.91	0.95	1.00	1.00	1.00
Frt		0.977							0.850			
Flt Protected	0.950			0.950			0.950	0.973				
Satd. Flow (prot)	3433	6260	0	1770	5085	0	1681	1649	1504	0	0	0
Flt Permitted	0.950			0.950			0.950	0.973				
Satd. Flow (perm)	3433	6260	0	1770	5085	0	1681	1649	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92							115			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			488			491			305	
Travel Time (s)		17.4			11.1			11.2			6.9	
Volume (vph)	276	893	164	153	873	0	131	38	106	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
Adj. Flow (vph)	300	971	178	166	949	0	142	41	115	0	0	0
Lane Group Flow (vph)	300	1149	0	166	949	0	91	92	115	0	0	0
Turn Type	Prot			Prot			Perm		Perm			
Protected Phases	1	6		5	2			3				
Permitted Phases							3		3			
Detector Phases	1	6		5	2		3	3	3			
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	7.0	7.0			
Minimum Split (s)	14.0	32.0		14.0	24.0		16.0	16.0	16.0			
Total Split (s)	22.0	32.0	0.0	16.0	26.0	0.0	16.0	16.0	16.0	0.0	0.0	0.0
Total Split (%)	34.4%	50.0%	0.0%	25.0%	40.6%	0.0%	25.0%	25.0%	25.0%	0.0%	0.0%	0.0%
Maximum Green (s)	15.5	25.5		9.5	19.5		9.5	9.5	9.5			
Yellow Time (s)	4.5	4.5		4.5	4.5		3.5	3.5	3.5			
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0			
Recall Mode	None	None		None	C-Max		None	None	None			
Walk Time (s)		5.0			5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.5			11.0		4.5	4.5	4.5			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	12.2	36.1		11.5	31.9		10.6	10.6	10.6			
Actuated g/C Ratio	0.19	0.56		0.18	0.50		0.17	0.17	0.17			
v/c Ratio	0.46	0.32		0.52	0.37		0.33	0.34	0.33			
Control Delay	25.0	9.7		30.1	12.0		26.6	26.9	8.3			
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0			
Total Delay	25.0	9.7		30.1	12.0		26.6	26.9	8.3			
LOS	C	A		C	B		C	C	A			

Lane Group	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
Storage Length (ft)	0		0	0		0	0		0	100		0
Storage Lanes	0		0	0		0	0		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.936			0.990			0.985			0.950	
Flt Protected		0.984			0.994			0.990		0.950		
Satd. Flow (prot)	0	3260	0	0	3483	0	0	3451	0	1770	3362	0
Flt Permitted		0.984			0.994			0.990		0.950		
Satd. Flow (perm)	0	3260	0	0	3483	0	0	3451	0	1770	3362	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			1531			669			498	
Travel Time (s)		3.9			34.8			15.2			11.3	
Volume (vph)	80	57	103	18	133	11	21	73	10	17	59	29
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
Adj. Flow (vph)	87	62	112	20	145	12	23	79	11	18	64	32
Lane Group Flow (vph)	0	261	0	0	177	0	0	113	0	18	96	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 29.6% ICU Level of Service A
Analysis Period (min) 15

Lane Group	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
Storage Length (ft)	0		0	0		0	0		0	100		0
Storage Lanes	0		0	0		0	0		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.898			0.919						0.969	
Flt Protected		0.990						0.990		0.950		
Satd. Flow (prot)	0	3146	0	0	1712	0	0	3504	0	1770	3429	0
Flt Permitted		0.990						0.990		0.950		
Satd. Flow (perm)	0	3146	0	0	1712	0	0	3504	0	1770	3429	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1531			117			717			491	
Travel Time (s)		34.8			2.7			16.3			11.2	
Volume (vph)	18	10	60	0	2	3	59	237	1	27	243	63
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
Adj. Flow (vph)	20	11	65	0	2	3	64	258	1	29	264	68
Lane Group Flow (vph)	0	96	0	0	5	0	0	323	0	29	332	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 34.7% ICU Level of Service A
Analysis Period (min) 15

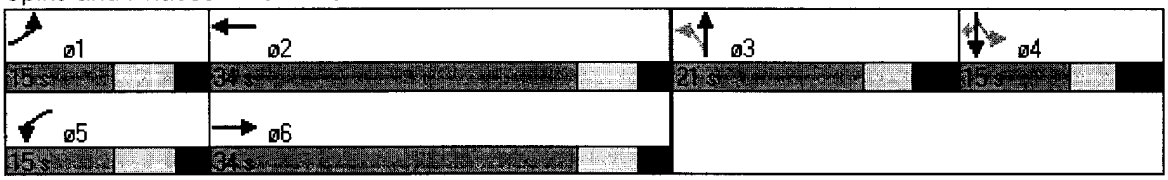
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	290		0	0		0	0		0
Storage Lanes	2		0	1		0	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.86	0.86	1.00	0.86	0.86	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.991			0.996			0.855				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.960	
Satd. Flow (prot)	3433	6350	0	1770	6382	0	3433	1593	0	1681	1699	1583
Flt Permitted	0.950			0.950			0.235			0.663	0.662	
Satd. Flow (perm)	3433	6350	0	1770	6382	0	849	1593	0	1173	1171	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			7			143				24
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		497			818			498			282	
Travel Time (s)		11.3			18.6			11.3			6.4	
Volume (vph)	21	823	54	266	730	20	30	5	132	77	7	22
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
Adj. Flow (vph)	23	895	59	289	793	22	33	5	143	84	8	24
Lane Group Flow (vph)	23	954	0	289	815	0	33	148	0	42	50	24
Turn Type	Prot			Prot			Perm			Perm		Perm
Protected Phases	1	6		5	2			3			4	
Permitted Phases							3			4		4
Detector Phases	1	6		5	2		3	3		4	4	4
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	32.0		14.0	24.0		21.0	21.0		15.0	15.0	15.0
Total Split (s)	15.0	34.0	0.0	15.0	34.0	0.0	21.0	21.0	0.0	15.0	15.0	15.0
Total Split (%)	17.6%	40.0%	0.0%	17.6%	40.0%	0.0%	24.7%	24.7%	0.0%	17.6%	17.6%	17.6%
Maximum Green (s)	8.0	27.0		8.0	27.0		14.0	14.0		8.0	8.0	8.0
Yellow Time (s)	4.5	4.5		4.5	4.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	2.5	2.5		2.5	2.5		3.5	3.5		3.5	3.5	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	1.5
Recall Mode	None	None		None	C-Max		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		20.0			12.0		9.0	9.0		3.0	3.0	3.0
Pedestrian Calls (#/hr)		0			0		0	0		0	0	0
Act Effct Green (s)	10.0	30.0		19.2	47.6		11.4	11.4		11.2	11.2	11.2
Actuated g/C Ratio	0.12	0.35		0.23	0.56		0.13	0.13		0.13	0.13	0.13
v/c Ratio	0.06	0.42		0.72	0.23		0.29	0.44		0.27	0.32	0.10
Control Delay	33.8	21.2		42.6	7.6		39.4	10.9		37.4	39.0	14.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.8	21.2		42.6	7.6		39.4	10.9		37.4	39.0	14.1
LOS	C	C		D	A		D	B		D	D	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		21.5			16.7			16.1			33.2	
Approach LOS		C			B			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 85
Offset: 41 (48%), Referenced to phase 2:WBT, Start of Red
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: NASA Rd 1 & 2nd street



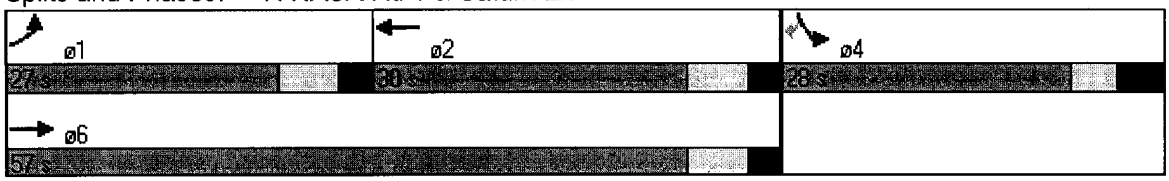
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			0	0	0
Storage Lanes	2			0	2	2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.86	0.86	0.86	0.97	0.88
Frt			0.933			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	6408	5979	0	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	6408	5979	0	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			244			421
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30	30		30	
Link Distance (ft)		818	750		228	
Travel Time (s)		18.6	17.0		5.2	
Volume (vph)	271	840	584	467	588	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	913	635	508	639	421
Lane Group Flow (vph)	295	913	1143	0	639	421
Turn Type	Prot					Perm
Protected Phases	1	6	2		4	
Permitted Phases						4
Detector Phases	1	6	2		4	4
Minimum Initial (s)	7.0	15.0	15.0		7.0	7.0
Minimum Split (s)	14.0	23.0	28.0		28.0	28.0
Total Split (s)	27.0	57.0	30.0	0.0	28.0	28.0
Total Split (%)	31.8%	67.1%	35.3%	0.0%	32.9%	32.9%
Maximum Green (s)	20.0	50.0	23.0		21.0	21.0
Yellow Time (s)	4.5	4.5	4.5		3.5	3.5
All-Red Time (s)	2.5	2.5	2.5		3.5	3.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	3.0	3.0		2.0	2.0
Recall Mode	None	Max	C-Max		None	None
Walk Time (s)			5.0		5.0	5.0
Flash Dont Walk (s)			16.0		16.0	16.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	14.0	54.9	36.9		22.1	22.1
Actuated g/C Ratio	0.16	0.65	0.43		0.26	0.26
v/c Ratio	0.52	0.22	0.42		0.72	0.41
Control Delay	22.2	8.7	14.0		33.4	3.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	22.2	8.7	14.0		33.4	3.9
LOS	C	A	B		C	A

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach Delay		12.0	14.0		21.7	
Approach LOS		B	B		C	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 85
Offset: 12 (14%), Referenced to phase 2:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 50.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: NASA Rd 1 & Saturn Ln

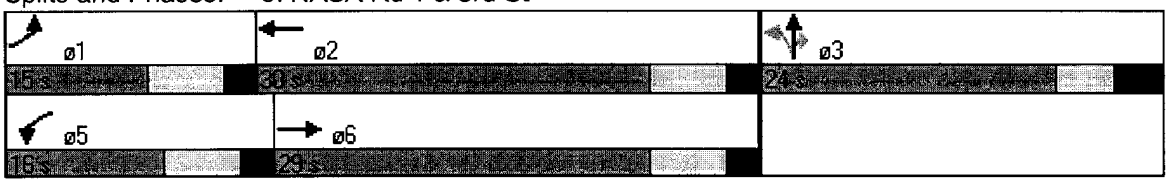


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	282		0	0		0	0		0
Storage Lanes	2		0	1		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50			
Trailing Detector (ft)	0	0		0	0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.86	0.86	1.00	0.91	1.00	0.95	0.91	0.95	1.00	1.00	1.00
Frt		0.975						0.926	0.850			
Flt Protected				0.950			0.950	0.975				
Satd. Flow (prot)	3614	6248	0	1770	5085	0	1681	1530	1504	0	0	0
Flt Permitted				0.950			0.950	0.975				
Satd. Flow (perm)	3614	6248	0	1770	5085	0	1681	1530	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		80						72	143			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		750			625			491			305	
Travel Time (s)		17.0			14.2			11.2			6.9	
Volume (vph)	0	1191	233	155	802	0	178	0	198	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
Adj. Flow (vph)	0	1295	253	168	872	0	193	0	215	0	0	0
Lane Group Flow (vph)	0	1548	0	168	872	0	120	145	143	0	0	0
Turn Type	Prot			Prot			Perm		Perm			
Protected Phases	1	6		5	2			3				
Permitted Phases							3		3			
Detector Phases	1	6		5	2		3	3	3			
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	7.0	7.0			
Minimum Split (s)	13.5	29.0		13.5	22.5		24.0	24.0	24.0			
Total Split (s)	15.0	29.0	0.0	16.0	30.0	0.0	24.0	24.0	24.0	0.0	0.0	0.0
Total Split (%)	21.7%	42.0%	0.0%	23.2%	43.5%	0.0%	34.8%	34.8%	34.8%	0.0%	0.0%	0.0%
Maximum Green (s)	8.5	22.5		9.5	23.5		17.5	17.5	17.5			
Yellow Time (s)	4.5	4.5		4.5	4.5		3.5	3.5	3.5			
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0			
Recall Mode	None	Max		None	C-Max		None	None	None			
Walk Time (s)		5.0			5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		17.5			11.0		12.5	12.5	12.5			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)		31.8		13.3	49.1		11.9	11.9	11.9			
Actuated g/C Ratio		0.46		0.19	0.71		0.17	0.17	0.17			
v/c Ratio		0.53		0.49	0.24		0.42	0.45	0.38			
Control Delay		14.2		29.4	3.9		29.3	18.1	7.9			
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0			
Total Delay		14.2		29.4	3.9		29.3	18.1	7.9			
LOS		B		C	A		C	B	A			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		14.2			8.0			17.8				
Approach LOS		B			A			B				

Intersection Summary	
Area Type:	Other
Cycle Length: 69	
Actuated Cycle Length: 69	
Offset: 3 (4%), Referenced to phase 2:WBT, Start of Red	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 12.5	Intersection LOS: B
Intersection Capacity Utilization 46.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: NASA Rd 1 & 3rd St



Lane Group	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
Storage Length (ft)	0		0	0		0	0		0	100		0
Storage Lanes	0		0	0		0	0		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.927			0.985			0.985			0.982	
Flt Protected		0.995			0.986			0.973		0.950		
Satd. Flow (prot)	0	3264	0	0	3437	0	0	3392	0	1770	3476	0
Flt Permitted		0.995			0.986			0.973		0.950		
Satd. Flow (perm)	0	3264	0	0	3437	0	0	3392	0	1770	3476	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			1531			669			498	
Travel Time (s)		3.9			34.8			15.2			11.3	
Volume (vph)	28	111	132	34	74	12	148	92	28	24	258	36
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
Adj. Flow (vph)	30	121	143	37	80	13	161	100	30	26	280	39
Lane Group Flow (vph)	0	294	0	0	130	0	0	291	0	26	319	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.4% ICU Level of Service A
Analysis Period (min) 15

Lane Group	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
Storage Length (ft)	0		0	0		0	0		0	100		0
Storage Lanes	0		0	0		0	0		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.935			0.964			0.999			0.974	
Flt Protected		0.974			0.993			0.978		0.950		
Satd. Flow (prot)	0	3223	0	0	1783	0	0	3458	0	1770	3447	0
Flt Permitted		0.974			0.993			0.978		0.950		
Satd. Flow (perm)	0	3223	0	0	1783	0	0	3458	0	1770	3447	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1531			117			717			491	
Travel Time (s)		34.8			2.7			16.3			11.2	
Volume (vph)	86	4	69	2	8	4	202	248	2	34	262	55
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
Adj. Flow (vph)	93	4	75	2	9	4	220	270	2	37	285	60
Lane Group Flow (vph)	0	172	0	0	15	0	0	492	0	37	345	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.2% ICU Level of Service A
Analysis Period (min) 15