

2014 Existing Condition  
1: Trailwood Village Dr. & Kingwood Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2	ø3	ø4	ø5	ø7	ø8
Lane Configurations	↑↑		↙	↑↑	↘	↗						
Volume (vph)	2095	86	60	1237	79	47						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	0.95						
Frt	0.994				0.991	0.850						
Flt Protected			0.950		0.955							
Satd. Flow (prot)	3518	0	1770	3539	1763	1504						
Flt Permitted			0.950		0.955							
Satd. Flow (perm)	3518	0	1770	3539	1763	1504						
Right Turn on Red		Yes				Yes						
Satd. Flow (RTOR)	8				2	49						
Link Speed (mph)	40			40	30							
Link Distance (ft)	272			542	1092							
Travel Time (s)	4.6			9.2	24.8							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Growth Factor	108%	108%	108%	108%	108%	108%						
Adj. Flow (vph)	2459	101	70	1452	93	55						
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	2560	0	70	1452	99	49						
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Right	Left	Left	Left	Right						
Median Width(ft)	40			40	12							
Link Offset(ft)	0			0	0							
Crosswalk Width(ft)	16			16	16							
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Turning Speed (mph)		9	15		15	9						
Number of Detectors	2		1	2	1	1						
Detector Template	Thru		Left	Thru	Left	Right						
Leading Detector (ft)	100		20	100	20	20						
Trailing Detector (ft)	0		0	0	0	0						
Detector 1 Position(ft)	0		0	0	0	0						
Detector 1 Size(ft)	6		20	6	20	20						
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex						
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0						
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0						
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0						
Detector 2 Position(ft)	94			94								
Detector 2 Size(ft)	6			6								
Detector 2 Type	Cl+Ex			Cl+Ex								
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								
Turn Type	NA		Prot	NA	NA	Perm						
Protected Phases	2 7		1	6	8 3		2	3	4	5	7	8
Permitted Phases						8 3						
Detector Phase	2 7		1	6	8 3	8 3						
Switch Phase												
Minimum Initial (s)			3.0	2.0			10.0	1.0	5.0	3.0	1.0	5.0

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PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2	ø3	ø4	ø5	ø7	ø8
Minimum Split (s)			10.0	22.0			29.5	14.5	11.0	9.0	8.0	21.0
Total Split (s)			10.0	87.0			109.0	21.0	11.0	32.0	10.0	21.0
Total Split (%)			6.6%	57.6%			72%	14%	7%	21%	7%	14%
Maximum Green (s)			4.0	81.0			103.0	15.0	5.0	26.0	4.0	15.0
Yellow Time (s)			4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0	2.0			2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0	0.0								
Total Lost Time (s)			6.0	6.0								
Lead/Lag			Lag	Lag			Lead			Lead		
Lead-Lag Optimize?			Yes	Yes			Yes			Yes		
Vehicle Extension (s)			0.2	0.2			0.2	0.2	0.2	0.2	0.2	0.2
Recall Mode			None	C-Max			C-Max	Max	None	None	None	Max
Walk Time (s)				5.0			5.0					
Flash Dont Walk (s)				11.0			11.0					
Pedestrian Calls (#/hr)				0			0					
Act Effect Green (s)	114.0		4.0	86.7	15.0	15.0						
Actuated g/C Ratio	0.75		0.03	0.57	0.10	0.10						
v/c Ratio	0.96		1.52	0.71	0.56	0.25						
Control Delay	8.6		363.3	26.5	76.6	19.0						
Queue Delay	1.1		0.0	0.0	0.0	0.0						
Total Delay	9.7		363.3	26.5	76.6	19.0						
LOS	A		F	C	E	B						
Approach Delay	9.7			42.0	57.6							
Approach LOS	A			D	E							

Intersection Summary

Area Type: Other  
 Cycle Length: 151  
 Actuated Cycle Length: 151  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.52  
 Intersection Signal Delay: 23.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 81.3%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 1: Trailwood Village Dr. & Kingwood Dr.



2014 Existing Condition  
4: Green Oak Dr. & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	1809	82	0	0	0	0	172	163	304	92	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.994							0.850			
Fl <sub>t</sub> Protected	0.950									0.950		
Satd. Flow (prot)	1770	3518	0	0	0	0	0	1863	1583	1770	1863	0
Fl <sub>t</sub> Permitted	0.950									0.950		
Satd. Flow (perm)	1770	3518	0	0	0	0	0	1863	1583	1770	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5							153			
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		2489			1560			515			89	
Travel Time (s)		42.4			26.6			11.7			2.0	
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
Growth Factor	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	42	2124	96	0	0	0	0	202	191	357	108	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	2220	0	0	0	0	0	202	191	357	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Prot	NA						NA	Perm	Prot	NA	
Protected Phases	15	2						8		1 4	4	
Permitted Phases										8		

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		

2014 Existing Condition  
4: Green Oak Dr. & Kingwood Dr.

PM Peak Hour

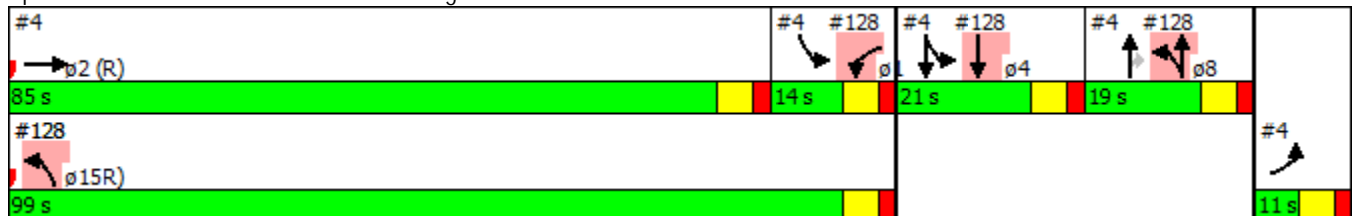


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	15	2						8	8	14	4	
Switch Phase												
Minimum Initial (s)	5.0	4.0						5.0	5.0		5.0	
Minimum Split (s)	11.0	20.0						19.0	19.0		11.0	
Total Split (s)	11.0	85.0						19.0	19.0		21.0	
Total Split (%)	7.3%	56.7%						12.7%	12.7%		14.0%	
Maximum Green (s)	5.0	79.0						13.0	13.0		15.0	
Yellow Time (s)	4.0	4.0						4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0						2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0						6.0	6.0		6.0	
Lead/Lag		Lead						Lag	Lag		Lead	
Lead-Lag Optimize?		Yes						Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0						3.0	3.0		3.0	
Recall Mode	None	C-Max						None	None		None	
Walk Time (s)		4.0						6.0	6.0			
Flash Dont Walk (s)		10.0						7.0	7.0			
Pedestrian Calls (#/hr)		0						0	0			
Act Effct Green (s)	5.0	79.0						13.0	13.0	29.0	15.0	
Actuated g/C Ratio	0.03	0.53						0.09	0.09	0.19	0.10	
v/c Ratio	0.71	1.20						1.25	0.69	1.04	0.58	
Control Delay	105.7	119.0						208.0	30.1	80.3	17.8	
Queue Delay	43.5	0.0						0.2	0.0	0.0	0.0	
Total Delay	149.2	119.0						208.2	30.1	80.3	17.8	
LOS	F	F						F	C	F	B	
Approach Delay		119.5						121.6			65.8	
Approach LOS		F						F			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.29  
 Intersection Signal Delay: 111.8  
 Intersection LOS: F  
 Intersection Capacity Utilization 128.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 4: Green Oak Dr. & Kingwood Dr.



Lane Group	ø1	ø6
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	11.0	10.0
Total Split (s)	14.0	99.0
Total Split (%)	9%	66%
Maximum Green (s)	8.0	93.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
6: Sorters & Northpark Dr.

PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	49	327	326	0	196	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					0.969
Satd. Flow (prot)	1770	1583	1863	0	0	1805
Flt Permitted	0.950					0.969
Satd. Flow (perm)	1770	1583	1863	0	0	1805
Link Speed (mph)	40		30			30
Link Distance (ft)	1488		70			496
Travel Time (s)	25.4		1.6			11.3
Peak Hour Factor	0.61	0.94	0.92	0.92	0.83	0.84
Adj. Flow (vph)	80	348	354	0	236	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	348	354	0	0	372
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	20		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.3%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
8: Lake Houston Parkway & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	657	533	230	362	32	567	293	298	22	198	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		0	150		0
Storage Lanes	1		0	1		0	2		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	0.95	0.95	0.97	0.95	0.95
Frt		0.931			0.984			0.923			0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3295	0	1770	3483	0	3433	3267	0	3433	3366	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3295	0	1770	3483	0	3433	3267	0	3433	3366	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		150			9			190			48	
Link Speed (mph)		45			40			30			40	
Link Distance (ft)		2785			2651			1043			1141	
Travel Time (s)		42.2			45.2			23.7			19.4	
Peak Hour Factor	0.88	0.94	0.90	0.89	0.87	0.67	0.94	0.86	0.83	0.69	0.85	0.81
Adj. Flow (vph)	119	699	592	258	416	48	603	341	359	32	233	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	1291	0	258	464	0	603	700	0	32	345	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		50			50			60			60	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		13.0	21.0	
Total Split (s)	25.0	54.0		25.0	54.0		36.0	56.0		15.0	22.0	
Total Split (%)	16.7%	36.0%		16.7%	36.0%		24.0%	37.3%		10.0%	14.7%	
Maximum Green (s)	19.0	48.0		19.0	48.0		30.0	50.0		9.0	16.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		10.0			10.0			10.0			10.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	19.0	48.0		19.0	48.0		30.0	50.0		9.0	29.0	
Actuated g/C Ratio	0.13	0.32		0.13	0.32		0.20	0.33		0.06	0.19	
v/c Ratio	0.53	1.12		1.15	0.41		0.88	0.58		0.16	0.50	
Control Delay	58.8	90.9		162.8	40.5		73.2	31.4		68.9	49.1	



2014 Existing Condition  
 8: Lake Houston Parkway & Northpark Dr.

PM Peak Hour

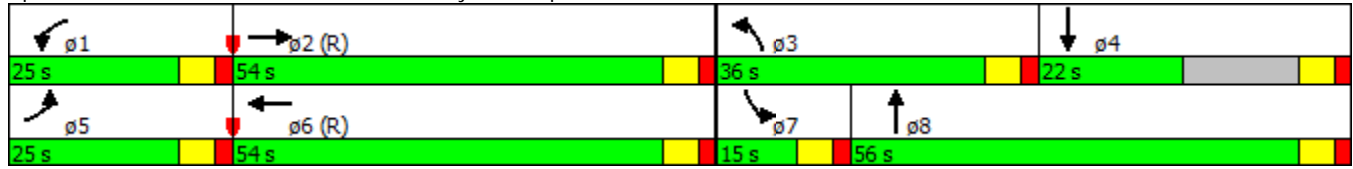


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	58.8	90.9		162.8	40.5		73.2	31.4		68.9	49.1	
LOS	E	F		F	D		E	C		E	D	
Approach Delay		88.2			84.2			50.8			50.8	
Approach LOS		F			F			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	130 (87%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.15
Intersection Signal Delay:	70.9
Intersection LOS:	E
Intersection Capacity Utilization	92.6%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 8: Lake Houston Parkway & Northpark Dr.



2014 Existing Condition  
11: Woodland Hills & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	1364	179	171	936	108	277	149	276	138	159	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		0	150		0
Storage Lanes	1		0	1		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt		0.981			0.979			0.904			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3465	0	3433	3199	0	1770	3419	0
Flt Permitted	0.189			0.048			0.398			0.211		
Satd. Flow (perm)	352	3472	0	89	3465	0	1438	3199	0	393	3419	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			20			166			20	
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1613			4845			3684			2505	
Travel Time (s)		24.4			73.4			71.8			48.8	
Peak Hour Factor	0.78	0.99	0.88	0.89	0.94	0.68	0.92	0.87	0.92	0.91	0.72	0.69
Adj. Flow (vph)	76	1378	203	192	996	159	301	171	300	152	221	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1581	0	192	1155	0	301	471	0	152	285	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		40			100			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	

2014 Existing Condition  
11: Woodland Hills & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	8.0	10.0		10.0	10.0		8.0	8.0		10.0	4.0	
Minimum Split (s)	14.0	26.0		16.0	26.0		14.0	14.0		16.0	20.0	
Total Split (s)	14.0	83.0		23.0	92.0		19.0	25.0		19.0	25.0	
Total Split (%)	9.3%	55.3%		15.3%	61.3%		12.7%	16.7%		12.7%	16.7%	
Maximum Green (s)	8.0	77.0		17.0	86.0		13.0	19.0		13.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	0.0	4.0		0.0	4.0		0.0	0.0		0.0	4.0	
Flash Dont Walk (s)	0.0	16.0		0.0	16.0		0.0	0.0		0.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	85.0	77.0		100.0	86.0		32.0	19.0		32.0	19.0	
Actuated g/C Ratio	0.57	0.51		0.67	0.57		0.21	0.13		0.21	0.13	
v/c Ratio	0.28	0.88		0.77	0.58		0.63	0.86		0.75	0.63	
Control Delay	12.3	39.4		68.4	12.1		43.6	37.4		69.2	64.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.3	39.4		68.4	12.1		43.6	37.4		69.2	64.7	
LOS	B	D		E	B		D	D		E	E	
Approach Delay		38.1			20.1			39.8			66.3	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 35.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 93.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 11: Woodland Hills & Northpark Dr.



2014 Existing Condition  
14: US 59 SBFR & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑					↔	↑↑↑↑	↔
Volume (vph)	0	304	131	776	875	0	0	0	0	316	172	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		2	2		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.95	1.00	1.00	1.00	1.00	0.86	0.81	0.86
Frt		0.956									0.997	0.850
Flt Protected				0.950						0.950	0.978	
Satd. Flow (prot)	0	6126	0	3433	3539	0	0	0	0	1522	4414	1362
Flt Permitted				0.950						0.950	0.978	
Satd. Flow (perm)	0	6126	0	3433	3539	0	0	0	0	1522	4414	1362
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53									1	233
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		3872			281			368			304	
Travel Time (s)		66.0			6.4			4.6			3.8	
Peak Hour Factor	0.92	0.82	0.86	0.90	0.94	0.92	0.92	0.92	0.92	0.88	0.78	0.76
Adj. Flow (vph)	0	371	152	862	931	0	0	0	0	359	221	80
Shared Lane Traffic (%)										50%		10%
Lane Group Flow (vph)	0	523	0	862	931	0	0	0	0	179	409	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		50			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	100					20	100	20
Trailing Detector (ft)		0		0	0					0	0	0
Detector 1 Position(ft)		0		0	0					0	0	0
Detector 1 Size(ft)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Prot	NA					Perm	NA	Perm
Protected Phases		2		1 11 21	1 2 11						3 4	
Permitted Phases										3 4		3 4
Detector Phase		2		1 11 21	1 2 11					3 4	3 4	3 4



2014 Existing Condition  
14: US 59 SBFR & Northpark Dr.

PM Peak Hour

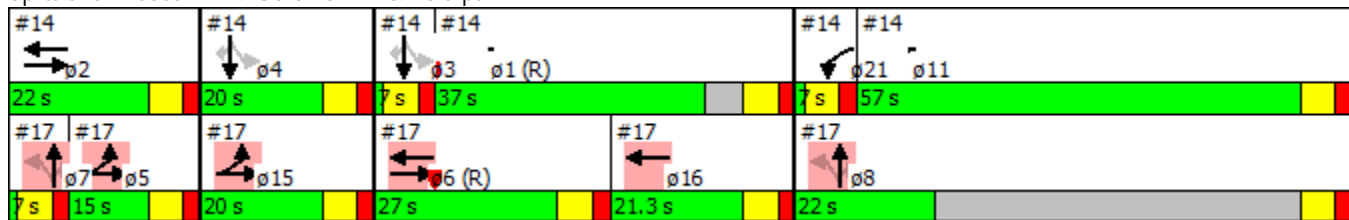


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		7.0										
Minimum Split (s)		14.0										
Total Split (s)		22.0										
Total Split (%)		14.3%										
Maximum Green (s)		16.0										
Yellow Time (s)		4.0										
All-Red Time (s)		2.0										
Lost Time Adjust (s)		0.0										
Total Lost Time (s)		6.0										
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0										
Recall Mode		None										
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		23.9		90.9	107.8					21.5	21.5	21.5
Actuated g/C Ratio		0.15		0.59	0.70					0.14	0.14	0.14
v/c Ratio		0.53		0.43	0.38					0.84	0.66	0.18
Control Delay		57.8		3.2	1.1					96.2	68.8	1.0
Queue Delay		0.0		0.9	0.5					0.0	0.0	0.0
Total Delay		57.8		4.1	1.6					96.2	68.8	1.0
LOS		E		A	A					F	E	A
Approach Delay		57.8			2.8						68.8	
Approach LOS		E			A						E	

Intersection Summary

Area Type:	Other
Cycle Length:	154.3
Actuated Cycle Length:	154.3
Offset:	96 (62%), Referenced to phase 1:WBTL and 6:, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	27.1
Intersection LOS:	C
Intersection Capacity Utilization:	83.1%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 14: US 59 SBFR & Northpark Dr.



2014 Existing Condition  
 14: US 59 SBFR & Northpark Dr.

PM Peak Hour

Lane Group	ø1	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21
Switch Phase											
Minimum Initial (s)	3.0	1.0	5.0	2.7	5.0	1.0	1.0	3.0	3.0	4.0	1.0
Minimum Split (s)	21.3	7.0	11.7	8.7	27.0	7.0	21.7	9.0	9.0	21.3	7.0
Total Split (s)	37.0	7.0	20.0	15.0	27.0	7.0	22.0	57.0	20.0	21.3	7.0
Total Split (%)	24%	5%	13%	10%	17%	5%	14%	37%	13%	14%	5%
Maximum Green (s)	31.0	1.0	14.0	9.0	21.0	1.0	16.0	51.0	14.0	15.3	1.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)											
Total Lost Time (s)											
Lead/Lag	Lag	Lead		Lag	Lead	Lead		Lag		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes		Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	None	C-Max	None	None	None	None	None	None
Walk Time (s)					5.0		7.0				
Flash Dont Walk (s)					16.0		8.0				
Pedestrian Calls (#/hr)					0		0				
Act Effct Green (s)											
Actuated g/C Ratio											
v/c Ratio											
Control Delay											
Queue Delay											
Total Delay											
LOS											
Approach Delay											
Approach LOS											
Intersection Summary											

2014 Existing Condition  
17: US 59 NBFR & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑		↖↗	↑↑	↖↗			
Volume (vph)	141	495	0	0	1061	304	553	541	1115	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		150	0		0	0		0
Storage Lanes	2		0	0		2	2		2	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.86	0.86	0.97	0.95	0.88	1.00	1.00	1.00
Frt					0.967				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3539	0	0	6196	0	3433	3539	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3539	0	0	6196	0	3433	3539	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45				754			
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		281			1797			365			309	
Travel Time (s)		6.4			27.2			4.5			3.8	
Peak Hour Factor	0.75	0.94	0.92	0.92	0.89	0.91	0.93	0.96	0.90	0.92	0.92	0.92
Adj. Flow (vph)	188	527	0	0	1192	334	595	564	1239	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	527	0	0	1526	0	595	564	1239	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5 15	5 6 15			6 16			7 8				
Permitted Phases							7 8		7 8			
Detector Phase	5 15	5 6 15			6 16		7 8	7 8	7 8			





2014 Existing Condition  
17: US 59 NBFR & Northpark Dr.

PM Peak Hour

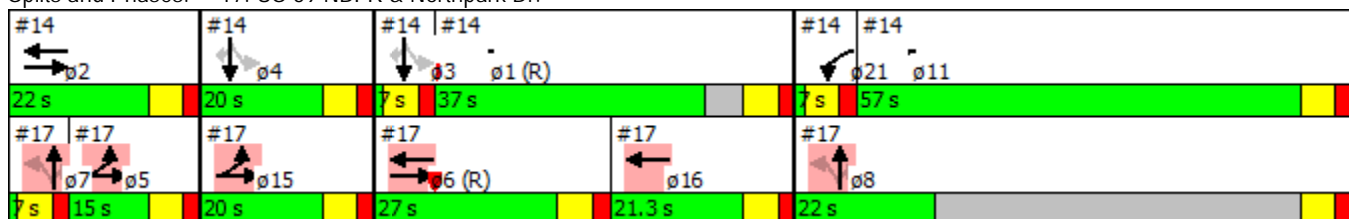


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Maximum Green (s)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)												
Recall Mode												
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	31.1	58.2			42.4		62.8	62.8	62.8			
Actuated g/C Ratio	0.20	0.38			0.27		0.41	0.41	0.41			
v/c Ratio	0.27	0.40			0.88		0.43	0.39	0.78			
Control Delay	35.1	4.5			58.9		33.6	32.9	18.1			
Queue Delay	0.0	1.3			0.0		0.0	0.0	0.0			
Total Delay	35.1	5.8			58.9		33.6	32.9	18.1			
LOS	D	A			E		C	C	B			
Approach Delay		13.5			58.9			25.4				
Approach LOS		B			E			C				

Intersection Summary

Area Type:	Other
Cycle Length:	154.3
Actuated Cycle Length:	154.3
Offset:	96 (62%), Referenced to phase 1:WBTL and 6:, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	34.6
Intersection LOS:	C
Intersection Capacity Utilization:	83.1%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 17: US 59 NBFR & Northpark Dr.



2014 Existing Condition  
 17: US 59 NBFR & Northpark Dr.

PM Peak Hour

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21				
Switch Phase																
Minimum Initial (s)	3.0	7.0	1.0	5.0	2.7	5.0	1.0	1.0	3.0	3.0	4.0	1.0				
Minimum Split (s)	21.3	14.0	7.0	11.7	8.7	27.0	7.0	21.7	9.0	9.0	21.3	7.0				
Total Split (s)	37.0	22.0	7.0	20.0	15.0	27.0	7.0	22.0	57.0	20.0	21.3	7.0				
Total Split (%)	24%	14%	5%	13%	10%	17%	5%	14%	37%	13%	14%	5%				
Maximum Green (s)	31.0	16.0	1.0	14.0	9.0	21.0	1.0	16.0	51.0	14.0	15.3	1.0				
Yellow 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				
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Lost Time Adjust (s)																
Total Lost Time (s)																
Lead/Lag	Lag		Lead		Lag		Lead		Lead		Lag		Lag		Lead	
Lead-Lag Optimize?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Recall Mode	C-Max	None	None	None	None	C-Max	None	None	None	None	None	None				
Walk Time (s)							5.0	7.0								
Flash Dont Walk (s)							16.0	8.0								
Pedestrian Calls (#/hr)							0	0								
Act Effct Green (s)																
Actuated g/C Ratio																
v/c Ratio																
Control Delay																
Queue Delay																
Total Delay																
LOS																
Approach Delay																
Approach LOS																
Intersection Summary																

2014 Existing Condition  
19: US 59 NBFR & Hamblen

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖				↗		↑↑	↗			
Volume (vph)	4	96	0	0	0	123	0	808	878	0	0	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt						0.865			0.850			
Flt Protected		0.998										
Satd. Flow (prot)	0	1859	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted		0.998										
Satd. Flow (perm)	0	1859	0	0	0	1611	0	3539	1583	0	0	0
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		168			123			612			7207	
Travel Time (s)		3.3			2.4			7.6			89.3	
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)	4	104	0	0	0	134	0	878	954	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	0	134	0	878	954	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	66.3%
ICU Level of Service	C
Analysis Period (min)	15

2014 Existing Condition  
20: Loop 494 & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1433	61	192	989	155	89	158	420	205	245	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		150	150		150
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.980				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3518	0	1770	3468	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3518	0	1770	3468	0	1770	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			14				183			169
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1797			1638			3315				2861
Travel Time (s)		27.2			24.8			75.3				65.0
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)	22	1558	66	209	1075	168	97	172	457	223	266	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	1624	0	209	1243	0	97	172	457	223	266	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4

2014 Existing Condition  
20: Loop 494 & Northpark Dr.

PM Peak Hour

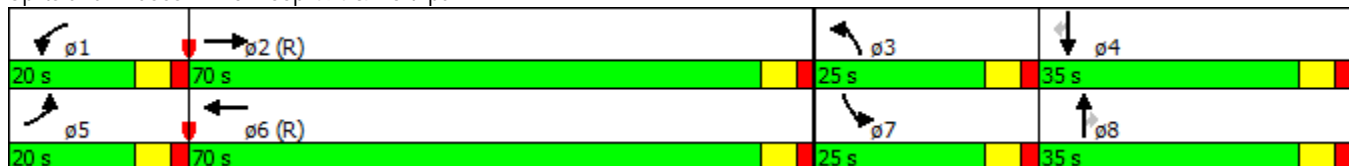


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	12.0		7.0	12.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	18.0		13.0	18.0		11.3	11.3	11.3	11.3	11.3	11.3
Total Split (s)	20.0	70.0		20.0	70.0		25.0	35.0	35.0	25.0	35.0	35.0
Total Split (%)	13.3%	46.7%		13.3%	46.7%		16.7%	23.3%	23.3%	16.7%	23.3%	23.3%
Maximum Green (s)	14.0	64.0		14.0	64.0		19.0	29.0	29.0	19.0	29.0	29.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)		0.0			0.0			0.0	0.0		0.0	0.0
Flash Dont Walk (s)		0.0			0.0			0.0	0.0		0.0	0.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	7.4	64.0		14.0	75.3		13.5	29.0	29.0	19.0	34.5	34.5
Actuated g/C Ratio	0.05	0.43		0.09	0.50		0.09	0.19	0.19	0.13	0.23	0.23
v/c Ratio	0.25	1.08		1.27	0.71		0.61	0.48	1.01	1.00	0.62	0.44
Control Delay	75.0	89.0		211.0	32.5		93.1	47.5	67.1	123.1	60.2	15.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.0	89.0		211.0	32.5		93.1	47.5	67.1	123.1	60.2	15.9
LOS	E	F		F	C		F	D	E	F	E	B
Approach Delay		88.8			58.2			66.0			66.5	
Approach LOS		F			E			E			E	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.27
Intersection Signal Delay:	71.9
Intersection LOS:	E
Intersection Capacity Utilization:	93.9%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 20: Loop 494 & Northpark Dr.



2014 Existing Condition  
23: Brookdale & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	1332	54	9	1047	31	54	13	21	36	14	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.993			0.994			0.968			0.906	
Flt Protected	0.950			0.950				0.971			0.989	
Satd. Flow (prot)	1770	3514	0	1770	3518	0	0	3327	0	0	3171	0
Flt Permitted	0.950			0.950				0.713			0.867	
Satd. Flow (perm)	1770	3514	0	1770	3518	0	0	2443	0	0	2780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			3			24			141	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		4845			2785			1365			843	
Travel Time (s)		73.4			42.2			31.0			19.2	
Peak Hour Factor	0.77	0.97	0.84	0.75	0.94	0.70	0.79	0.65	0.88	0.69	0.44	0.69
Adj. Flow (vph)	183	1373	64	12	1114	44	68	20	24	52	32	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1437	0	12	1158	0	0	112	0	0	225	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		100			100			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Minimum Split (s)	12.0	19.0		12.0	19.0		12.0	21.0		12.0	21.0	
Total Split (s)	30.0	70.0		20.0	60.0		30.0	30.0		30.0	30.0	
Total Split (%)	20.0%	46.7%		13.3%	40.0%		20.0%	20.0%		20.0%	20.0%	
Maximum Green (s)	24.0	64.0		14.0	54.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	0.0	4.0		0.0	4.0		0.0	4.0		0.0	4.0	
Flash Dont Walk (s)	0.0	9.0		0.0	9.0		0.0	11.0		0.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	24.0	64.0		14.0	54.0		24.0	48.0		24.0	48.0	
Actuated g/C Ratio	0.16	0.43		0.09	0.36		0.32	0.32		0.32	0.32	
v/c Ratio	0.65	0.96		0.07	0.91		0.17	0.17		0.30	0.30	
Control Delay	66.5	50.0		67.1	31.8		25.7	25.7		13.3	13.3	

2014 Existing Condition  
23: Brookdale & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	66.5	50.0		67.1	31.8			25.7			13.3	
LOS	E	D		E	C			C			B	
Approach Delay		51.9			32.1			25.7			13.3	
Approach LOS		D			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	55 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	40.8
Intersection LOS:	D
Intersection Capacity Utilization	68.2%
ICU Level of Service	C
Analysis Period (min)	15

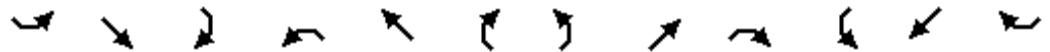
Splits and Phases: 23: Brookdale & Northpark Dr.





2014 Existing Condition  
26: Northpark Dr. & Mills Branch

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	214	203	219	93	0	0	0	0	21	94	0
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
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.934										
Flt Protected					0.966					0.950		
Satd. Flow (prot)	0	1740	0	0	1799	0	0	0	0	1770	3539	0
Flt Permitted					0.966					0.950		
Satd. Flow (perm)	0	1740	0	0	1799	0	0	0	0	1770	3539	0
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		3268			160			1785			335	
Travel Time (s)		74.3			3.6			30.4			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.89	0.92	0.92	0.92	0.92	0.66	0.81	0.92
Adj. Flow (vph)	0	233	221	255	104	0	0	0	0	32	116	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	359	0	0	0	0	32	116	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
28: Kingwood Dr. & Mills Branch

PM Peak Hour



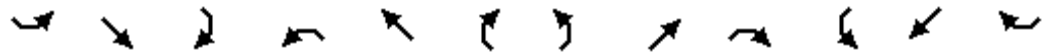
Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	37	0	307	60	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	0.95	0.95	1.00	1.00
Frt						
Flt Protected	0.950			0.961		
Satd. Flow (prot)	3433	0	0	3401	0	0
Flt Permitted	0.950			0.961		
Satd. Flow (perm)	3433	0	0	3401	0	0
Link Speed (mph)	30			40	30	
Link Distance (ft)	174			1374	344	
Travel Time (s)	4.0			23.4	7.8	
Peak Hour Factor	0.62	0.92	0.78	0.68	0.92	0.92
Adj. Flow (vph)	60	0	394	88	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	482	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	40			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
29: Northpark Dr. & Rock Springs

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Volume (vph)	0	28	55	39	84	0	0	0	0	16	502	16
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	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.898										0.994
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	3178	0	1770	3539	0	0	0	0	1770	3518	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3178	0	1770	3539	0	0	0	0	1770	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68										4
Link Speed (mph)		30			30			40				40
Link Distance (ft)		292			173			576				1785
Travel Time (s)		6.6			3.9			9.8				30.4
Peak Hour Factor	0.92	0.88	0.81	0.61	0.75	0.92	0.92	0.92	0.92	0.80	0.88	0.67
Adj. Flow (vph)	0	32	68	64	112	0	0	0	0	20	570	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	64	112	0	0	0	0	20	594	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		2
Detector Template		Thru		Left	Thru					Left		Thru
Leading Detector (ft)		100		20	100					20		100
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		6
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA		Prot	NA					Prot		NA
Protected Phases		4		15 8	8					1		6
Permitted Phases												
Detector Phase		4		15 8	8					1		6

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Detector Phase		

2014 Existing Condition  
29: Northpark Dr. & Rock Springs

PM Peak Hour

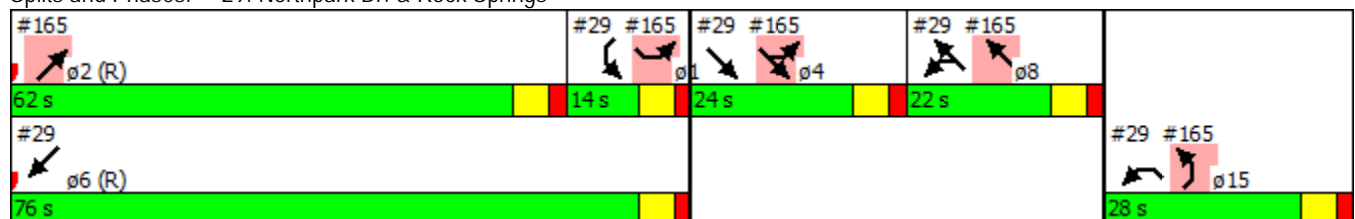


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Switch Phase												
Minimum Initial (s)		5.0			5.0					5.0	4.0	
Minimum Split (s)		22.0			21.0					11.0	18.0	
Total Split (s)		24.0			22.0					14.0	76.0	
Total Split (%)		16.0%			14.7%					9.3%	50.7%	
Maximum Green (s)		18.0			16.0					8.0	70.0	
Yellow Time (s)		4.0			4.0					4.0	4.0	
All-Red Time (s)		2.0			2.0					2.0	2.0	
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	
Total Lost Time (s)		6.0			6.0					6.0	6.0	
Lead/Lag		Lead			Lag					Lag		
Lead-Lag Optimize?		Yes			Yes					Yes		
Vehicle Extension (s)		3.0			3.0					3.0	3.0	
Recall Mode		None			Max					None	C-Max	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		11.0			10.0						7.0	
Pedestrian Calls (#/hr)		0			0						0	
Act Effect Green (s)		7.4		47.8	26.6					7.1	76.8	
Actuated g/C Ratio		0.05		0.32	0.18					0.05	0.51	
v/c Ratio		0.45		0.11	0.18					0.24	0.33	
Control Delay		32.5		4.8	76.1					75.4	22.5	
Queue Delay		0.0		0.8	2.4					0.0	0.0	
Total Delay		32.5		5.6	78.5					75.4	22.5	
LOS		C		A	E					E	C	
Approach Delay		32.5			52.0						24.2	
Approach LOS		C			D						C	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	45 (30%), Referenced to phase 2:NET and 6:, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	30.6
Intersection LOS:	C
Intersection Capacity Utilization	44.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 29: Northpark Dr. & Rock Springs



Lane Group	ø2	ø15
Switch Phase		
Minimum Initial (s)	4.0	5.0
Minimum Split (s)	18.0	11.0
Total Split (s)	62.0	28.0
Total Split (%)	41%	19%
Maximum Green (s)	56.0	22.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	5.0	
Flash Dont Walk (s)	7.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		



2014 Existing Condition  
34: Kingwood Dr. & Woodland Grove

PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	ø1	ø3	ø4	ø6	ø7	ø8
Detector Phase	5	2	3 6		4 7							
Switch Phase												
Minimum Initial (s)	3.0	10.0					3.0	1.0	5.0	2.0	1.0	5.0
Minimum Split (s)	9.0	29.5					10.0	14.5	11.0	22.0	8.0	21.0
Total Split (s)	32.0	109.0					10.0	21.0	11.0	87.0	10.0	21.0
Total Split (%)	21.2%	72.2%					7%	14%	7%	58%	7%	14%
Maximum Green (s)	26.0	103.0					4.0	15.0	5.0	81.0	4.0	15.0
Yellow Time (s)	4.0	4.0					4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0					2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0										
Total Lost Time (s)	6.0	6.0										
Lead/Lag	Lead	Lead					Lag			Lag		
Lead-Lag Optimize?	Yes	Yes					Yes			Yes		
Vehicle Extension (s)	0.2	0.2					0.2	0.2	0.2	0.2	0.2	0.2
Recall Mode	None	C-Max					None	Max	None	C-Max	None	Max
Walk Time (s)		5.0								5.0		
Flash Dont Walk (s)		11.0								11.0		
Pedestrian Calls (#/hr)		0								0		
Act Effect Green (s)	20.3	103.0	107.7		5.0							
Actuated g/C Ratio	0.13	0.68	0.71		0.03							
v/c Ratio	0.89	1.03	0.62		0.80							
Control Delay	100.0	52.2	1.3		56.3							
Queue Delay	0.0	10.0	0.2		35.7							
Total Delay	100.0	62.1	1.4		92.0							
LOS	F	E	A		F							
Approach Delay		65.1	1.4		92.0							
Approach LOS		E	A		F							

Intersection Summary

Area Type: Other  
 Cycle Length: 151  
 Actuated Cycle Length: 151  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.52  
 Intersection Signal Delay: 43.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 78.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 34: Kingwood Dr. & Woodland Grove





2014 Existing Condition  
35: Russel Palmer & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓						↑	↑		↑	
Volume (vph)	0	1861	69	0	0	0	0	158	106	37	102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		150	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.994							0.850			
Fl <sub>t</sub> Protected											0.987	
Satd. Flow (prot)	0	3518	0	0	0	0	0	1863	1583	0	1839	0
Fl <sub>t</sub> Permitted											0.575	
Satd. Flow (perm)	0	3518	0	0	0	0	0	1863	1583	0	1071	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5							127			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		122			2720			1145			80	
Travel Time (s)		1.8			41.2			26.0			1.8	
Peak Hour Factor	0.92	0.99	0.82	0.92	0.92	0.92	0.92	0.78	0.83	0.92	0.92	0.92
Adj. Flow (vph)	0	1880	84	0	0	0	0	203	128	40	111	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1964	0	0	0	0	0	203	128	0	151	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2						2	1	1	2	
Detector Template		Thru						Thru	Right	Left	Thru	
Leading Detector (ft)		100						100	20	20	100	
Trailing Detector (ft)		0						0	0	0	0	
Detector 1 Position(ft)		0						0	0	0	0	
Detector 1 Size(ft)		6						6	20	20	6	
Detector 1 Type		Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type		NA						NA	Perm	Perm	NA	
Protected Phases		2						8			4	
Permitted Phases									8	4		
Detector Phase		2						8	8	4	4	

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Detector Phase		

2014 Existing Condition  
35: Russel Palmer & Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		15.0						5.0	5.0	5.0	5.0	
Minimum Split (s)		21.3						11.6	11.6	11.3	11.3	
Total Split (s)		95.0						31.0	31.0	31.0	31.0	
Total Split (%)		63.3%						20.7%	20.7%	20.7%	20.7%	
Maximum Green (s)		89.0						25.0	25.0	25.0	25.0	
Yellow Time (s)		4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)		2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		6.0						6.0	6.0		6.0	
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Vehicle Extension (s)		3.0						3.0	3.0	3.0	3.0	
Recall Mode		C-Max						Max	Max	None	None	
Act Effect Green (s)		89.9						25.0	25.0		25.0	
Actuated g/C Ratio		0.60						0.17	0.17		0.17	
v/c Ratio		0.93						0.65	0.35		0.85	
Control Delay		36.6						69.5	11.3		140.2	
Queue Delay		0.0						0.0	0.0		0.0	
Total Delay		36.6						69.5	11.3		140.2	
LOS		D						E	B		F	
Approach Delay		36.6						47.0			140.2	
Approach LOS		D						D			F	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	25 (17%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	44.4
Intersection LOS:	D
Intersection Capacity Utilization	84.4%
ICU Level of Service	E
Analysis Period (min)	15

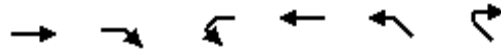
Splits and Phases: 35: Russel Palmer & Northpark Dr.



Lane Group	ø1	ø6
Switch Phase		
Minimum Initial (s)	5.0	15.0
Minimum Split (s)	11.3	21.3
Total Split (s)	24.0	119.0
Total Split (%)	16%	79%
Maximum Green (s)	18.0	113.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
36: Northpark Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑			↑↑		
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3539	0	0	3539	0	0
Flt Permitted						
Satd. Flow (perm)	3539	0	0	3539	0	0
Link Speed (mph)	45			40	45	
Link Distance (ft)	1638			2842	2834	
Travel Time (s)	24.8			48.4	42.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.7%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
43: Sorters Rd & US 59 SBFR

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↙↑	↗
Volume (vph)	0	21	110	291	252	0	0	0	0	103	19	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	200		0	0		0	0		150
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Fr <sub>t</sub>		0.878										0.850
Fl <sub>t</sub> Protected				0.950							0.961	
Satd. Flow (prot)	0	4465	0	1770	3539	0	0	0	0	0	3401	1583
Fl <sub>t</sub> Permitted				0.654							0.961	
Satd. Flow (perm)	0	4465	0	1218	3539	0	0	0	0	0	3401	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		120										74
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		893			863			983			6715	
Travel Time (s)		17.4			16.8			12.2			83.2	
Peak Hour Factor	0.92	0.75	0.92	0.78	0.86	0.92	0.92	0.92	0.92	0.74	0.59	0.80
Adj. Flow (vph)	0	28	120	373	293	0	0	0	0	139	32	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	373	293	0	0	0	0	0	171	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Minimum Split (s)		22.0		22.0	22.0					22.0	22.0	22.0
Total Split (s)		22.0		22.0	22.0					22.0	22.0	22.0
Total Split (%)		50.0%		50.0%	50.0%					50.0%	50.0%	50.0%
Maximum Green (s)		16.0		16.0	16.0					16.0	16.0	16.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0					0	0	0
Act Effect Green (s)		16.0		16.0	16.0						16.0	16.0
Actuated g/C Ratio		0.36		0.36	0.36						0.36	0.36
v/c Ratio		0.09		0.84	0.23						0.14	0.07
Control Delay		3.6		32.0	6.6						4.3	0.7

2014 Existing Condition  
43: Sorters Rd & US 59 SBFR

PM Peak Hour

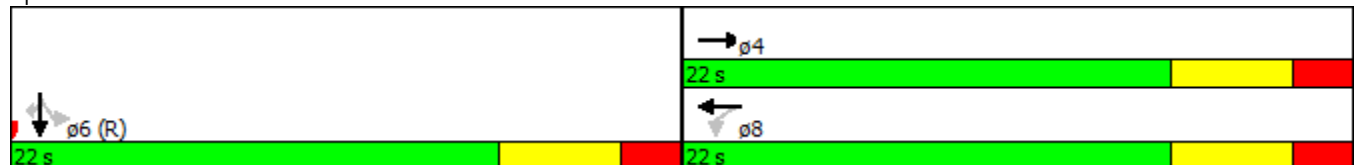


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0						0.0	0.0
Total Delay		3.6		32.0	6.6						4.3	0.7
LOS		A		C	A						A	A
Approach Delay		3.6			20.8						3.6	
Approach LOS		A			C						A	

Intersection Summary

Area Type:	Other
Cycle Length:	44
Actuated Cycle Length:	44
Offset:	0 (0%), Referenced to phase 2: and 6:SBTL, Start of Green
Natural Cycle:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	14.7
Intersection LOS:	B
Intersection Capacity Utilization	40.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 43: Sorters Rd & US 59 SBFR



2014 Existing Condition  
45: Loop 494 & Sorters Rd

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	63	55	291	613	251	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150	180			225
Storage Lanes	2	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	0.88	0.97	0.95	0.95	1.00
Fr <sub>t</sub>		0.850				0.850
Fl <sub>t</sub> Protected	0.950		0.950			
Satd. Flow (prot)	3433	2787	3433	3539	3539	1583
Fl <sub>t</sub> Permitted	0.950		0.559			
Satd. Flow (perm)	3433	2787	2020	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		72				117
Link Speed (mph)	35			45	45	
Link Distance (ft)	863			804	572	
Travel Time (s)	16.8			12.2	8.7	
Peak Hour Factor	0.75	0.76	0.89	0.92	0.79	0.75
Adj. Flow (vph)	84	72	327	666	318	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	72	327	666	318	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	36			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	NA	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effect Green (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.07	0.07	0.45	0.52	0.25	0.18
Control Delay	5.5	2.8	13.0	12.7	10.4	3.5



2014 Existing Condition  
45: Loop 494 & Sorters Rd

PM Peak Hour

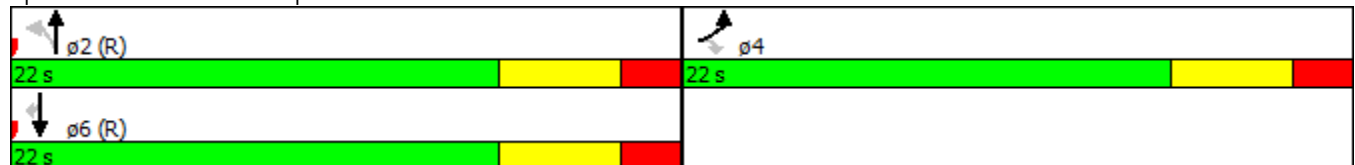


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	2.8	13.0	12.7	10.4	3.5
LOS	A	A	B	B	B	A
Approach Delay	4.3			12.8	8.6	
Approach LOS	A			B	A	

Intersection Summary

Area Type:	Other
Cycle Length:	44
Actuated Cycle Length:	44
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	10.8
Intersection LOS:	B
Intersection Capacity Utilization	33.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 45: Loop 494 & Sorters Rd



2014 Existing Condition  
49: Hamblen & Laurel Springs

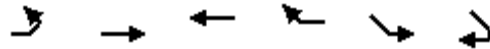
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	185	840	174	12	6	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987		0.877	
Flt Protected		0.990			0.995	
Satd. Flow (prot)	0	1844	1839	0	1625	0
Flt Permitted		0.990			0.995	
Satd. Flow (perm)	0	1844	1839	0	1625	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		1799	1596		734	
Travel Time (s)		35.0	31.1		16.7	
Peak Hour Factor	0.89	0.99	0.75	0.50	0.75	0.76
Adj. Flow (vph)	208	848	232	24	8	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1056	256	0	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		40	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	78.4%
ICU Level of Service	D
Analysis Period (min)	15



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑			
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	3539	3539	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3539	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		736	252		743	
Travel Time (s)		16.7	5.7		16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		40	40		40	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

2014 Existing Condition  
54: Woodland Hills & Hamblen

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt												
Flt Protected												
Satd. Flow (prot)	1863	0	0	0	1863	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	1863	0	0	0	1863	0	0	1863	0	0	1863	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		6657			795			912			3265	
Travel Time (s)		129.7			15.5			17.8			63.6	
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	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)	0%											
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

2014 Existing Condition  
57: Redbud & Hamblen

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	15	43	10	1	17	0	93	53	1	3	32	13
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.968						0.997			0.964	
Flt Protected		0.988			0.992			0.969			0.995	
Satd. Flow (prot)	0	1781	0	0	1848	0	0	1800	0	0	1787	0
Flt Permitted		0.988			0.992			0.969			0.995	
Satd. Flow (perm)	0	1781	0	0	1848	0	0	1800	0	0	1787	0
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		753			6657			439			363	
Travel Time (s)		14.7			129.7			10.0			8.3	
Peak Hour Factor	0.63	0.83	0.42	0.25	0.85	0.25	0.86	0.95	0.25	0.38	0.67	0.65
Adj. Flow (vph)	24	52	24	4	20	0	108	56	4	8	48	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	24	0	0	168	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.8%
ICU Level of Service	A
Analysis Period (min)	15

2014 Existing Condition  
60: Forest Cove & Hamblen

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	520	140	51	1	49	2	16	16	3	3	27	75
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.987			0.987			0.981			0.911	
Flt Protected		0.966			0.998			0.982			0.997	
Satd. Flow (prot)	0	1776	0	0	1835	0	0	1794	0	0	1692	0
Flt Permitted		0.966			0.998			0.982			0.997	
Satd. Flow (perm)	0	1776	0	0	1835	0	0	1794	0	0	1692	0
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1966			1019			472			603	
Travel Time (s)		38.3			19.9			10.7			13.7	
Peak Hour Factor	0.90	0.90	0.67	0.25	0.68	0.25	0.80	0.57	0.38	0.38	0.61	0.75
Adj. Flow (vph)	578	156	76	4	72	8	20	28	8	8	44	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	810	0	0	84	0	0	56	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	61.2%
ICU Level of Service	B
Analysis Period (min)	15

2014 Existing Condition  
64: Woodland Hills & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	379	1506	107	229	1013	144	35	210	302	126	221	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		0	150		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.981				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3504	0	1770	3472	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3504	0	1770	3472	0	1770	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			13				280			323
Link Speed (mph)		40			40			35				35
Link Distance (ft)		275			1473			652				2207
Travel Time (s)		4.7			25.1			12.7				43.0
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
Growth Factor	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	445	1768	126	269	1189	169	41	247	355	148	259	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	445	1894	0	269	1358	0	41	247	355	148	259	335
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		70			75			20				30
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5 15	2		1	6		3	8		7	4	
Permitted Phases									8			4

Lane Group	ø5	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	5	15
Permitted Phases		



2014 Existing Condition  
64: Woodland Hills & Kingwood Dr.

PM Peak Hour

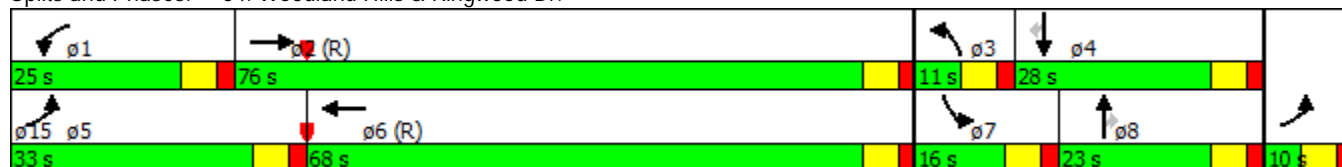


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5 15	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)		10.0		5.0	10.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)		22.0		22.0	22.0		11.0	22.0	22.0	11.0	22.0	22.0
Total Split (s)		76.0		25.0	68.0		11.0	23.0	23.0	16.0	28.0	28.0
Total Split (%)		50.7%		16.7%	45.3%		7.3%	15.3%	15.3%	10.7%	18.7%	18.7%
Maximum Green (s)		70.0		19.0	62.0		5.0	17.0	17.0	10.0	22.0	22.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)		2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode		C-Min		None	C-Min		None	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)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	37.0	70.0		19.0	62.0		5.0	17.0	17.0	10.0	24.2	24.2
Actuated g/C Ratio	0.25	0.47		0.13	0.41		0.03	0.11	0.11	0.07	0.16	0.16
v/c Ratio	1.02	1.16		1.20	0.94		0.69	1.17	0.83	1.25	0.86	0.64
Control Delay	103.1	114.4		178.4	55.3		121.5	171.0	32.1	214.1	105.1	31.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.1	114.4		178.4	55.3		121.5	171.0	32.1	214.1	105.1	31.6
LOS	F	F		F	E		F	F	C	F	F	C
Approach Delay		112.3			75.7			91.2			93.7	
Approach LOS		F			E			F			F	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.25  
 Intersection Signal Delay: 96.0  
 Intersection LOS: F  
 Intersection Capacity Utilization 101.8%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 64: Woodland Hills & Kingwood Dr.



Lane Group	ø5	ø15
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	4.0
Minimum Split (s)	13.0	10.0
Total Split (s)	33.0	10.0
Total Split (%)	22%	7%
Maximum Green (s)	27.0	4.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
69: Kingwood Dr. & High Valley

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	24	0	0	102	42	7	285	129	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.956			0.954				
Flt Protected	0.950	0.998						0.999				
Satd. Flow (prot)	1681	1766	0	0	3383	0	0	3373	0	0	0	0
Flt Permitted	0.950	0.998						0.999				
Satd. Flow (perm)	1681	1766	0	0	3383	0	0	3373	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					34			76				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		140			765			1296			1374	
Travel Time (s)		3.2			17.4			22.1			23.4	
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)	9	26	0	0	111	46	8	310	140	0	0	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	8	27	0	0	157	0	0	458	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA			NA		Prot	NA				
Protected Phases	1 4	4			8		15	2				
Permitted Phases												
Minimum Split (s)		11.0			19.0		11.0	20.0				
Total Split (s)		14.0			25.0		18.0	78.0				
Total Split (%)		9.3%			16.7%		12.0%	52.0%				
Maximum Green (s)		8.0			19.0		12.0	72.0				
Yellow Time (s)		4.0			4.0		4.0	4.0				
All-Red Time (s)		2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag		Lead			Lag			Lead				
Lead-Lag Optimize?		Yes			Yes			Yes				
Walk Time (s)					6.0			4.0				
Flash Dont Walk (s)					7.0			10.0				
Pedestrian Calls (#/hr)					0			0				
Act Effct Green (s)	23.0	23.0			19.0			84.0				
Actuated g/C Ratio	0.15	0.15			0.13			0.56				
v/c Ratio	0.03	0.10			0.34			0.43				
Control Delay	43.1	44.6			48.9			9.6				
Queue Delay	1.7	5.6			0.0			0.0				
Total Delay	44.9	50.2			48.9			9.6				
LOS	D	D			D			A				

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Minimum Split (s)	11.0	10.0
Total Split (s)	15.0	93.0
Total Split (%)	10%	62%
Maximum Green (s)	9.0	87.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		

2014 Existing Condition  
 69: Kingwood Dr. & High Valley

PM Peak Hour

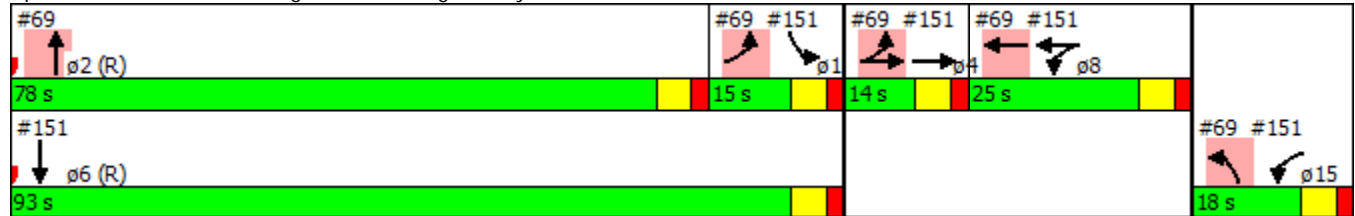


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.0			48.9			9.6				
Approach LOS		D			D			A				

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	48 (32%), Referenced to phase 2:NBT and 6:, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.43
Intersection Signal Delay:	21.2
Intersection LOS:	C
Intersection Capacity Utilization	26.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 69: Kingwood Dr. & High Valley



Lane Group	ø1	ø6
Approach Delay		
Approach LOS		
Intersection Summary		

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73: Hidden Pines Dr./Woodridge/Hidden Pines & Northpark Dr.



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑	↗	↘	↑	
Volume (vph)	13	1769	186	0	0	0	0	49	59	29	79	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986							0.850			
Flt Protected										0.950		
Satd. Flow (prot)	0	3490	0	0	0	0	0	1863	1583	1770	1863	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	3490	0	0	0	0	0	1863	1583	1770	1863	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2720			1035			639			133	
Travel Time (s)		41.2			15.7			14.5			3.0	
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)	14	1923	202	0	0	0	0	53	64	32	86	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2139	0	0	0	0	0	53	64	32	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			25	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	106.5%
ICU Level of Service	G
Analysis Period (min)	15

2014 Existing Condition  
74: Kingwood Dr. & Willow Terrace

PM Peak Hour

													ø1
Lane Group	SBL	SBR	SEL	SET	SER	NWL	NWT	NWR	NEL2	NEL	NER		
Lane Configurations													
Volume (vph)	0	0	2	51	0	0	306	37	80	494	483		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	0		0	0		0		150	0		
Storage Lanes	0	0	0		0	0		0		2	0		
Taper Length (ft)	25		25			25				25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.97	0.95		
Frt							0.979			0.928			
Flt Protected				0.997					0.950	0.975			
Satd. Flow (prot)	0	0	0	3529	0	0	3465	0	1770	3270	0		
Flt Permitted				0.997					0.950	0.975			
Satd. Flow (perm)	0	0	0	3529	0	0	3465	0	1770	3270	0		
Right Turn on Red					Yes			Yes			Yes		
Satd. Flow (RTOR)							10			193			
Link Speed (mph)	40			30			30			40			
Link Distance (ft)	525			105			533			1469			
Travel Time (s)	8.9			2.4			12.1			25.0			
Peak Hour Factor	0.92	0.92	0.50	0.75	0.92	0.92	0.87	0.66	0.74	0.92	0.97		
Adj. Flow (vph)	0	0	4	68	0	0	352	56	108	537	498		
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	72	0	0	408	0	108	1035	0		
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right		
Median Width(ft)	0			0			0			36			
Link Offset(ft)	0			0			0			0			
Crosswalk Width(ft)	16			16			16			16			
Two way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9	15		9	15	15	9		
Turn Type			Prot	NA			NA		Prot	NA			
Protected Phases			1 4	4			8		15	2			1
Permitted Phases													
Minimum Split (s)				11.0			19.0		11.0	20.0			11.0
Total Split (s)				12.0			31.0		23.0	69.0			15.0
Total Split (%)				8.0%			20.7%		15.3%	46.0%			10%
Maximum Green (s)				6.0			25.0		17.0	63.0			9.0
Yellow Time (s)				4.0			4.0		4.0	4.0			4.0
All-Red Time (s)				2.0			2.0		2.0	2.0			2.0
Lost Time Adjust (s)				0.0			0.0		0.0	0.0			0.0
Total Lost Time (s)				6.0			6.0		6.0	6.0			6.0
Lead/Lag				Lead			Lag		Lead		Lag		
Lead-Lag Optimize?				Yes			Yes		Yes		Yes		Yes
Walk Time (s)							6.0			4.0			
Flash Dont Walk (s)							7.0			10.0			
Pedestrian Calls (#/hr)							0			0			
Act Effct Green (s)				21.0			25.0		17.0	63.0			
Actuated g/C Ratio				0.14			0.17		0.11	0.42			
v/c Ratio				0.15			0.70		0.54	0.70			
Control Delay				18.4			64.6		105.4	6.5			



Lane Group	ø6
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	6
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	84.0
Total Split (%)	56%
Maximum Green (s)	78.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	

2014 Existing Condition  
74: Kingwood Dr. & Willow Terrace

PM Peak Hour

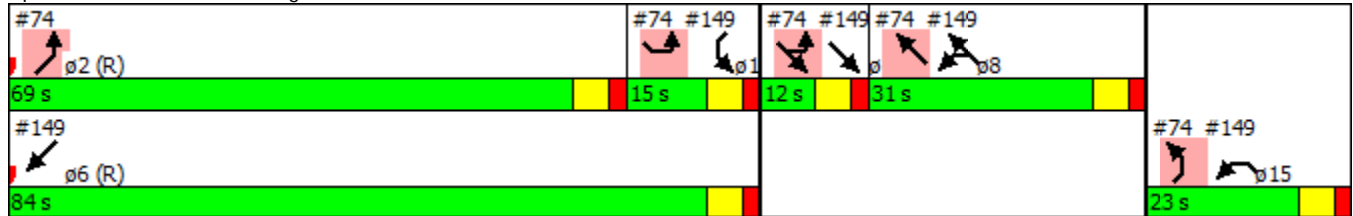


Lane Group	SBL	SBR	SEL	SET	SER	NWL	NWT	NWR	NEL2	NEL	NER	ø1
Queue Delay				3.1			0.0		0.0	0.0		
Total Delay				21.5			64.6		105.4	6.5		
LOS				C			E		F	A		
Approach Delay				21.5			64.6			15.8		
Approach LOS				C			E			B		

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	48 (32%), Referenced to phase 2:NEL and 6:, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	28.3
Intersection LOS:	C
Intersection Capacity Utilization	49.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 74: Kingwood Dr. & Willow Terrace



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Lane Group	ø6
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

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2014 Existing Condition  
77: Timber Shade Dr. & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	1074	48	0	0	0	0	33	0	9	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Fr <sub>t</sub>		0.992										
Fl <sub>t</sub> Protected	0.950										0.972	
Satd. Flow (prot)	1770	3511	0	0	0	0	0	3539	0	0	3440	0
Fl <sub>t</sub> Permitted	0.950										0.972	
Satd. Flow (perm)	1770	3511	0	0	0	0	0	3539	0	0	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5										
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		826			1617			741			136	
Travel Time (s)		14.1			27.6			16.8			3.1	
Peak Hour Factor	0.90	0.96	0.80	0.92	0.92	0.92	0.92	0.69	0.25	0.56	0.25	0.92
Adj. Flow (vph)	128	1119	60	0	0	0	0	48	0	16	12	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	1179	0	0	0	0	0	48	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA						NA		Prot	NA	
Protected Phases	15	2						8		14	4	
Permitted Phases												
Minimum Split (s)	11.0	20.0						19.0			11.0	
Total Split (s)	27.0	80.0						19.0			13.0	
Total Split (%)	18.0%	53.3%						12.7%			8.7%	
Maximum Green (s)	21.0	74.0						13.0			7.0	
Yellow Time (s)	4.0	4.0						4.0			4.0	
All-Red Time (s)	2.0	2.0						2.0			2.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						6.0			6.0	
Lead/Lag		Lead						Lag			Lead	
Lead-Lag Optimize?		Yes						Yes			Yes	
Walk Time (s)		4.0						6.0				
Flash Dont Walk (s)		10.0						7.0				
Pedestrian Calls (#/hr)		0						0				
Act Effct Green (s)	21.0	74.0						13.0			18.0	
Actuated g/C Ratio	0.14	0.49						0.09			0.12	
v/c Ratio	0.52	0.68						0.16			0.07	
Control Delay	68.1	31.3						64.8			40.8	

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Minimum Split (s)	11.0	10.0
Total Split (s)	11.0	91.0
Total Split (%)	7%	61%
Maximum Green (s)	5.0	85.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		

2014 Existing Condition  
77: Timber Shade Dr. & Kingwood Dr.

PM Peak Hour

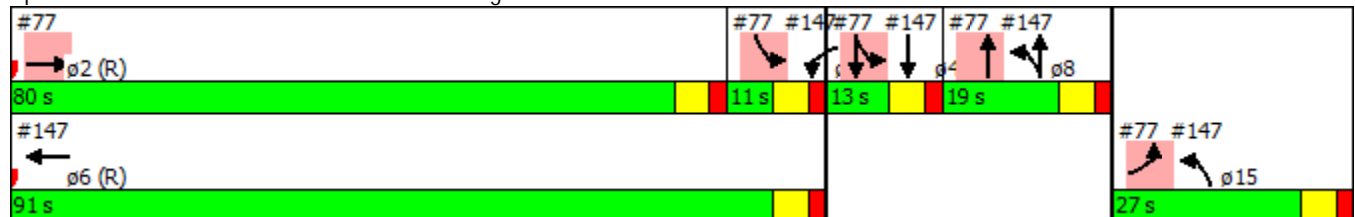


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0						0.0				1.4
Total Delay	68.1	31.3						64.8				42.2
LOS	E	C						E				D
Approach Delay		34.9						64.8				42.2
Approach LOS		C						E				D

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	36.1
Intersection LOS:	D
Intersection Capacity Utilization	48.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 77: Timber Shade Dr. & Kingwood Dr.



Lane Group	ø1	ø6
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

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Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations			↑↑			↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	3539	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	3539	0	0	3539
Link Speed (mph)	40		40			40
Link Distance (ft)	826		596			833
Travel Time (s)	14.1		10.2			14.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	80		80			80
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A



2014 Existing Condition  
81: US 59 SBFR

PM Peak Hour

	↑	↖	↗	↘	↓	↙	↕
Lane Group	NBT	NBR	SBU	SBL	SBT	NWL	NWR
Lane Configurations			↖		↓↓↓		
Volume (vph)	0	0	188	0	549	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.81	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	0	0	1770	0	7544	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	0	0	1770	0	7544	0	0
Link Speed (mph)	55				55	30	
Link Distance (ft)	304				1812	283	
Travel Time (s)	3.8				22.5	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	204	0	597	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	204	0	597	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	0	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Sign Control	Stop				Free	Stop	
<b>Intersection Summary</b>							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	33.1%			ICU Level of Service A			
Analysis Period (min)	15						

2014 Existing Condition  
83: US 59 NBFR

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	188	0	0	986	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	283			309	1638	
Travel Time (s)	6.4			3.8	20.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	0	0	1072	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	204	0	0	1072	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Yield			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
84: US 59 SBFR

PM Peak Hour



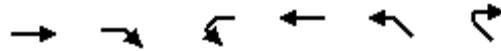
Lane Group	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations							6		7	
Volume (vph)	0	0	0	0	0	0	1079	0	246	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.76	1.00	1.00	1.00
Frt										
Flt Protected									0.950	
Satd. Flow (prot)	0	0	0	0	0	0	8494	0	1770	0
Flt Permitted									0.950	
Satd. Flow (perm)	0	0	0	0	0	0	8494	0	1770	0
Link Speed (mph)	30			55			55		30	
Link Distance (ft)	48			6181			368		362	
Travel Time (s)	1.1			76.6			4.6		8.2	
Peak Hour Factor	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	0	0	0	1173	0	267	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	0	0	0	0	0	1173	0	267	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	0			0			0		12	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Stop			Stop			Free		Yield	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.7%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
87: Kingwood Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations		↑↑		↑↑		
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	0.95	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	3278	0	3539	0	0
Flt Permitted						
Satd. Flow (perm)	0	3278	0	3539	0	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	1473			540	4245	
Travel Time (s)	25.1			9.2	96.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	75			70	70	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

2014 Existing Condition  
88: Kingwood Dr. & Kingwood High School

PM Peak Hour



Lane Group	SEL	SER	NEL	NET	SWT	SWR	ø6	ø8
Lane Configurations	↔↔		↔	↔↔				
Volume (vph)	165	0	18	1818	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00		
Frt								
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	0	1770	3539	0	0		
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	0	1770	3539	0	0		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	110			171	922			
Travel Time (s)	2.5			3.9	21.0			
Peak Hour Factor	0.79	0.92	0.56	0.90	0.92	0.92		
Adj. Flow (vph)	209	0	32	2020	0	0		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	209	0	32	2020	0	0		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	24			60	60			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Turn Type	NA		Prot	NA				
Protected Phases	4		15	2			6	8
Permitted Phases								
Minimum Split (s)	11.0		10.0	10.0			10.0	11.0
Total Split (s)	20.0		12.0	107.0			107.0	11.0
Total Split (%)	13.3%		8.0%	71.3%			71%	7%
Maximum Green (s)	14.0		6.0	101.0			101.0	5.0
Yellow Time (s)	4.0		4.0	4.0			4.0	4.0
All-Red Time (s)	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0				
Total Lost Time (s)	6.0		6.0	6.0				
Lead/Lag	Lead						Lag	
Lead-Lag Optimize?	Yes						Yes	
Act Effect Green (s)	14.0		6.0	101.0				
Actuated g/C Ratio	0.09		0.04	0.67				
v/c Ratio	0.65		0.46	0.85				
Control Delay	15.3		87.1	11.7				
Queue Delay	0.4		126.3	0.0				
Total Delay	15.6		213.3	11.7				
LOS	B		F	B				
Approach Delay	15.6			14.8				
Approach LOS	B			B				

2014 Existing Condition  
 88: Kingwood Dr. & Kingwood High School

PM Peak Hour

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NET and 6:, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization	110.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 88: Kingwood Dr. & Kingwood High School

#88 ↗ ρ2 (R) 107 s	#88 #139 ↗ ρ4 20 s	#139 ↖ ρ8 11 s	
#139 ↖ ρ6 (R) 107 s			#88 #139 ↘ ρ7 12 s



Lane Group	EBU	EBL	SBL	SBR	SWR
Lane Configurations					
Volume (vph)	0	1836	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		100	0	0	0
Storage Lanes		2	0	0	0
Taper Length (ft)		25	25		
Lane Util. Factor	1.00	0.97	1.00	1.00	1.00
Frt					
Flt Protected		0.950			
Satd. Flow (prot)	1863	3433	0	0	0
Flt Permitted		0.950			
Satd. Flow (perm)	1863	3433	0	0	0
Link Speed (mph)		40	30		40
Link Distance (ft)		316	240		171
Travel Time (s)		5.4	5.5		2.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1996	0	0	0
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	1996	0	0	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Right
Median Width(ft)		36	0		0
Link Offset(ft)		0	0		0
Crosswalk Width(ft)		16	16		16
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	9	9
Sign Control		Free	Stop		Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	64.9%
Analysis Period (min)	15
	ICU Level of Service C





Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		

2014 Existing Condition  
91: Lake Kingwood Trail & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	15	2						8		14	4	
Switch Phase												
Minimum Initial (s)	5.0	4.0						5.0			5.0	
Minimum Split (s)	11.0	20.0						19.0			11.0	
Total Split (s)	11.0	95.0						19.0			11.0	
Total Split (%)	7.3%	63.3%						12.7%			7.3%	
Maximum Green (s)	5.0	89.0						13.0			5.0	
Yellow Time (s)	4.0	4.0						4.0			4.0	
All-Red Time (s)	2.0	2.0						2.0			2.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						6.0			6.0	
Lead/Lag		Lead						Lag			Lead	
Lead-Lag Optimize?		Yes						Yes			Yes	
Vehicle Extension (s)	3.0	3.0						3.0			3.0	
Recall Mode	None	C-Max						None			None	
Walk Time (s)		4.0						6.0				
Flash Dont Walk (s)		10.0						7.0				
Pedestrian Calls (#/hr)		0						0				
Act Effct Green (s)	5.1	101.0						12.6			16.2	
Actuated g/C Ratio	0.03	0.67						0.08			0.11	
v/c Ratio	0.15	0.77						0.82			0.19	
Control Delay	76.1	21.2						78.0			34.9	
Queue Delay	0.0	0.0						0.0			98.0	
Total Delay	76.1	21.2						78.0			132.9	
LOS	E	C						E			F	
Approach Delay		21.5						78.0			132.9	
Approach LOS		C						E			F	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 31.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 66.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 91: Lake Kingwood Trail & Kingwood Dr.



Lane Group	ø1	ø6
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	11.0	10.0
Total Split (s)	14.0	109.0
Total Split (%)	9%	73%
Maximum Green (s)	8.0	103.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		



Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		

2014 Existing Condition  
 96: Chestnut Ridge Dr. & Kingwood Dr.

PM Peak Hour

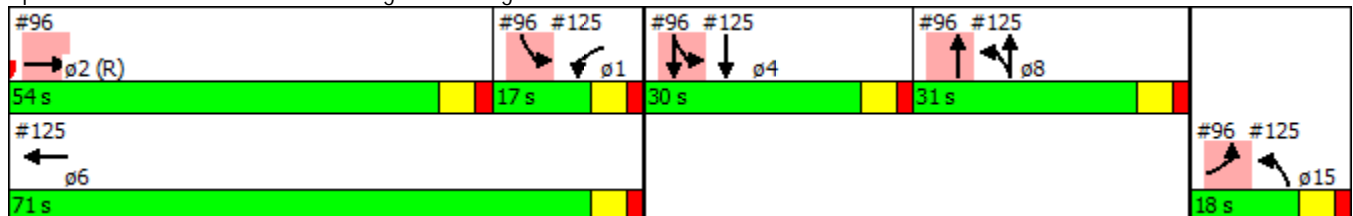


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	15	2						8		14	4	
Switch Phase												
Minimum Initial (s)	5.0	4.0						5.0			5.0	
Minimum Split (s)	11.0	20.0						19.0			11.0	
Total Split (s)	18.0	54.0						31.0			30.0	
Total Split (%)	12.0%	36.0%						20.7%			20.0%	
Maximum Green (s)	12.0	48.0						25.0			24.0	
Yellow Time (s)	4.0	4.0						4.0			4.0	
All-Red Time (s)	2.0	2.0						2.0			2.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						6.0			6.0	
Lead/Lag		Lead						Lag			Lead	
Lead-Lag Optimize?		Yes						Yes			Yes	
Vehicle Extension (s)	3.0	3.0						3.0			3.0	
Recall Mode	None	C-Max						None			None	
Walk Time (s)		4.0						6.0				
Flash Dont Walk (s)		10.0						7.0				
Pedestrian Calls (#/hr)		0						0				
Act Effct Green (s)	11.6	49.4						24.4			40.6	
Actuated g/C Ratio	0.08	0.33						0.16			0.27	
v/c Ratio	0.80	1.84						0.95			0.53	
Control Delay	105.4	410.7						89.6			9.3	
Queue Delay	1.2	0.0						5.7			0.0	
Total Delay	106.6	410.7						95.3			9.3	
LOS	F	F						F			A	
Approach Delay		395.9						95.3			9.3	
Approach LOS		F						F			A	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	95 (63%), Referenced to phase 2:EBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.84
Intersection Signal Delay:	327.7
Intersection LOS:	F
Intersection Capacity Utilization:	96.0%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 96: Chestnut Ridge Dr. & Kingwood Dr.



Lane Group	ø1	ø6
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	11.0	10.0
Total Split (s)	17.0	71.0
Total Split (%)	11%	47%
Maximum Green (s)	11.0	65.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
 101: Woodridge/Hidden Pines/Woodridge Parkway & Northpark Dr.

PM Peak Hour

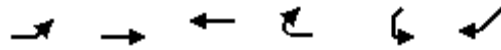


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑		↑	↑			↑	↑
Volume (vph)	0	0	0	68	1205	22	250	18	0	0	30	24
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.997							0.850
Flt Protected					0.997		0.950					
Satd. Flow (prot)	0	0	0	0	3518	0	1770	1863	0	0	1863	1583
Flt Permitted					0.997		0.950					
Satd. Flow (perm)	0	0	0	0	3518	0	1770	1863	0	0	1863	1583
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2724			1030			133			593	
Travel Time (s)		41.3			15.6			3.0			13.5	
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	0	0	74	1310	24	272	20	0	0	33	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1408	0	272	20	0	0	33	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			25			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	106.5%
ICU Level of Service	G
Analysis Period (min)	15





Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑			↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	1863	0	0	3278
Flt Permitted						
Satd. Flow (perm)	0	0	1863	0	0	3278
Link Speed (mph)		40	30		40	
Link Distance (ft)		252	240		271	
Travel Time (s)		4.3	5.5		4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Yield		Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	64.9%
ICU Level of Service	C
Analysis Period (min)	15



Lane Group	ø1	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21
Lane Configurations											
Volume (vph)											
Ideal Flow (vphpl)											
Lane Util. Factor											
Frt											
Flt Protected											
Satd. Flow (prot)											
Flt Permitted											
Satd. Flow (perm)											
Right Turn on Red											
Satd. Flow (RTOR)											
Link Speed (mph)											
Link Distance (ft)											
Travel Time (s)											
Peak Hour Factor											
Adj. Flow (vph)											
Shared Lane Traffic (%)											
Lane Group Flow (vph)											
Enter Blocked Intersection											
Lane Alignment											
Median Width(ft)											
Link Offset(ft)											
Crosswalk Width(ft)											
Two way Left Turn Lane											
Headway Factor											
Turning Speed (mph)											
Number of Detectors											
Detector Template											
Leading Detector (ft)											
Trailing Detector (ft)											
Detector 1 Position(ft)											
Detector 1 Size(ft)											
Detector 1 Type											
Detector 1 Channel											
Detector 1 Extend (s)											
Detector 1 Queue (s)											
Detector 1 Delay (s)											
Detector 2 Position(ft)											
Detector 2 Size(ft)											
Detector 2 Type											
Detector 2 Channel											
Detector 2 Extend (s)											
Turn Type											
Protected Phases	1	3	4	5	6	7	8	11	15	16	21
Permitted Phases											
Detector Phase											
Switch Phase											
Minimum Initial (s)	3.0	1.0	5.0	3.0	8.0	1.0	1.0	3.0	3.0	4.0	1.0
Minimum Split (s)	9.0	7.0	11.7	9.0	26.0	7.0	26.7	9.0	9.0	10.0	7.0

2014 Existing Condition  
104: US 59 SBFR & Kingwood Dr.

PM Peak Hour

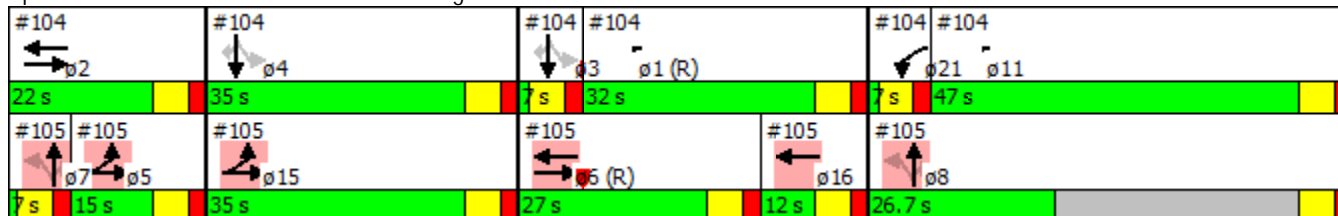


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)		22.0										
Total Split (%)		14.7%										
Maximum Green (s)		16.0										
Yellow Time (s)		4.0										
All-Red Time (s)		2.0										
Lost Time Adjust (s)		0.0										
Total Lost Time (s)		6.0										
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0										
Recall Mode		Max										
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		17.4		85.5	96.0					29.0	29.0	29.0
Actuated g/C Ratio		0.12		0.57	0.64					0.19	0.19	0.19
v/c Ratio		1.00dr		0.55	0.30					0.37	0.38	0.21
Control Delay		78.4		8.5	2.4					55.1	52.1	1.0
Queue Delay		0.0		1.8	0.5					39.6	24.6	2.1
Total Delay		78.4		10.2	2.9					94.7	76.8	3.2
LOS		E		B	A					F	E	A
Approach Delay		78.4			7.4						67.2	
Approach LOS		E			A						E	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	8 (5%), Referenced to phase 1:WBTL and 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	35.0
Intersection LOS:	C
Intersection Capacity Utilization:	80.1%
ICU Level of Service:	D
Analysis Period (min):	15
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 104: US 59 SBFR & Kingwood Dr.



Lane Group	ø1	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21
Total Split (s)	32.0	7.0	35.0	15.0	27.0	7.0	26.7	47.0	35.0	12.0	7.0
Total Split (%)	21%	5%	23%	10%	18%	5%	18%	31%	23%	8%	5%
Maximum Green (s)	26.0	1.0	29.0	9.0	21.0	1.0	20.7	41.0	29.0	6.0	1.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)											
Total Lost Time (s)											
Lead/Lag	Lag	Lead		Lag	Lead	Lead		Lag		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes		Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	None	C-Max	Max	None	None	None	None	None
Walk Time (s)					5.0		6.0				
Flash Dont Walk (s)					15.0		14.0				
Pedestrian Calls (#/hr)					0		0				
Act Effect Green (s)											
Actuated g/C Ratio											
v/c Ratio											
Control Delay											
Queue Delay											
Total Delay											
LOS											
Approach Delay											
Approach LOS											
Intersection Summary											



Lane Group	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21
Lane Configurations												
Volume (vph)												
Ideal Flow (vphpl)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Right Turn on Red												
Satd. Flow (RTOR)												
Link Speed (mph)												
Link Distance (ft)												
Travel Time (s)												
Peak Hour Factor												
Adj. Flow (vph)												
Shared Lane Traffic (%)												
Lane Group Flow (vph)												
Enter Blocked Intersection												
Lane Alignment												
Median Width(ft)												
Link Offset(ft)												
Crosswalk Width(ft)												
Two way Left Turn Lane												
Headway Factor												
Turning Speed (mph)												
Number of Detectors												
Detector Template												
Leading Detector (ft)												
Trailing Detector (ft)												
Detector 1 Position(ft)												
Detector 1 Size(ft)												
Detector 1 Type												
Detector 1 Channel												
Detector 1 Extend (s)												
Detector 1 Queue (s)												
Detector 1 Delay (s)												
Detector 2 Position(ft)												
Detector 2 Size(ft)												
Detector 2 Type												
Detector 2 Channel												
Detector 2 Extend (s)												
Turn Type												
Protected Phases	1	2	3	4	5	6	7	8	11	15	16	21
Permitted Phases												
Detector Phase												
Switch Phase												
Minimum Initial (s)	3.0	7.0	1.0	5.0	3.0	8.0	1.0	1.0	3.0	3.0	4.0	1.0
Minimum Split (s)	9.0	13.0	7.0	11.7	9.0	26.0	7.0	26.7	9.0	9.0	10.0	7.0

2014 Existing Condition  
105: US 59 NBFR & Kingwood Dr.

PM Peak Hour

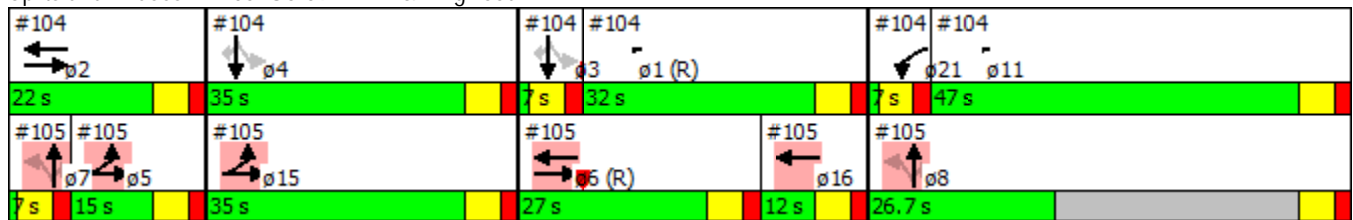


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)												
Total Split (%)												
Maximum Green (s)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)												
Recall Mode												
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	31.6	71.0			45.4		55.0	55.0	55.0			
Actuated g/C Ratio	0.21	0.47			0.30		0.37	0.37	0.37			
v/c Ratio	0.39	0.23			0.80		0.50	0.51	0.72			
Control Delay	9.6	2.6			34.1		40.8	38.2	12.8			
Queue Delay	0.4	1.7			1.1		65.0	53.3	28.7			
Total Delay	10.0	4.2			35.2		105.8	91.5	41.4			
LOS	B	A			D		F	F	D			
Approach Delay		6.7			35.2			68.9				
Approach LOS		A			D			E				

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	8 (5%), Referenced to phase 1:WBTL and 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	48.1
Intersection LOS:	D
Intersection Capacity Utilization:	80.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 105: US 59 NBFR & Kingwood Dr.





Lane Group	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø11	ø15	ø16	ø21
Total Split (s)	32.0	22.0	7.0	35.0	15.0	27.0	7.0	26.7	47.0	35.0	12.0	7.0
Total Split (%)	21%	15%	5%	23%	10%	18%	5%	18%	31%	23%	8%	5%
Maximum Green (s)	26.0	16.0	1.0	29.0	9.0	21.0	1.0	20.7	41.0	29.0	6.0	1.0
Yellow 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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag	Lag		Lead		Lag	Lead	Lead		Lag		Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes		Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	None	None	C-Max	Max	None	None	None	None	None
Walk Time (s)						5.0		6.0				
Flash Dont Walk (s)						15.0		14.0				
Pedestrian Calls (#/hr)						0		0				
Act Effect Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Intersection Summary												

2014 Existing Condition  
107: Kingwood Dr.

PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	5	196	289	375	70	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.918			
Flt Protected	0.950					0.978
Satd. Flow (prot)	1770	1583	1710	0	0	1822
Flt Permitted	0.950					0.978
Satd. Flow (perm)	1770	1583	1710	0	0	1822
Link Speed (mph)	40		35			35
Link Distance (ft)	1864		3577			5784
Travel Time (s)	31.8		69.7			112.7
Peak Hour Factor	0.63	0.77	0.79	0.66	0.92	0.84
Adj. Flow (vph)	8	255	366	568	76	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	255	934	0	0	172
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.7%
Analysis Period (min)	15
	ICU Level of Service B

2014 Existing Condition  
110: Mills Branch

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕↔				
Volume (vph)	25	189	0	0	312	28	182	132	329	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt					0.986			0.890				
Flt Protected		0.993					0.950					
Satd. Flow (prot)	0	1850	0	0	1837	0	1770	3150	0	0	0	0
Flt Permitted		0.993					0.950					
Satd. Flow (perm)	0	1850	0	0	1837	0	1770	3150	0	0	0	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		160			2425			239				312
Travel Time (s)		3.6			55.1			5.4				7.1
Peak Hour Factor	0.69	0.86	0.92	0.92	0.92	0.70	0.93	0.87	0.78	0.92	0.92	0.92
Adj. Flow (vph)	36	220	0	0	339	40	196	152	422	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	0	0	379	0	196	574	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Stop			Stop				Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.9%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
111: Lake Houston Parkway & Rustic Woods

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔↔				
Volume (vph)	51	61	0	0	106	69	105	1288	108	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Fr <sub>t</sub>					0.934			0.987				
Fl <sub>t</sub> Protected		0.976					0.950					
Satd. Flow (prot)	0	3454	0	0	3306	0	1770	3493	0	0	0	0
Fl <sub>t</sub> Permitted		0.976					0.950					
Satd. Flow (perm)	0	3454	0	0	3306	0	1770	3493	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					105			8				
Link Speed (mph)		30			30			40				40
Link Distance (ft)		116			559			1309				3971
Travel Time (s)		2.6			12.7			22.3				67.7
Peak Hour Factor	0.67	0.80	0.92	0.92	0.80	0.66	0.91	0.98	0.87	0.92	0.92	0.92
Adj. Flow (vph)	76	76	0	0	132	105	115	1314	124	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	0	237	0	115	1438	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			120				120
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Prot	NA				
Protected Phases	1 4	4			8		15	2				
Permitted Phases												
Detector Phase	1 4	4			8		15	2				

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Detector Phase		

2014 Existing Condition  
 111: Lake Houston Parkway & Rustic Woods

PM Peak Hour

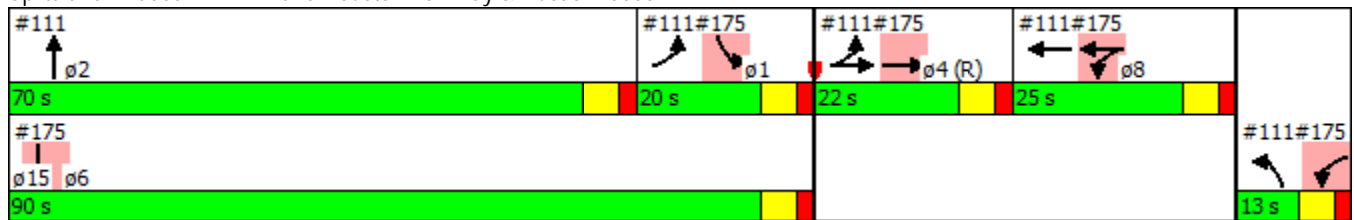


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0			5.0		5.0	4.0				
Minimum Split (s)		22.0			25.0		11.0	21.0				
Total Split (s)		22.0			25.0		13.0	70.0				
Total Split (%)		14.7%			16.7%		8.7%	46.7%				
Maximum Green (s)		16.0			19.0		7.0	64.0				
Yellow Time (s)		4.0			4.0		4.0	4.0				
All-Red Time (s)		2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				
Total Lost Time (s)		6.0			6.0		6.0	6.0				
Lead/Lag		Lead			Lag			Lead				
Lead-Lag Optimize?		Yes			Yes			Yes				
Vehicle Extension (s)		3.0			3.0		3.0	3.0				
Recall Mode		C-Max			None		None	Max				
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		11.0			14.0			6.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)		32.0			15.0		11.0	68.0				
Actuated g/C Ratio		0.21			0.10		0.07	0.45				
v/c Ratio		0.21			0.56		0.88	0.91				
Control Delay		19.6			40.1		119.4	48.0				
Queue Delay		11.5			0.3		2.1	0.0				
Total Delay		31.2			40.5		121.5	48.0				
LOS		C			D		F	D				
Approach Delay		31.2			40.5			53.5				
Approach LOS		C			D			D				

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	20 (13%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	50.1
Intersection LOS:	D
Intersection Capacity Utilization:	63.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 111: Lake Houston Parkway & Rustic Woods



Lane Group	ø1	ø6
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	20.0	21.0
Total Split (s)	20.0	90.0
Total Split (%)	13%	60%
Maximum Green (s)	14.0	84.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
115: Loop 494 & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	1353	20	114	1235	136	45	203	470	174	120	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		150	160		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.985				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3532	0	1770	3486	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3532	0	1770	3486	0	1770	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			11				231			153
Link Speed (mph)		40			40			45				45
Link Distance (ft)		1514			523			675				922
Travel Time (s)		25.8			8.9			10.2				14.0
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
Growth Factor	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	18	1588	23	134	1450	160	53	238	552	204	141	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	1611	0	134	1610	0	53	238	552	204	141	114
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			30			20				20
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4



2014 Existing Condition  
115: Loop 494 & Kingwood Dr.

PM Peak Hour

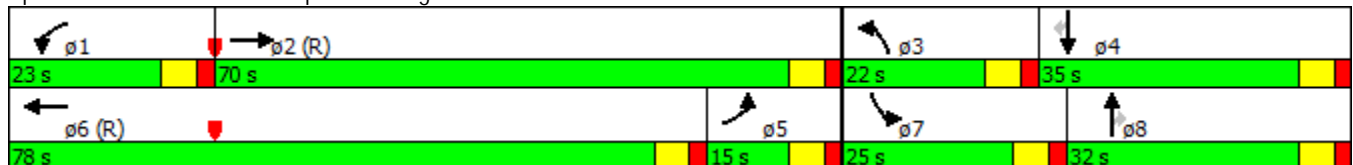


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	11.0	22.0		11.0	22.0		11.0	14.0	14.0	11.0	22.0	22.0
Total Split (s)	15.0	70.0		23.0	78.0		22.0	32.0	32.0	25.0	35.0	35.0
Total Split (%)	10.0%	46.7%		15.3%	52.0%		14.7%	21.3%	21.3%	16.7%	23.3%	23.3%
Maximum Green (s)	9.0	64.0		17.0	72.0		16.0	26.0	26.0	19.0	29.0	29.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	7.7	65.9		15.1	78.0		9.9	26.2	26.2	18.8	37.5	37.5
Actuated g/C Ratio	0.05	0.44		0.10	0.52		0.07	0.17	0.17	0.13	0.25	0.25
v/c Ratio	0.20	1.04		0.75	0.89		0.46	0.73	1.18	0.92	0.30	0.22
Control Delay	63.7	64.1		76.8	46.4		79.2	72.8	131.8	68.8	51.1	20.5
Queue Delay	0.0	25.4		0.0	47.3		0.0	0.0	0.7	52.6	0.0	0.0
Total Delay	63.7	89.5		76.8	93.7		79.2	72.8	132.5	121.4	51.1	20.5
LOS	E	F		E	F		E	E	F	F	D	C
Approach Delay		89.2			92.4			112.3			74.8	
Approach LOS		F			F			F			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 90 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 93.1  
 Intersection LOS: F  
 Intersection Capacity Utilization 97.9%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 115: Loop 494 & Kingwood Dr.



2014 Existing Condition  
118: Royal Forest /Royal Forest & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	1753	206	91	1190	12	180	26	84	10	13	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.887	
Flt Protected	0.950			0.950				0.958			0.996	
Satd. Flow (prot)	1770	3539	1583	1770	3536	0	0	1785	1583	0	1646	0
Flt Permitted	0.950			0.950				0.436			0.711	
Satd. Flow (perm)	1770	3539	1583	1770	3536	0	0	812	1583	0	1175	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163		1				99		135	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		523			284			392			750	
Travel Time (s)		8.9			4.8			8.9			17.0	
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
Growth Factor	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	45	2058	242	107	1397	14	211	31	99	12	15	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	2058	242	107	1411	0	0	242	99	0	162	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			30			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		

2014 Existing Condition  
 118: Royal Forest /Royal Forest & Kingwood Dr.

PM Peak Hour

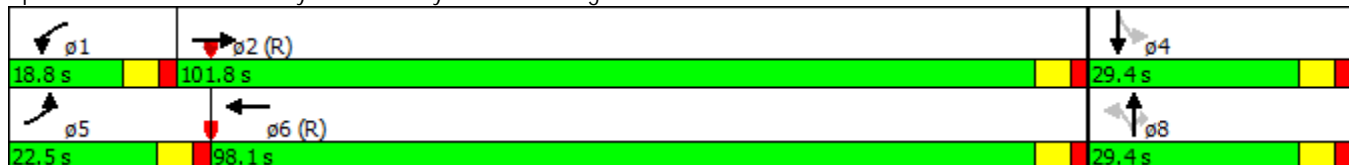


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	22.0	22.0	10.5	22.0		23.5	23.5	23.5	13.5	13.5	
Total Split (s)	22.5	101.8	101.8	18.8	98.1		29.4	29.4	29.4	29.4	29.4	
Total Split (%)	15.0%	67.9%	67.9%	12.5%	65.4%		19.6%	19.6%	19.6%	19.6%	19.6%	
Maximum Green (s)	16.5	95.8	95.8	12.8	92.1		23.4	23.4	23.4	23.4	23.4	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0			
Pedestrian Calls (#/hr)		0	0		0		0	0	0			
Act Effect Green (s)	9.2	96.5	96.5	12.1	101.7			23.4	23.4		23.4	
Actuated g/C Ratio	0.06	0.64	0.64	0.08	0.68			0.16	0.16		0.16	
v/c Ratio	0.42	0.90	0.22	0.75	0.59			1.92	0.30		0.55	
Control Delay	65.9	43.3	10.3	97.6	14.9			474.3	12.2		20.9	
Queue Delay	0.0	47.4	0.0	0.0	5.8			0.0	0.0		1.1	
Total Delay	65.9	90.7	10.3	97.6	20.7			474.3	12.2		22.0	
LOS	E	F	B	F	C			F	B		C	
Approach Delay		82.0			26.1			340.1			22.0	
Approach LOS		F			C			F			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.92  
 Intersection Signal Delay: 80.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 99.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 118: Royal Forest /Royal Forest & Kingwood Dr.



2014 Existing Condition  
121: US 59 SBFR

PM Peak Hour



Lane Group	NBT	NBR	SBU	SBL	SBT	NWL	NWR
Lane Configurations			⬇		⬆⬆⬆⬆		
Volume (vph)	0	0	149	0	463	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.81	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	0	0	1770	0	7544	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	0	0	1770	0	7544	0	0
Right Turn on Red		Yes		Yes		Yes	Yes
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	30	
Link Distance (ft)	202				6181	331	
Travel Time (s)	2.5				76.6	7.5	
Peak Hour Factor	0.92	0.92	0.79	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	189	0	503	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	189	0	503	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	0	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type			Perm		NA		
Protected Phases					6		
Permitted Phases			6				
Minimum Split (s)			22.0		22.0		
Total Split (s)			22.0		22.0		
Total Split (%)			100.0%		100.0%		
Maximum Green (s)			16.0		16.0		
Yellow Time (s)			4.0		4.0		
All-Red Time (s)			2.0		2.0		
Lost Time Adjust (s)			0.0		0.0		
Total Lost Time (s)			6.0		6.0		
Lead/Lag							
Lead-Lag Optimize?							
Walk Time (s)			5.0		5.0		
Flash Dont Walk (s)			11.0		11.0		
Pedestrian Calls (#/hr)			0		0		
Act Effct Green (s)			22.0		22.0		
Actuated g/C Ratio			1.00		1.00		
v/c Ratio			0.11		0.07		
Control Delay			0.1		0.0		
Queue Delay			0.0		0.0		
Total Delay			0.1		0.0		
LOS			A		A		



Lane Group	NBT	NBR	SBU	SBL	SBT	NWL	NWR
Approach Delay					0.0		
Approach LOS					A		

**Intersection Summary**

Area Type:	Other
Cycle Length:	22
Actuated Cycle Length:	22
Offset:	0 (0%), Referenced to phase 2: and 6:SBTU, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.11
Intersection Signal Delay:	0.0
Intersection LOS:	A
Intersection Capacity Utilization	30.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 121: US 59 SBFR



2014 Existing Condition  
122: US 59 NBFR

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	149	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)	1091					
Link Speed (mph)	30			55	55	
Link Distance (ft)	331			217	6159	
Travel Time (s)	7.5			2.7	76.4	
Peak Hour Factor	0.79	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	NA					
Protected Phases	4			2		
Permitted Phases						
Minimum Split (s)	22.0			22.0		
Total Split (s)	22.0			22.0		
Total Split (%)	50.0%			50.0%		
Maximum Green (s)	16.0			16.0		
Yellow Time (s)	4.0			4.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0			5.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.0					
Actuated g/C Ratio	0.36					
v/c Ratio	0.14					
Control Delay	0.2					
Queue Delay	0.0					
Total Delay	0.2					
LOS	A					

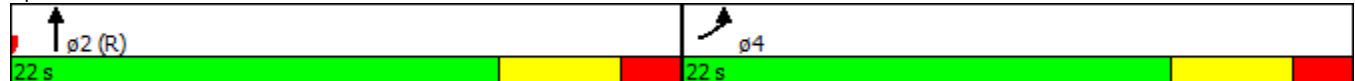


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	0.2					
Approach LOS	A					

**Intersection Summary**

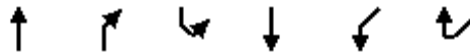
Area Type:	Other
Cycle Length:	44
Actuated Cycle Length:	44
Offset:	0 (0%), Referenced to phase 2:NBT and 6:, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.14
Intersection Signal Delay:	0.2
Intersection LOS:	A
Intersection Capacity Utilization	24.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 122: US 59 NBFR



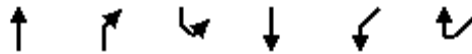
2014 Existing Condition  
123: US 59 SBFR

PM Peak Hour



Lane Group	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations				↑↑↑	↘	
Volume (vph)	0	0	0	1230	198	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	5085	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	5085	1770	0
Right Turn on Red		Yes			Yes	Yes
Satd. Flow (RTOR)					7	
Link Speed (mph)	55			55	30	
Link Distance (ft)	6715			184	304	
Travel Time (s)	83.2			2.3	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1337	215	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1337	215	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type				NA	NA	
Protected Phases				6	8	
Permitted Phases						
Minimum Split (s)				22.0	22.0	
Total Split (s)				22.0	22.0	
Total Split (%)				50.0%	50.0%	
Maximum Green (s)				16.0	16.0	
Yellow Time (s)				4.0	4.0	
All-Red Time (s)				2.0	2.0	
Lost Time Adjust (s)				0.0	0.0	
Total Lost Time (s)				6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effect Green (s)				16.0	16.0	
Actuated g/C Ratio				0.36	0.36	
v/c Ratio				0.72	0.33	
Control Delay				14.8	11.6	
Queue Delay				41.5	0.0	
Total Delay				56.3	11.6	
LOS				E	B	



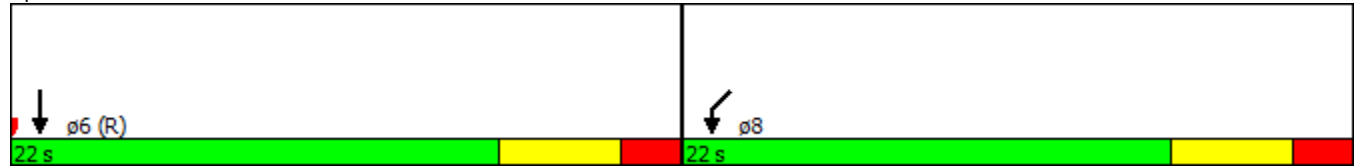


Lane Group	NBT	NBR	SBL	SBT	SWL	SWR
Approach Delay				56.3	11.6	
Approach LOS				E	B	

**Intersection Summary**

Area Type:	Other
Cycle Length:	44
Actuated Cycle Length:	44
Offset:	0 (0%), Referenced to phase 2: and 6:SBT, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	50.1
Intersection LOS:	D
Intersection Capacity Utilization	44.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 123: US 59 SBFR





Lane Group	NBU	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	<b>A</b>		<b>B</b>				
Volume (vph)	198	0	1986	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.76	1.00	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1770	0	8494	0	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	1770	0	8494	0	0	0	0
Right Turn on Red		Yes			Yes	Yes	Yes
Satd. Flow (RTOR)							
Link Speed (mph)			55	55		30	
Link Distance (ft)			423	180		304	
Travel Time (s)			5.2	2.2		6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	0	2159	0	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	215	0	2159	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			12	12		0	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Turn Type	Perm		NA				
Protected Phases			2				
Permitted Phases	2						
Minimum Split (s)	22.0		22.0				
Total Split (s)	22.0		22.0				
Total Split (%)	100.0%		100.0%				
Maximum Green (s)	16.0		16.0				
Yellow Time (s)	4.0		4.0				
All-Red Time (s)	2.0		2.0				
Lost Time Adjust (s)	0.0		0.0				
Total Lost Time (s)	6.0		6.0				
Lead/Lag							
Lead-Lag Optimize?							
Walk Time (s)	5.0		5.0				
Flash Dont Walk (s)	11.0		11.0				
Pedestrian Calls (#/hr)	0		0				
Act Effct Green (s)	22.0		22.0				
Actuated g/C Ratio	1.00		1.00				
v/c Ratio	0.12		0.25				
Control Delay	0.1		0.1				
Queue Delay	0.0		0.0				
Total Delay	0.1		0.1				
LOS	A		A				



Lane Group	NBU	NBL	NBT	SBT	SBR	SEL	SER
Approach Delay			0.1				
Approach LOS			A				

**Intersection Summary**

Area Type:	Other
Cycle Length:	22
Actuated Cycle Length:	22
Offset:	0 (0%), Referenced to phase 2:NBTU and 6:, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.25
Intersection Signal Delay:	0.1
Intersection LOS:	A
Intersection Capacity Utilization	44.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 124: US 59 NBFR





Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	15
Permitted Phases		

2014 Existing Condition  
125: Chestnut Ridge Dr. & Kingwood Dr.

PM Peak Hour

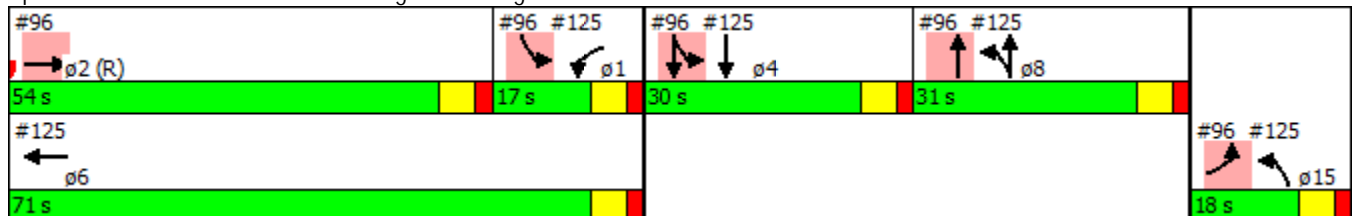


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				1	6		15	8			4	
Switch Phase												
Minimum Initial (s)				5.0	4.0			5.0			5.0	
Minimum Split (s)				11.0	10.0			19.0			11.0	
Total Split (s)				17.0	71.0			31.0			30.0	
Total Split (%)				11.3%	47.3%			20.7%			20.0%	
Maximum Green (s)				11.0	65.0			25.0			24.0	
Yellow Time (s)				4.0	4.0			4.0			4.0	
All-Red Time (s)				2.0	2.0			2.0			2.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				6.0	6.0			6.0			6.0	
Lead/Lag				Lag				Lag			Lead	
Lead-Lag Optimize?				Yes				Yes			Yes	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Recall Mode				None	None			None			None	
Walk Time (s)								6.0				
Flash Dont Walk (s)								7.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)				10.7	66.1			42.0			23.9	
Actuated g/C Ratio				0.07	0.44			0.28			0.16	
v/c Ratio				0.80	0.86			0.41			0.96	
Control Delay				113.4	54.9			10.6			98.6	
Queue Delay				0.0	0.0			0.0			2.4	
Total Delay				113.4	54.9			10.6			101.0	
LOS				F	D			B			F	
Approach Delay					59.0			10.6			101.0	
Approach LOS					E			B			F	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	95 (63%), Referenced to phase 2:EBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.84
Intersection Signal Delay:	60.0
Intersection LOS:	E
Intersection Capacity Utilization:	74.7%
ICU Level of Service:	D
Analysis Period (min):	15

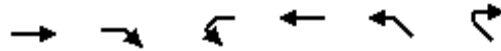
Splits and Phases: 125: Chestnut Ridge Dr. & Kingwood Dr.



Lane Group	ø2	ø15
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	5.0
Minimum Split (s)	20.0	11.0
Total Split (s)	54.0	18.0
Total Split (%)	36%	12%
Maximum Green (s)	48.0	12.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
<b>Intersection Summary</b>		

2014 Existing Condition  
126: Kingwood Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑			↑↑		
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3539	0	0	3539	0	0
Flt Permitted						
Satd. Flow (perm)	3539	0	0	3539	0	0
Link Speed (mph)	40			40	40	
Link Distance (ft)	1032			502	530	
Travel Time (s)	17.6			8.6	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A



2014 Existing Condition  
128: Kingwood Dr. & Green Oak Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↑↑	↗	↙	↑			↑↔	
Volume (vph)	0	0	0	39	1066	194	132	76	0	0	357	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		150	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt						0.850					0.988	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	3539	1583	1770	1863	0	0	3497	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1770	3539	1583	1770	1863	0	0	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						153						5
Link Speed (mph)		40			40			30				30
Link Distance (ft)		558			1505			89				240
Travel Time (s)		9.5			25.7			2.0				5.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	0	0	0	46	1251	228	155	89	0	0	419	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	46	1251	228	155	89	0	0	457	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2				2
Detector Template				Left	Thru	Right	Left	Thru				Thru
Leading Detector (ft)				20	100	20	20	100				100
Trailing Detector (ft)				0	0	0	0	0				0
Detector 1 Position(ft)				0	0	0	0	0				0
Detector 1 Size(ft)				20	6	20	20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Prot	NA	Perm	Prot	NA				NA
Protected Phases				1	6		15	8				4
Permitted Phases							6					

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	15
Permitted Phases		

2014 Existing Condition  
128: Kingwood Dr. & Green Oak Dr.

PM Peak Hour

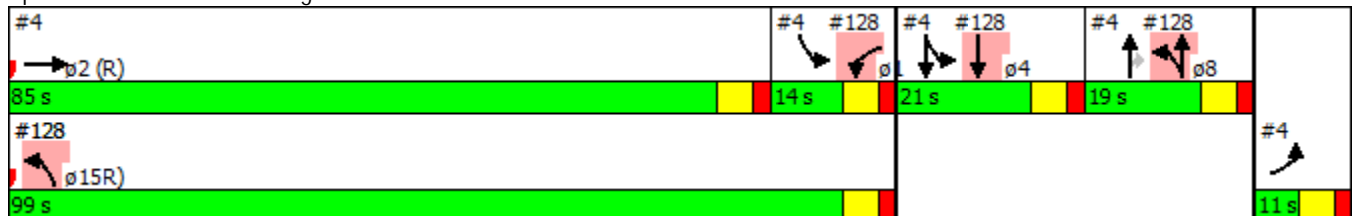


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				1	6	6	15	8				4
Switch Phase												
Minimum Initial (s)				5.0	4.0	4.0		5.0				5.0
Minimum Split (s)				11.0	10.0	10.0		19.0				11.0
Total Split (s)				14.0	99.0	99.0		19.0				21.0
Total Split (%)				9.3%	66.0%	66.0%		12.7%				14.0%
Maximum Green (s)				8.0	93.0	93.0		13.0				15.0
Yellow Time (s)				4.0	4.0	4.0		4.0				4.0
All-Red Time (s)				2.0	2.0	2.0		2.0				2.0
Lost Time Adjust (s)				0.0	0.0	0.0		0.0				0.0
Total Lost Time (s)				6.0	6.0	6.0		6.0				6.0
Lead/Lag				Lag				Lag				Lead
Lead-Lag Optimize?				Yes				Yes				Yes
Vehicle Extension (s)				3.0	3.0	3.0		3.0				3.0
Recall Mode				None	C-Max	C-Max		None				None
Walk Time (s)								6.0				
Flash Dont Walk (s)								7.0				
Pedestrian Calls (#/hr)								0				
Act Effect Green (s)				8.0	93.0	93.0	24.0	13.0				15.0
Actuated g/C Ratio				0.05	0.62	0.62	0.16	0.09				0.10
v/c Ratio				0.49	0.57	0.22	0.55	0.55				1.29
Control Delay				86.8	18.0	4.6	7.5	38.7				200.8
Queue Delay				4.1	0.0	0.0	0.0	0.0				3.3
Total Delay				90.9	18.0	4.6	7.5	38.7				204.1
LOS				F	B	A	A	D				F
Approach Delay					18.2			18.9				204.1
Approach LOS					B			B				F

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.29  
 Intersection Signal Delay: 56.5  
 Intersection LOS: E  
 Intersection Capacity Utilization 128.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 128: Kingwood Dr. & Green Oak Dr.



Lane Group	ø2	ø15
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	5.0
Minimum Split (s)	20.0	11.0
Total Split (s)	85.0	11.0
Total Split (%)	57%	7%
Maximum Green (s)	79.0	5.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
<b>Intersection Summary</b>		

2014 Existing Condition  
132: Kingwood Place Dr. & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	227	9	54	485	272	10	45	221	78	12	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	50		0	50		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.994			0.946			0.875				0.885
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3518	0	1770	3348	0	1770	3097	0	1770	3132	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3518	0	1770	3348	0	1770	3097	0	1770	3132	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1864			979			514			466	
Travel Time (s)		31.8			16.7			11.7			10.6	
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	247	10	59	527	296	11	49	240	85	13	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	257	0	59	823	0	11	289	0	85	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.5%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations		↑↑				↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	3278	0	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	3278	0	0	0	3539
Link Speed (mph)	40		30			40
Link Distance (ft)	922		890			1945
Travel Time (s)	15.7		20.2			33.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	100		100			100
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
136: Kingwood Dr. & Lake Kingwood Trail

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	47	1103	42	44	1	0	0	57	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.993							0.977
Flt Protected				0.950				0.953				
Satd. Flow (prot)	0	0	0	1770	3514	0	0	3373	0	0	3458	0
Flt Permitted				0.950				0.953				
Satd. Flow (perm)	0	0	0	1770	3514	0	0	3373	0	0	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8							10
Link Speed (mph)		40			40			30				30
Link Distance (ft)		950			1201			108				289
Travel Time (s)		16.2			20.5			2.5				6.6
Peak Hour Factor	0.92	0.92	0.92	0.84	0.95	0.70	0.79	0.92	0.92	0.92	0.63	0.81
Adj. Flow (vph)	0	0	0	56	1161	60	56	1	0	0	90	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	56	1221	0	0	57	0	0	106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type				Prot	NA		Prot	NA				NA
Protected Phases				1	6		15	8				4
Permitted Phases												
Detector Phase				1	6		15	8				4

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Detector Phase		



2014 Existing Condition  
136: Kingwood Dr. & Lake Kingwood Trail

PM Peak Hour

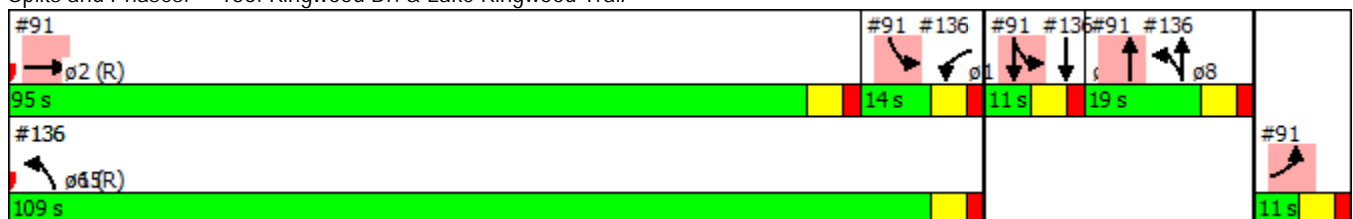


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				5.0	4.0			5.0			5.0	
Minimum Split (s)				11.0	10.0			19.0			11.0	
Total Split (s)				14.0	109.0			19.0			11.0	
Total Split (%)				9.3%	72.7%			12.7%			7.3%	
Maximum Green (s)				8.0	103.0			13.0			5.0	
Yellow Time (s)				4.0	4.0			4.0			4.0	
All-Red Time (s)				2.0	2.0			2.0			2.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				6.0	6.0			6.0			6.0	
Lead/Lag					Lag			Lag			Lead	
Lead-Lag Optimize?					Yes			Yes			Yes	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Recall Mode				None	C-Max			None			None	
Walk Time (s)								6.0				
Flash Dont Walk (s)								7.0				
Pedestrian Calls (#/hr)								0				
Act Effect Green (s)				7.7	112.2			14.8			5.0	
Actuated g/C Ratio				0.05	0.75			0.10			0.03	
v/c Ratio				0.62	0.46			0.17			0.85	
Control Delay				97.8	8.3			15.9			112.9	
Queue Delay				0.0	0.0			20.1			0.0	
Total Delay				97.8	8.3			36.0			112.9	
LOS				F	A			D			F	
Approach Delay					12.3			36.0			112.9	
Approach LOS					B			D			F	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	20.6
Intersection LOS:	C
Intersection Capacity Utilization:	50.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 136: Kingwood Dr. & Lake Kingwood Trail



Lane Group	ø2	ø15
Switch Phase		
Minimum Initial (s)	4.0	5.0
Minimum Split (s)	20.0	11.0
Total Split (s)	95.0	11.0
Total Split (%)	63%	7%
Maximum Green (s)	89.0	5.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

2014 Existing Condition  
139: Kingwood High School & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR	SWR2	ø2
Lane Configurations				↑↑	↑		↑			↑↑	↑	
Volume (vph)	0	0	0	165	46	0	18	0	0	1158	123	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0	0	0		0	0		0	0	150		
Storage Lanes	0	0	0		1	0		0	0	1		
Taper Length (ft)	25		25			25			25			
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.88	1.00	
Frt					0.850					0.850	0.850	
Flt Protected												
Satd. Flow (prot)	0	0	0	3539	1583	0	1863	0	0	2787	1583	
Flt Permitted												
Satd. Flow (perm)	0	0	0	3539	1583	0	1863	0	0	2787	1583	
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					109							115
Link Speed (mph)	30			30			30		30			
Link Distance (ft)	271			317			110		890			
Travel Time (s)	6.2			7.2			2.5		20.2			
Peak Hour Factor	0.92	0.92	0.92	0.81	0.89	0.92	0.56	0.92	0.92	0.90	0.75	
Adj. Flow (vph)	0	0	0	204	52	0	32	0	0	1287	164	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	204	52	0	32	0	0	1287	164	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right	
Median Width(ft)	60			0			0		60			
Link Offset(ft)	0			0			0		0			
Crosswalk Width(ft)	16			16			16		16			
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15		9	15		9	15	9	9	
Turn Type				NA	Perm	Prot	NA			custom	custom	
Protected Phases				4		15 8	8			6		2
Permitted Phases					4							6
Minimum Split (s)				11.0	11.0		11.0			10.0	10.0	10.0
Total Split (s)				20.0	20.0		11.0			107.0	107.0	107.0
Total Split (%)				13.3%	13.3%		7.3%			71.3%	71.3%	71%
Maximum Green (s)				14.0	14.0		5.0			101.0	101.0	101.0
Yellow Time (s)				4.0	4.0		4.0			4.0	4.0	4.0
All-Red Time (s)				2.0	2.0		2.0			2.0	2.0	2.0
Lost Time Adjust (s)				0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0			6.0	6.0	
Lead/Lag				Lead	Lead		Lag					
Lead-Lag Optimize?				Yes	Yes		Yes					
Act Effect Green (s)				14.0	14.0		5.0			101.0	101.0	
Actuated g/C Ratio				0.09	0.09		0.03			0.67	0.67	
v/c Ratio				0.62	0.21		0.52			0.69	0.15	
Control Delay				74.2	2.0		160.9			17.3	3.2	
Queue Delay				0.0	0.0		121.5			0.0	0.0	
Total Delay				74.2	2.0		282.4			17.3	3.2	
LOS				E	A		F			B	A	

Lane Group	ø15
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	15
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	12.0
Total Split (%)	8%
Maximum Green (s)	6.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

2014 Existing Condition  
 139: Kingwood High School & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR	SWR2	ø2
Approach Delay				59.5			282.4					
Approach LOS				E			F					

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NET and 6:, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	27.0
Intersection LOS:	C
Intersection Capacity Utilization	106.2%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 139: Kingwood High School & Kingwood Dr.

#88 ø2 (R)	#88 #139 ø4	#139 ø8	
107 s	20 s	11 s	
#139 ø15 ø6 (R)			#88 #139
107 s			12 s

Lane Group	ø15
Approach Delay	
Approach LOS	
Intersection Summary	

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2014 Existing Condition  
141: Lake Houston Parkway & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	336	856	551	169	484	206	527	798	124	322	824	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Fl <sub>t</sub> Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			294			199			153			196
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		513			546			450			568	
Travel Time (s)		8.7			9.3			7.7			9.7	
Peak Hour Factor	0.98	0.96	0.96	0.83	0.93	0.82	0.96	0.94	0.82	0.93	0.93	0.85
Adj. Flow (vph)	343	892	574	204	520	251	549	849	151	346	886	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	343	892	574	204	520	251	549	849	151	346	886	273
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			30			75			75	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	26.0	51.0	51.0	15.0	40.0	40.0	33.0	58.0	58.0	26.0	51.0	51.0
Total Split (%)	17.3%	34.0%	34.0%	10.0%	26.7%	26.7%	22.0%	38.7%	38.7%	17.3%	34.0%	34.0%
Maximum Green (s)	20.0	45.0	45.0	9.0	34.0	34.0	27.0	52.0	52.0	20.0	45.0	45.0
Yellow 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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	20.0	45.0	45.0	9.0	34.0	34.0	27.0	52.0	52.0	20.0	45.0	45.0
Actuated g/C Ratio	0.13	0.30	0.30	0.06	0.23	0.23	0.18	0.35	0.35	0.13	0.30	0.30
v/c Ratio	0.75	0.84	0.84	1.00	0.65	0.49	0.89	0.69	0.23	0.76	0.84	0.45
Control Delay	73.8	57.6	35.9	106.8	57.5	32.0	77.4	45.7	5.5	74.1	57.2	14.6

2014 Existing Condition  
 141: Lake Houston Parkway & Kingwood Dr.

PM Peak Hour

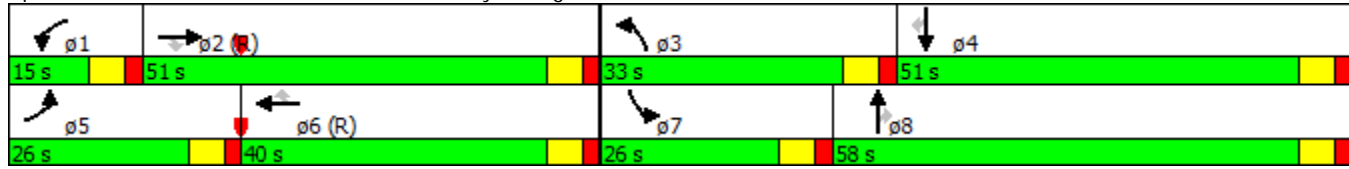


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	57.6	35.9	106.8	57.5	32.0	77.4	45.7	5.5	74.1	57.2	14.6
LOS	E	E	D	F	E	C	E	D	A	E	E	B
Approach Delay		53.8			61.2			53.0			53.4	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	77 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	54.7
Intersection LOS:	D
Intersection Capacity Utilization	86.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 141: Lake Houston Parkway & Kingwood Dr.





2014 Existing Condition  
144: Forest Garden Dr. & Kingwood Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	1172	130	3	702	14	151	126	277	45	18	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.983			0.996			0.924			0.911	
Flt Protected	0.950			0.950				0.990			0.988	
Satd. Flow (prot)	1770	3479	0	1770	3525	0	0	3238	0	0	3186	0
Flt Permitted	0.154			0.112				0.805			0.606	
Satd. Flow (perm)	287	3479	0	209	3525	0	0	2633	0	0	1954	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			2			39			140	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		821			549			426			481	
Travel Time (s)		14.0			9.4			9.7			10.9	
Peak Hour Factor	0.92	0.96	0.85	0.75	0.88	0.58	0.84	0.50	0.63	0.80	0.45	0.89
Adj. Flow (vph)	180	1221	153	4	798	24	180	252	440	56	40	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	1374	0	4	822	0	0	872	0	0	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		40			50			40			40	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Minimum Split (s)	10.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	23.0	80.0		57.0	57.0		70.0	70.0		70.0	70.0	
Total Split (%)	15.3%	53.3%		38.0%	38.0%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	17.0	74.0		51.0	51.0		64.0	64.0		64.0	64.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effect Green (s)	74.0	74.0		51.0	51.0			64.0			64.0	
Actuated g/C Ratio	0.49	0.49		0.34	0.34			0.43			0.43	
v/c Ratio	0.58	0.80		0.06	0.69			0.76			0.26	
Control Delay	51.6	53.5		36.3	46.0			40.0			11.6	

2014 Existing Condition  
 144: Forest Garden Dr. & Kingwood Dr.

PM Peak Hour

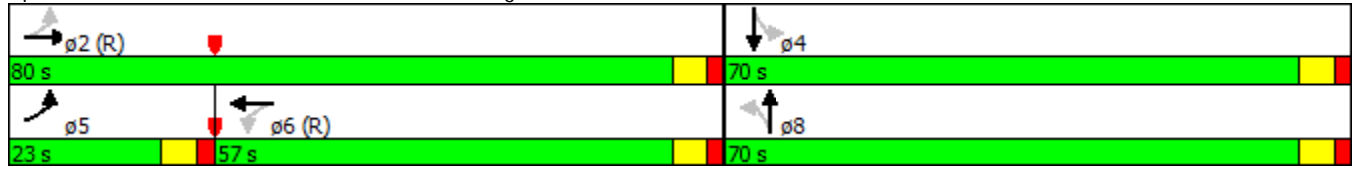


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	51.6	53.5		36.3	46.0			40.0			11.6	
LOS	D	D		D	D			D			B	
Approach Delay		53.3			46.0			40.0			11.6	
Approach LOS		D			D			D			B	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	93 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	45.4
Intersection LOS:	D
Intersection Capacity Utilization	82.5%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 144: Forest Garden Dr. & Kingwood Dr.



2014 Existing Condition  
147: Kingwood Dr. & Timber Shade Dr.

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	1	676	7	29	111	0	0	8	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.997						0.873	
Flt Protected				0.950				0.987				
Satd. Flow (prot)	0	0	0	1770	3529	0	0	3493	0	0	3090	0
Flt Permitted				0.950				0.987				
Satd. Flow (perm)	0	0	0	1770	3529	0	0	3493	0	0	3090	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					2						88	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		833			1635			136			459	
Travel Time (s)		14.2			27.9			3.1			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.25	0.96	0.58	0.60	0.84	0.92	0.92	0.50	0.83
Adj. Flow (vph)	0	0	0	4	704	12	48	132	0	0	16	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	4	716	0	0	180	0	0	104	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Prot	NA		Prot	NA			NA	
Protected Phases				1	6		15 8	8			4	
Permitted Phases												
Minimum Split (s)				11.0	10.0			19.0			11.0	
Total Split (s)				11.0	91.0			19.0			13.0	
Total Split (%)				7.3%	60.7%			12.7%			8.7%	
Maximum Green (s)				5.0	85.0			13.0			7.0	
Yellow Time (s)				4.0	4.0			4.0			4.0	
All-Red Time (s)				2.0	2.0			2.0			2.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				6.0	6.0			6.0			6.0	
Lead/Lag				Lag				Lag			Lead	
Lead-Lag Optimize?				Yes				Yes			Yes	
Walk Time (s)								6.0				
Flash Dont Walk (s)								7.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)				5.0	85.0			40.0			7.0	
Actuated g/C Ratio				0.03	0.57			0.27			0.05	
v/c Ratio				0.07	0.36			0.19			0.46	
Control Delay				82.0	22.4			2.9			24.9	

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Minimum Split (s)	20.0	11.0
Total Split (s)	80.0	27.0
Total Split (%)	53%	18%
Maximum Green (s)	74.0	21.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		

2014 Existing Condition  
 147: Kingwood Dr. & Timber Shade Dr.

PM Peak Hour

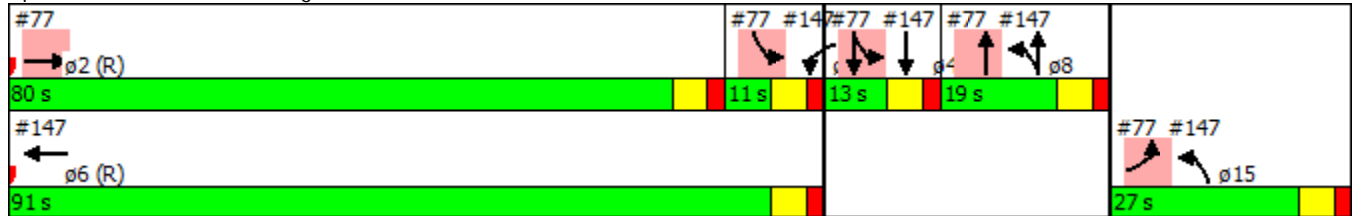


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay				0.0	0.0			1.1			0.0	
Total Delay				82.0	22.4			4.0			24.9	
LOS				F	C			A			C	
Approach Delay					22.7			4.0			24.9	
Approach LOS					C			A			C	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	19.6
Intersection LOS:	B
Intersection Capacity Utilization	37.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 147: Kingwood Dr. & Timber Shade Dr.



Lane Group	ø2	ø15
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

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2014 Existing Condition  
149: Kingwood Dr. & Willow Terrace

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑		↖	↖					↖	↑↑	
Volume (vph)	0	20	56	299	96	0	0	0	0	34	349	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.902										0.996
Flt Protected				0.950	0.979					0.950		
Satd. Flow (prot)	0	3192	0	1681	1732	0	0	0	0	1770	3525	0
Flt Permitted				0.950	0.979					0.950		
Satd. Flow (perm)	0	3192	0	1681	1732	0	0	0	0	1770	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68										3
Link Speed (mph)		30			30			40				40
Link Distance (ft)		359			105			1385				466
Travel Time (s)		8.2			2.4			23.6				7.9
Peak Hour Factor	0.92	0.56	0.82	0.92	0.71	0.92	0.92	0.92	0.92	0.77	0.77	0.50
Adj. Flow (vph)	0	36	68	325	135	0	0	0	0	44	453	12
Shared Lane Traffic (%)				30%								
Lane Group Flow (vph)	0	104	0	227	233	0	0	0	0	44	465	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Prot	NA	
Protected Phases		4		15	8					1	6	
Permitted Phases												
Minimum Split (s)		11.0			19.0					11.0	10.0	
Total Split (s)		12.0			31.0					15.0	84.0	
Total Split (%)		8.0%			20.7%					10.0%	56.0%	
Maximum Green (s)		6.0			25.0					9.0	78.0	
Yellow Time (s)		4.0			4.0					4.0	4.0	
All-Red Time (s)		2.0			2.0					2.0	2.0	
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	
Total Lost Time (s)		6.0			6.0					6.0	6.0	
Lead/Lag		Lead			Lag					Lag		
Lead-Lag Optimize?		Yes			Yes					Yes		
Walk Time (s)					6.0							
Flash Dont Walk (s)					7.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		6.0		48.0	48.0					9.0	78.0	
Actuated g/C Ratio		0.04		0.32	0.32					0.06	0.52	
v/c Ratio		0.54		0.42	0.42					0.42	0.25	
Control Delay		38.8		2.5	2.4					74.8	16.2	

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Minimum Split (s)	20.0	11.0
Total Split (s)	69.0	23.0
Total Split (%)	46%	15%
Maximum Green (s)	63.0	17.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		



2014 Existing Condition  
 149: Kingwood Dr. & Willow Terrace

PM Peak Hour

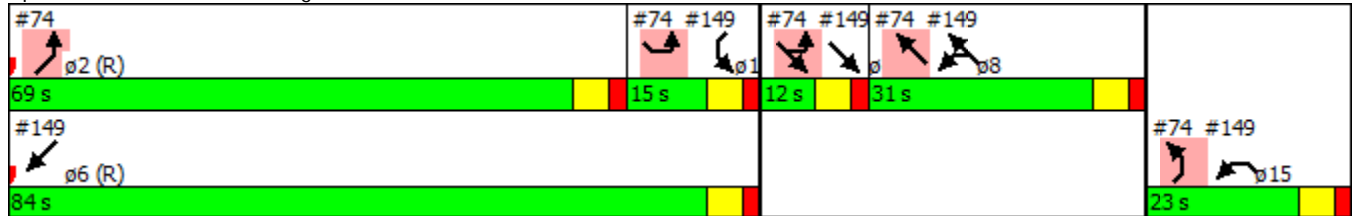


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Delay		0.0		1.8	1.8					0.0	0.0	
Total Delay		38.8		4.3	4.2					74.8	16.2	
LOS		D		A	A					E	B	
Approach Delay		38.8			4.3						21.3	
Approach LOS		D			A						C	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	48 (32%), Referenced to phase 2:NEL and 6:, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	15.7
Intersection LOS:	B
Intersection Capacity Utilization	37.3%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 149: Kingwood Dr. & Willow Terrace



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Lane Group	ø2	ø15
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

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2014 Existing Condition  
151: Kingwood Dr. & High Valley

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↗						↑↑	
Volume (vph)	0	11	25	97	43	0	0	0	0	16	245	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.896									0.995	
Flt Protected				0.950	0.981						0.997	
Satd. Flow (prot)	0	3171	0	1681	1736	0	0	0	0	0	3511	0
Flt Permitted				0.950	0.981						0.997	
Satd. Flow (perm)	0	3171	0	1681	1736	0	0	0	0	0	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27									4	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		302			140			1305			1448	
Travel Time (s)		6.9			3.2			22.2			24.7	
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)	0	12	27	105	47	0	0	0	0	17	266	9
Shared Lane Traffic (%)				29%								
Lane Group Flow (vph)	0	39	0	75	77	0	0	0	0	0	292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Prot	NA	
Protected Phases		4		15 8	8					1	6	
Permitted Phases												
Minimum Split (s)		11.0			19.0					11.0	10.0	
Total Split (s)		14.0			25.0					15.0	93.0	
Total Split (%)		9.3%			16.7%					10.0%	62.0%	
Maximum Green (s)		8.0			19.0					9.0	87.0	
Yellow Time (s)		4.0			4.0					4.0	4.0	
All-Red Time (s)		2.0			2.0					2.0	2.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		6.0			6.0						6.0	
Lead/Lag		Lead			Lag					Lag		
Lead-Lag Optimize?		Yes			Yes					Yes		
Walk Time (s)					6.0							
Flash Dont Walk (s)					7.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		8.0		37.0	37.0						87.0	
Actuated g/C Ratio		0.05		0.25	0.25						0.58	
v/c Ratio		0.20		0.18	0.18						0.26	
Control Delay		34.1		19.1	19.1						16.5	
Queue Delay		0.0		2.9	2.8						0.0	
Total Delay		34.1		22.0	22.0						16.5	
LOS		C		C	C						B	

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Minimum Split (s)	20.0	11.0
Total Split (s)	78.0	18.0
Total Split (%)	52%	12%
Maximum Green (s)	72.0	12.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Walk Time (s)	4.0	
Flash Dont Walk (s)	10.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		

2014 Existing Condition  
 151: Kingwood Dr. & High Valley

PM Peak Hour

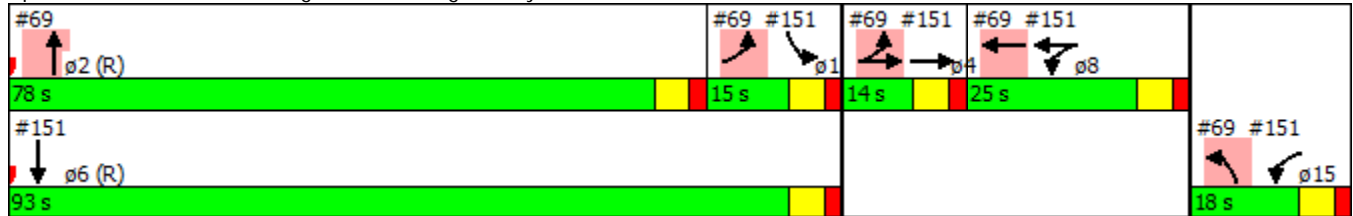


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.1			22.0						16.5	
Approach LOS		C			C						B	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	48 (32%), Referenced to phase 2:NBT and 6:, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.43
Intersection Signal Delay:	19.7
Intersection LOS:	B
Intersection Capacity Utilization	26.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 151: Kingwood Dr. & High Valley



Lane Group	ø2	ø15
Approach Delay		
Approach LOS		
Intersection Summary		

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2014 Existing Condition  
154: Kingwood Dr. & Mills Branch

PM Peak Hour



Lane Group	EBL	EBR	EBR2	NWL2	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		<del>RL</del>			<del>RL</del>						<del>RL</del>	
Volume (vph)	0	37	272	5	302	0	0	0	0	0	24	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	0.95	0.97	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.850	0.850									0.929	
Flt Protected					0.950							
Satd. Flow (prot)	0	2787	0	0	3433	0	0	0	0	0	3288	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	2787	0	0	3433	0	0	0	0	0	3288	0
Link Speed (mph)	30				30			40			30	
Link Distance (ft)	5716				174			1448			286	
Travel Time (s)	129.9				4.0			24.7			6.5	
Peak Hour Factor	0.92	0.62	0.82	0.42	0.78	0.92	0.92	0.92	0.92	0.92	0.60	0.67
Adj. Flow (vph)	0	60	332	12	387	0	0	0	0	0	40	36
Shared Lane Traffic (%)		10%										
Lane Group Flow (vph)	6	386	0	0	399	0	0	0	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	20				20			0			0	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15	9	9	15	15	9	15		9	15		9
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.8% ICU Level of Service A

Analysis Period (min) 15



Lane Group	NBU	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	<b>A</b>	<b>B</b>					
Volume (vph)	246	2209	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.76	1.00	1.00	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1770	8494	0	0	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	1770	8494	0	0	0	0	0
Link Speed (mph)		55			30	55	
Link Distance (ft)		6159			362	365	
Travel Time (s)		76.4			8.2	4.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	2401	0	0	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	267	2401	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Right	Left	Left	Left	Right
Median Width(ft)		12			12	0	
Link Offset(ft)		0			0	0	
Crosswalk Width(ft)		16			16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		9	15		15	9
Sign Control		Free			Stop	Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.7%
Analysis Period (min)	15
	ICU Level of Service A



2014 Existing Condition  
159: Russel Palmer & Northpark Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2	ø4
Lane Configurations								
Volume (vph)	0	0	139	1170	158	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)		0	150		0	0		
Storage Lanes		0	1		1	0		
Taper Length (ft)			25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00		
Fr <sub>t</sub>								
Fl <sub>t</sub> Protected			0.950		0.950			
Satd. Flow (prot)	0	0	1770	3539	1770	0		
Fl <sub>t</sub> Permitted			0.950		0.950			
Satd. Flow (perm)	0	0	1770	3539	1770	0		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	45			45	30			
Link Distance (ft)	116			2724	80			
Travel Time (s)	1.8			41.3	1.8			
Peak Hour Factor	0.92	0.92	0.82	0.96	0.78	0.92		
Adj. Flow (vph)	0	0	170	1219	203	0		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	170	1219	203	0		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	12			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)		9	15		15	9		
Number of Detectors			1	2	1			
Detector Template			Left	Thru	Left			
Leading Detector (ft)			20	100	20			
Trailing Detector (ft)			0	0	0			
Detector 1 Position(ft)			0	0	0			
Detector 1 Size(ft)			20	6	20			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0			
Detector 2 Position(ft)				94				
Detector 2 Size(ft)				6				
Detector 2 Type				Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)				0.0				
Turn Type			custom	NA	NA			
Protected Phases				6	8		2	4
Permitted Phases			1					
Detector Phase			1	6	8			

2014 Existing Condition  
 159: Russel Palmer & Northpark Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2	ø4
Switch Phase								
Minimum Initial (s)			5.0	15.0	5.0		15.0	5.0
Minimum Split (s)			11.3	21.3	11.6		21.3	11.3
Total Split (s)			24.0	119.0	31.0		95.0	31.0
Total Split (%)			16.0%	79.3%	20.7%		63%	21%
Maximum Green (s)			18.0	113.0	25.0		89.0	25.0
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0
All-Red Time (s)			2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)			0.0	0.0	0.0			
Total Lost Time (s)			6.0	6.0	6.0			
Lead/Lag			Lead				Lag	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0	3.0	3.0		3.0	3.0
Recall Mode			None	C-Max	Max		C-Max	None
Act Effect Green (s)			17.1	113.0	25.0			
Actuated g/C Ratio			0.11	0.75	0.17			
v/c Ratio			0.85	0.46	0.69			
Control Delay			97.9	7.6	13.3			
Queue Delay			117.0	0.0	0.0			
Total Delay			215.0	7.6	13.3			
LOS			F	A	B			
Approach Delay				33.0	13.3			
Approach LOS				C	B			

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	25 (17%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	30.5
Intersection LOS:	C
Intersection Capacity Utilization:	51.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 159: Russel Palmer & Northpark Dr.



2014 Existing Condition  
161: Northpark Dr.

PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕				
Volume (vph)	23	1930	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt						
Flt Protected		0.999				
Satd. Flow (prot)	0	3536	0	0	0	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	3536	0	0	0	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		2834	122		71	
Travel Time (s)		42.9	1.8		1.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	2098	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2123	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	97.4%
Analysis Period (min)	15
	ICU Level of Service F

2014 Existing Condition  
162: Northpark Dr.

PM Peak Hour



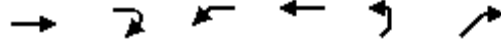
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↑↑	↘	
Volume (vph)	0	0	0	1328	23	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	3539	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	3539	1770	0
Link Speed (mph)	45			30	30	
Link Distance (ft)	2842			116	71	
Travel Time (s)	43.1			2.6	1.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1443	25	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1443	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.7%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
163: Northpark Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations				↑↑		↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	3278
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	3278
Link Speed (mph)	30			45	45	
Link Distance (ft)	1030			1613	1035	
Travel Time (s)	23.4			24.4	15.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			40	40	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			40	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15		15	9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A



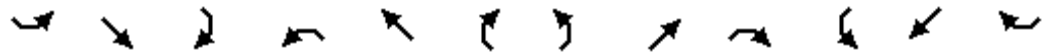
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations			↑↑			↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	3539	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	3539	0	0	3539
Link Speed (mph)	40		40			40
Link Distance (ft)	609		2651			576
Travel Time (s)	10.4		45.2			9.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
165: Northpark Dr. & Rock Springs

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	6	22	0	0	54	15	103	659	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	150		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Frnt					0.966			0.982				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3419	0	1770	3476	0	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	3539	0	0	3419	0	1770	3476	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20			12				
Link Speed (mph)		30			30			40				40
Link Distance (ft)		173			1130			609				1544
Travel Time (s)		3.9			25.7			10.4				26.3
Peak Hour Factor	0.50	0.61	0.92	0.92	0.79	0.75	0.88	0.96	0.81	0.92	0.92	0.92
Adj. Flow (vph)	12	36	0	0	68	20	117	686	96	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	36	0	0	88	0	117	782	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Prot	NA				
Protected Phases	1 4	4			8		15	2				
Permitted Phases												
Detector Phase	1 4	4			8		15	2				

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Detector Phase		



2014 Existing Condition  
165: Northpark Dr. & Rock Springs

PM Peak Hour

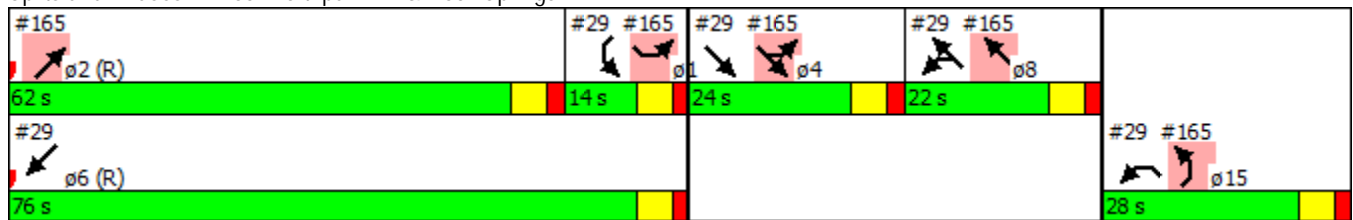


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Switch Phase												
Minimum Initial (s)		5.0			5.0		5.0	4.0				
Minimum Split (s)		22.0			21.0		11.0	18.0				
Total Split (s)		24.0			22.0		28.0	62.0				
Total Split (%)		16.0%			14.7%		18.7%	41.3%				
Maximum Green (s)		18.0			16.0		22.0	56.0				
Yellow Time (s)		4.0			4.0		4.0	4.0				
All-Red Time (s)		2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				
Total Lost Time (s)		6.0			6.0		6.0	6.0				
Lead/Lag		Lead			Lag			Lead				
Lead-Lag Optimize?		Yes			Yes			Yes				
Vehicle Extension (s)		3.0			3.0		3.0	3.0				
Recall Mode		None			Max		None	C-Max				
Walk Time (s)		5.0			5.0			5.0				
Flash Dont Walk (s)		11.0			10.0			7.0				
Pedestrian Calls (#/hr)		0			0			0				
Act Effct Green (s)	18.1	7.4			26.6		15.2	68.4				
Actuated g/C Ratio	0.12	0.05			0.18		0.10	0.46				
v/c Ratio	0.06	0.21			0.14		0.65	0.49				
Control Delay	19.3	30.9			41.4		81.3	31.2				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	19.3	30.9			41.4		81.3	31.2				
LOS	B	C			D		F	C				
Approach Delay		28.0			41.4			37.7				
Approach LOS		C			D			D				

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 45 (30%), Referenced to phase 2:NET and 6:, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.65  
 Intersection Signal Delay: 37.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 44.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 165: Northpark Dr. & Rock Springs



Lane Group	ø1	ø6
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	11.0	18.0
Total Split (s)	14.0	76.0
Total Split (%)	9%	51%
Maximum Green (s)	8.0	70.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Walk Time (s)		5.0
Flash Dont Walk (s)		7.0
Pedestrian Calls (#/hr)		0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
<b>Intersection Summary</b>		

2014 Existing Condition  
168: Lake Houston Parkway & Kings Crossing

PM Peak Hour



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↕↕			↕↕			↕↕	
Volume (vph)	0	0	0	31	1254	273	134	64	0	0	269	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.974						0.976	
Flt Protected					0.999			0.968				
Satd. Flow (prot)	0	0	0	0	3444	0	0	3426	0	0	3454	0
Flt Permitted					0.999			0.968				
Satd. Flow (perm)	0	0	0	0	3444	0	0	3426	0	0	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					26						12	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		963			931			270			813	
Travel Time (s)		16.4			15.9			6.1			18.5	
Peak Hour Factor	0.92	0.92	0.92	0.78	0.96	0.95	0.84	0.80	0.92	0.92	0.76	0.69
Adj. Flow (vph)	0	0	0	40	1306	287	160	80	0	0	354	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1633	0	0	240	0	0	422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2			2	
Detector Template				Left	Thru		Left	Thru			Thru	
Leading Detector (ft)				20	100		20	100			100	
Trailing Detector (ft)				0	0		0	0			0	
Detector 1 Position(ft)				0	0		0	0			0	
Detector 1 Size(ft)				20	6		20	6			6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Prot	NA		Prot	NA			NA	
Protected Phases				15	2		14	4			8	
Permitted Phases												
Detector Phase				15	2		14	4			8	
Switch Phase												
Minimum Initial (s)				5.0	4.0		5.0	5.0			5.0	
Minimum Split (s)				11.0	17.0		22.0	22.0			22.0	

2014 Existing Condition  
 168: Lake Houston Parkway & Kings Crossing

PM Peak Hour

Lane Group	ø1	ø6
Lane Configurations		
Volume (vph)		
Ideal Flow (vphp)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	4.0
Minimum Split (s)	11.0	17.0

2014 Existing Condition  
 168: Lake Houston Parkway & Kings Crossing

PM Peak Hour

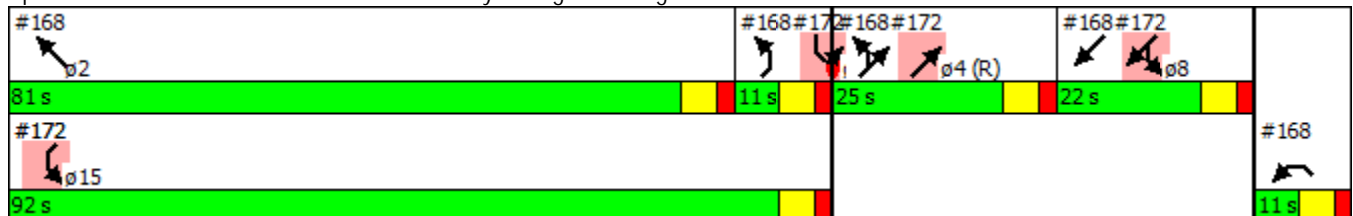


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Total Split (s)				11.0	81.0			25.0			22.0	
Total Split (%)				7.3%	54.0%			16.7%			14.7%	
Maximum Green (s)				5.0	75.0			19.0			16.0	
Yellow Time (s)				4.0	4.0			4.0			4.0	
All-Red Time (s)				2.0	2.0			2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					6.0			6.0			6.0	
Lead/Lag					Lead			Lead			Lag	
Lead-Lag Optimize?					Yes			Yes			Yes	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Recall Mode				None	Max			C-Max			None	
Walk Time (s)					4.0			5.0			4.0	
Flash Dont Walk (s)					7.0			11.0			12.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effect Green (s)					97.0			19.0			16.0	
Actuated g/C Ratio					0.65			0.13			0.11	
v/c Ratio					11.04dr			0.55			1.11	
Control Delay					265.0			25.8			137.8	
Queue Delay					0.0			0.3			2.5	
Total Delay					265.0			26.2			140.4	
LOS					F			C			F	
Approach Delay					265.0			26.2			140.4	
Approach LOS					F			C			F	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:NETL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 217.1      Intersection LOS: F  
 Intersection Capacity Utilization 75.6%      ICU Level of Service D  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

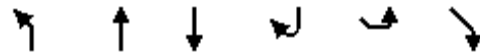
Splits and Phases: 168: Lake Houston Parkway & Kings Crossing



Lane Group	ø1	ø6
Total Split (s)	11.0	92.0
Total Split (%)	7%	61%
Maximum Green (s)	5.0	86.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	Max
Walk Time (s)		4.0
Flash Dont Walk (s)		7.0
Pedestrian Calls (#/hr)		0
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
<b>Intersection Summary</b>		

2014 Existing Condition  
171: Lake Houston Parkway

PM Peak Hour



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↑↑				↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	3539	0	0	0	3278
Flt Permitted						
Satd. Flow (perm)	0	3539	0	0	0	3278
Link Speed (mph)		40	40		40	
Link Distance (ft)		568	1309		1311	
Travel Time (s)		9.7	22.3		22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		120	120		120	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
172: Kings Crossing & Lake Houston Parkway

PM Peak Hour



Lane Group	SBL2	SBL	SBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations												
Volume (vph)	50	1414	33	0	0	0	148	25	248	64	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.95	0.97	0.95	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	
Frt		0.996					0.967					
Flt Protected		0.954								0.964		
Satd. Flow (prot)	0	3434	0	0	0	0	3422	0	0	3412	0	
Flt Permitted		0.954								0.964		
Satd. Flow (perm)	0	3434	0	0	0	0	3422	0	0	3412	0	
Right Turn on Red			Yes					Yes			Yes	
Satd. Flow (RTOR)		109					20					
Link Speed (mph)		40		40			30			30		
Link Distance (ft)		934		762			472			270		
Travel Time (s)		15.9		13.0			10.7			6.1		
Peak Hour Factor	0.73	0.86	0.69	0.92	0.92	0.92	0.88	0.52	0.80	0.64	0.92	
Adj. Flow (vph)	68	1644	48	0	0	0	168	48	310	100	0	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1760	0	0	0	0	216	0	0	410	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		24		0			0			0		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	15	9	15	9	15		9	15		9	
Number of Detectors	1	1					2		1	2		
Detector Template	Left	Left					Thru		Left	Thru		
Leading Detector (ft)	20	20					100		20	100		
Trailing Detector (ft)	0	0					0		0	0		
Detector 1 Position(ft)	0	0					0		0	0		
Detector 1 Size(ft)	20	20					6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0					0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0					0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0					0.0		0.0	0.0		
Detector 2 Position(ft)							94			94		
Detector 2 Size(ft)							6			6		
Detector 2 Type							Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)							0.0			0.0		
Turn Type	Prot	NA					NA		Prot	NA		
Protected Phases	1	6					4		15 8	8		2
Permitted Phases												
Detector Phase	1	6					4		15 8	8		
Switch Phase												
Minimum Initial (s)	5.0	4.0					5.0		5.0	5.0		4.0
Minimum Split (s)	11.0	17.0					22.0		22.0	22.0		17.0



Lane Group	ø15
Lane Configurations	
Volume (vph)	
Ideal Flow (vphp)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	15
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0

2014 Existing Condition  
 172: Kings Crossing & Lake Houston Parkway

PM Peak Hour

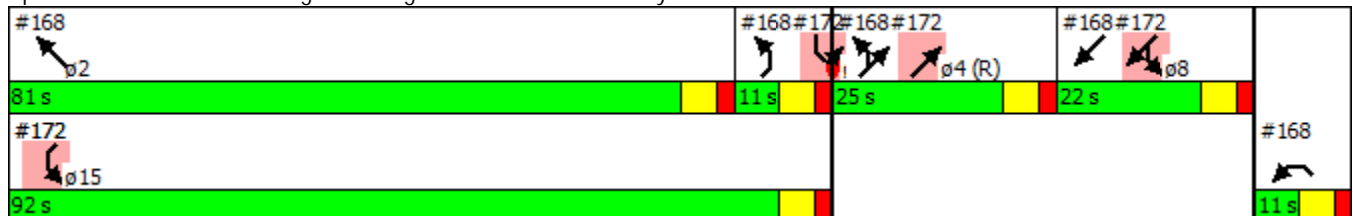


Lane Group	SBL2	SBL	SBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Total Split (s)	11.0	92.0					25.0			22.0		81.0
Total Split (%)	7.3%	61.3%					16.7%			14.7%		54%
Maximum Green (s)	5.0	86.0					19.0			16.0		75.0
Yellow Time (s)	4.0	4.0					4.0			4.0		4.0
All-Red Time (s)	2.0	2.0					2.0			2.0		2.0
Lost Time Adjust (s)		0.0					0.0			0.0		
Total Lost Time (s)		6.0					6.0			6.0		
Lead/Lag	Lag						Lead			Lag		Lead
Lead-Lag Optimize?	Yes						Yes			Yes		Yes
Vehicle Extension (s)	3.0	3.0					3.0			3.0		3.0
Recall Mode	None	Max					C-Max			None		Max
Walk Time (s)		4.0					5.0			4.0		4.0
Flash Dont Walk (s)		7.0					11.0			12.0		7.0
Pedestrian Calls (#/hr)		0					0			0		0
Act Effect Green (s)		97.0					19.0			16.0		
Actuated g/C Ratio		0.65					0.13			0.11		
v/c Ratio		1.61					0.48			1.65dl		
Control Delay		300.9					59.1			108.2		
Queue Delay		0.0					0.0			0.1		
Total Delay		300.9					59.1			108.3		
LOS		F					E			F		
Approach Delay		300.9					59.1			108.3		
Approach LOS		F					E			F		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:NETL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 245.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 76.4%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 172: Kings Crossing & Lake Houston Parkway



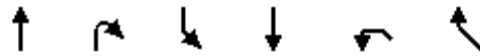
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Lane Group	ø15
Total Split (s)	11.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

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2014 Existing Condition  
174: Lake Houston Parkway

PM Peak Hour



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations				↑↑		↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	3278
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	3278
Link Speed (mph)	40			40	30	
Link Distance (ft)	610			450	549	
Travel Time (s)	10.4			7.7	12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	80			80	80	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
	ICU Level of Service A
Analysis Period (min)	15

2014 Existing Condition  
175: Lake Houston Parkway & Rustic Woods

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↘	↑↑	
Volume (vph)	0	59	89	99	112	0	0	0	0	53	1061	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.908										0.997
Flt Protected					0.976					0.950		
Satd. Flow (prot)	0	3214	0	0	3454	0	0	0	0	1770	3529	0
Flt Permitted					0.976					0.950		
Satd. Flow (perm)	0	3214	0	0	3454	0	0	0	0	1770	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		133										2
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		576			116			1311			566	
Travel Time (s)		13.1			2.6			22.3			9.6	
Peak Hour Factor	0.92	0.70	0.67	0.83	0.90	0.92	0.92	0.92	0.92	0.88	0.93	0.92
Adj. Flow (vph)	0	84	133	119	124	0	0	0	0	60	1141	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	0	0	243	0	0	0	0	60	1166	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1	2	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		100		20	100					20	100	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		6		20	6					20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Prot	NA					Prot	NA	
Protected Phases		4		15 8	8					1	6	
Permitted Phases												
Detector Phase		4		15 8	8					1	6	

Lane Group	ø2	ø15
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	15
Permitted Phases		
Detector Phase		

2014 Existing Condition  
 175: Lake Houston Parkway & Rustic Woods

PM Peak Hour

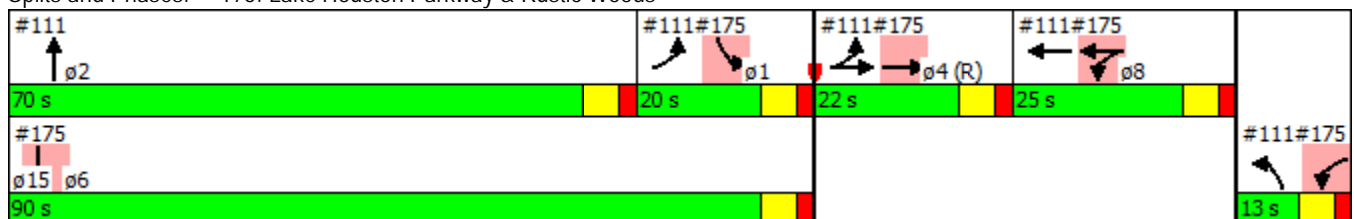


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0			5.0					5.0	4.0	
Minimum Split (s)		22.0			25.0					20.0	21.0	
Total Split (s)		22.0			25.0					20.0	90.0	
Total Split (%)		14.7%			16.7%					13.3%	60.0%	
Maximum Green (s)		16.0			19.0					14.0	84.0	
Yellow Time (s)		4.0			4.0					4.0	4.0	
All-Red Time (s)		2.0			2.0					2.0	2.0	
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	
Total Lost Time (s)		6.0			6.0					6.0	6.0	
Lead/Lag		Lead			Lag					Lag		
Lead-Lag Optimize?		Yes			Yes					Yes		
Vehicle Extension (s)		3.0			3.0					3.0	3.0	
Recall Mode		C-Max			None					None	Max	
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			14.0							
Pedestrian Calls (#/hr)		0			0							
Act Effct Green (s)		16.0			32.0					12.5	84.0	
Actuated g/C Ratio		0.11			0.21					0.08	0.56	
v/c Ratio		0.47			0.33					0.41	0.59	
Control Delay		28.1			24.0					73.0	23.2	
Queue Delay		0.0			7.2					0.0	0.0	
Total Delay		28.1			31.3					73.0	23.2	
LOS		C			C					E	C	
Approach Delay		28.1			31.3						25.6	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:EBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 26.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 55.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 175: Lake Houston Parkway & Rustic Woods

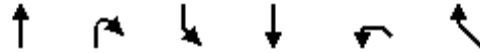


Lane Group	ø2	ø15
Switch Phase		
Minimum Initial (s)	4.0	5.0
Minimum Split (s)	21.0	11.0
Total Split (s)	70.0	13.0
Total Split (%)	47%	9%
Maximum Green (s)	64.0	7.0
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	None
Walk Time (s)	5.0	
Flash Dont Walk (s)	6.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		



2014 Existing Condition  
178: Lake Houston Parkway

PM Peak Hour



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations				↑↑		↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	3278
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	3278
Link Speed (mph)	40			40	40	
Link Distance (ft)	3424			1043	3971	
Travel Time (s)	58.4			17.8	67.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	60	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15		15	9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
185: Hamblen

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	99	8	111	123	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990					
Flt Protected			0.950			
Satd. Flow (prot)	1844	0	1770	1863	1863	0
Flt Permitted			0.950			
Satd. Flow (perm)	1844	0	1770	1863	1863	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	123			358	309	
Travel Time (s)	2.4			7.0	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	9	121	134	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	121	134	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.1%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
188: Sorters & Northpark Dr.

PM Peak Hour



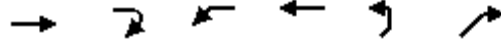
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↑
Volume (vph)	0	0	326	41	0	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.981			
Flt Protected						
Satd. Flow (prot)	0	0	1827	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	0	1827	0	0	1863
Link Speed (mph)	40		35			30
Link Distance (ft)	1484		5784			70
Travel Time (s)	25.3		112.7			1.6
Peak Hour Factor	0.92	0.92	0.82	0.64	0.92	0.92
Adj. Flow (vph)	0	0	398	64	0	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	462	0	0	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.0%
Analysis Period (min)	15
	ICU Level of Service A

2014 Existing Condition  
189: Northpark Dr.

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations				↑↑		↑↑
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	3278
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	3278
Link Speed (mph)	40			40	30	
Link Distance (ft)	1488			3872	1484	
Travel Time (s)	25.4			66.0	33.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			30	50	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A