

US-69 OPERATIONAL ANALYSIS SHEETS

MUSKOGEE, OKLAHOMA



Photo: Google Street View

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Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	17.6	46.3	0.33	25.7	C
Border	II	48	75.2	25.1	100.3	1.00	35.9	A
Arline	II	35	49.7	43.1	92.8	0.48	18.7	D
Okmulgee	II	35	53.9	39.0	92.9	0.52	20.3	D
Broadway	II	35	8.8	23.2	32.0	0.07	7.9	F
Tahlequah/Military	II	40	71.2	26.2	97.4	0.78	28.9	B
Shawnee St	II	45	16.1	108.2	124.3	0.15	4.3	F
Harris Rd	II	45	80.3	63.7	144.0	1.00	25.1	C
Total	II		383.9	346.1	730.0	4.34	21.4	D

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	35.6	59.5	0.22	13.3	E
Shawnee St	II	45	80.3	41.1	121.4	1.00	29.8	B
Tahlequah/Military	II	45	16.1	28.6	44.7	0.15	11.9	F
Broadway	II	40	71.2	72.8	144.0	0.78	19.6	D
Okmulgee	II	35	8.8	17.9	26.7	0.07	9.5	F
Arline	II	35	53.9	56.2	110.1	0.52	17.1	D
Border	II	35	49.7	16.1	65.8	0.48	26.4	C
Hancock	II	48	75.2	9.2	84.4	1.00	42.6	A
Total	II		379.1	277.5	656.6	4.23	23.2	C

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	24.8	53.5	0.33	22.2	C
Border	II	48	75.2	25.2	100.4	1.00	35.8	A
Arline	II	35	49.7	44.2	93.9	0.48	18.5	D
Okmulgee	II	35	53.9	50.7	104.6	0.52	18.0	D
Broadway	II	35	8.8	21.5	30.3	0.07	8.3	F
Tahlequah/Military	II	40	71.2	31.4	102.6	0.78	27.5	C
Shawnee St	II	45	16.1	168.2	184.3	0.15	2.9	F
Harris Rd	II	45	80.3	115.7	196.0	1.00	18.4	D
Total	II		383.9	481.7	865.6	4.34	18.0	D

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	58.7	82.6	0.22	9.6	F
Shawnee St	II	45	80.3	51.3	131.6	1.00	27.4	C
Tahlequah/Military	II	45	16.1	36.6	52.7	0.15	10.1	F
Broadway	II	40	71.2	97.0	168.2	0.78	16.8	E
Okmulgee	II	35	8.8	52.7	61.5	0.07	4.1	F
Arline	II	35	53.9	115.0	168.9	0.52	11.1	F
Border	II	35	49.7	23.4	73.1	0.48	23.8	C
Hancock	II	48	75.2	13.1	88.3	1.00	40.7	A
Total	II		379.1	447.8	826.9	4.23	18.4	D

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	25	20	25	10	15	892	15	85	867
Future Volume (vph)	25	20	25	10	15	892	15	85	867
Lane Group Flow (vph)	0	67	0	188	16	970	16	92	964
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.0	22.0	14.0	22.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	57.0	57.0	25.0	57.0
Total Split (%)	23.4%	23.4%	23.4%	23.4%	23.4%	53.3%	53.3%	23.4%	53.3%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0	50.0	50.0	20.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Max	Max	None	Min
Act Effct Green (s)		9.8		9.8	5.8	50.8	50.8	9.6	60.7
Actuated g/C Ratio		0.12		0.12	0.07	0.60	0.60	0.11	0.72
v/c Ratio		0.64		0.66	0.16	0.69	0.02	0.54	0.58
Control Delay		59.0		22.6	44.5	17.6	0.1	49.2	9.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		59.0		22.6	44.5	17.6	0.1	49.2	9.2
LOS		E		C	D	B	A	D	A
Approach Delay		59.0		22.6		17.7			12.7
Approach LOS		E		C		B			B
90th %ile Green (s)	16.9	16.9	16.9	16.9	7.4	50.0	50.0	14.9	57.5
90th %ile Term Code	Hold	Hold	Gap	Gap	Gap	MaxR	MaxR	Gap	Hold
70th %ile Green (s)	11.5	11.5	11.5	11.5	0.0	50.0	50.0	11.5	66.5
70th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	MaxR	Gap	Hold
50th %ile Green (s)	9.1	9.1	9.1	9.1	0.0	50.0	50.0	9.5	64.5
50th %ile Term Code	Gap	Gap	Hold	Hold	Skip	MaxR	MaxR	Gap	Hold
30th %ile Green (s)	7.3	7.3	7.3	7.3	0.0	50.0	50.0	7.8	62.8
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	MaxR	MaxR	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	50.0	50.0	0.0	50.0
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	MaxR	Skip	Hold
Stops (vph)		47		46	16	599	0	77	412
Fuel Used(gal)		1		2	1	24	0	5	37
CO Emissions (g/hr)		93		136	42	1689	12	336	2612
NOx Emissions (g/hr)		18		27	8	329	2	65	508
VOC Emissions (g/hr)		22		32	10	392	3	78	605
Dilemma Vehicles (#)		0		0	0	52	0	0	52
Queue Length 50th (ft)		28		21	8	178	0	48	90
Queue Length 95th (ft)		75		77	31	353	0	102	289

Timings
101: US-69 & Hancock

09-28-2020

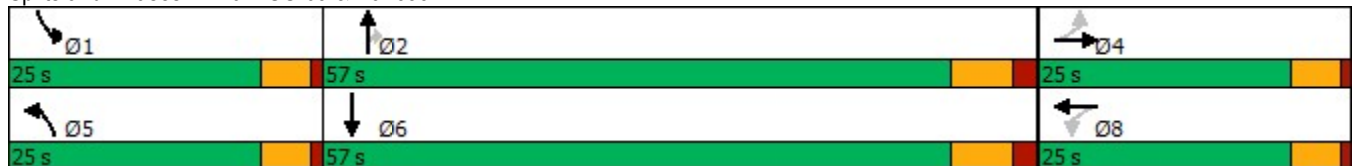


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		201		436	364	1406	842	364	1672
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		0.33		0.43	0.04	0.69	0.02	0.25	0.58

Intersection Summary

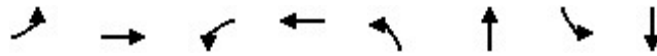
Cycle Length: 107	
Actuated Cycle Length: 84.8	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 17.0	Intersection LOS: B
Intersection Capacity Utilization 60.2%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 98.8	
70th %ile Actuated Cycle: 90	
50th %ile Actuated Cycle: 85.6	
30th %ile Actuated Cycle: 82.1	
10th %ile Actuated Cycle: 67.5	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

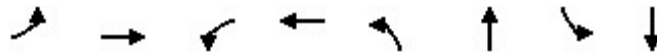
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	110	30	15	30	30	997	50	912
Future Volume (vph)	110	30	15	30	30	997	50	912
Lane Group Flow (vph)	0	216	0	159	33	1111	54	1073
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	21.0	21.0	21.0	21.0	25.0	67.0	17.0	67.0
Total Split (%)	18.6%	18.6%	18.6%	18.6%	22.1%	59.3%	15.0%	59.3%
Maximum Green (s)	15.0	15.0	15.0	15.0	20.0	60.0	12.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	1.0	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	5.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	Max	Max	None	Min	Max	Max
Act Effct Green (s)		15.1		15.1	7.7	55.5	12.1	64.5
Actuated g/C Ratio		0.15		0.15	0.08	0.55	0.12	0.64
v/c Ratio		1.42		0.59	0.28	0.83	0.30	0.70
Control Delay		255.1		33.1	51.2	25.1	47.2	16.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		255.1		33.1	51.2	25.1	47.2	16.1
LOS		F		C	D	C	D	B
Approach Delay		255.1		33.1		25.8		17.6
Approach LOS		F		C		C		B
90th %ile Green (s)	15.0	15.0	15.0	15.0	10.4	60.0	12.0	61.6
90th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
70th %ile Green (s)	15.0	15.0	15.0	15.0	8.8	60.0	12.0	63.2
70th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
50th %ile Green (s)	15.0	15.0	15.0	15.0	7.6	60.0	12.0	64.4
50th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
30th %ile Green (s)	15.0	15.0	15.0	15.0	0.0	55.4	12.0	72.4
30th %ile Term Code	Max	Max	MaxR	MaxR	Skip	Gap	MaxR	Hold
10th %ile Green (s)	15.0	15.0	15.0	15.0	0.0	43.0	12.0	60.0
10th %ile Term Code	Max	Max	MaxR	MaxR	Skip	Hold	MaxR	MaxR
Stops (vph)		126		72	29	804	45	630
Fuel Used(gal)		12		2	2	51	2	26
CO Emissions (g/hr)		818		144	121	3567	122	1828
NOx Emissions (g/hr)		159		28	24	694	24	356
VOC Emissions (g/hr)		190		33	28	827	28	424
Dilemma Vehicles (#)		0		0	0	33	0	9
Queue Length 50th (ft)		~194		54	21	291	34	243
Queue Length 95th (ft)		#346		113	51	391	74	356

Timings
102: US-69 & Border

09-28-2020

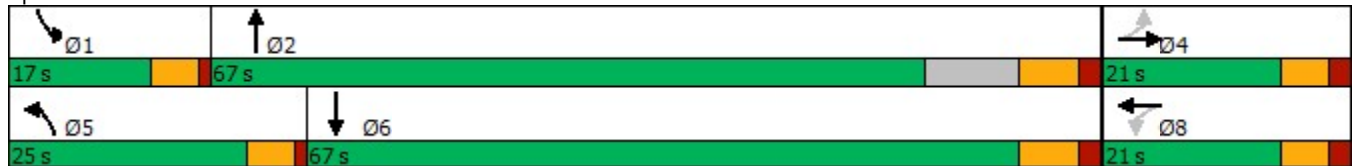


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		152		268	306	1646	183	1530
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.42		0.59	0.11	0.67	0.30	0.70

Intersection Summary

Cycle Length: 113	
Actuated Cycle Length: 100.7	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 41.5	Intersection LOS: D
Intersection Capacity Utilization 71.7%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 105	
70th %ile Actuated Cycle: 105	
50th %ile Actuated Cycle: 105	
30th %ile Actuated Cycle: 100.4	
10th %ile Actuated Cycle: 88	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Future Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Lane Group Flow (vph)	106	82	94	94	54	1176	98	33	1016	76
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	19.5	20.0	19.5	20.0	16.5	57.0	57.0	19.5	47.0	47.0
Total Split (%)	16.8%	17.2%	16.8%	17.2%	14.2%	49.1%	49.1%	16.8%	40.5%	40.5%
Maximum Green (s)	14.0	15.0	15.0	15.0	12.0	50.0	50.0	15.0	41.0	41.0
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	2.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.0	4.5	5.0	4.5	7.0	7.0	4.5	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	None	None	Max	Max	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	18.8	11.2	15.1	12.0	53.0	53.0	7.9	45.2	45.2
Actuated g/C Ratio	0.11	0.18	0.11	0.14	0.11	0.51	0.51	0.08	0.43	0.43
v/c Ratio	0.62	0.27	0.57	0.38	0.31	0.95	0.13	0.28	0.99	0.11
Control Delay	61.8	28.4	58.8	32.6	49.8	43.1	3.0	53.6	56.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	28.4	58.8	32.6	49.8	43.1	3.0	53.6	56.2	1.6
LOS	E	C	E	C	D	D	A	D	E	A
Approach Delay		47.3		45.7		40.4			52.5	
Approach LOS		D		D		D			D	
90th %ile Green (s)	14.0	15.0	15.0	15.0	12.0	50.0	50.0	10.6	49.6	49.6
90th %ile Term Code	Max	Hold	Max	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
70th %ile Green (s)	14.0	16.2	13.8	15.0	12.0	50.0	50.0	8.9	47.9	47.9
70th %ile Term Code	Max	Hold	Gap	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
50th %ile Green (s)	12.6	16.8	11.8	15.0	12.0	50.0	50.0	7.7	46.7	46.7
50th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
30th %ile Green (s)	10.2	16.6	9.6	15.0	12.0	56.5	56.5	0.0	41.0	41.0
30th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	Hold	Hold	Skip	MaxR	MaxR
10th %ile Green (s)	7.4	27.9	0.0	15.0	12.0	56.5	56.5	0.0	41.0	41.0
10th %ile Term Code	Gap	Hold	Skip	MaxR	MaxR	Hold	Hold	Skip	MaxR	MaxR
Stops (vph)	83	38	73	47	45	836	7	29	818	3
Fuel Used(gal)	2	1	2	1	2	36	2	1	35	1
CO Emissions (g/hr)	137	63	116	77	123	2495	123	80	2481	101
NOx Emissions (g/hr)	27	12	23	15	24	485	24	16	483	20
VOC Emissions (g/hr)	32	15	27	18	29	578	29	19	575	23
Dilemma Vehicles (#)	0	0	0	0	0	36	0	0	26	0
Queue Length 50th (ft)	70	28	62	36	35	~455	0	22	353	0
Queue Length 95th (ft)	123	72	110	83	78	#625	23	54	#514	11

Timings
103: US-69 & Arline

09-28-2020

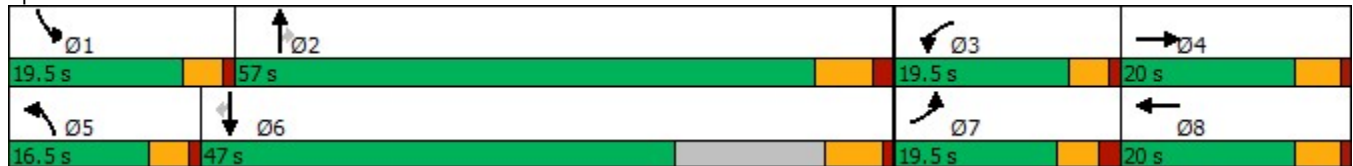


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	207	299	222	247	177	1241	756	222	1231	770
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.27	0.42	0.38	0.31	0.95	0.13	0.15	0.83	0.10

Intersection Summary

Cycle Length: 116	
Actuated Cycle Length: 104.9	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 46.0	Intersection LOS: D
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 111.6	
70th %ile Actuated Cycle: 109.9	
50th %ile Actuated Cycle: 107.3	
30th %ile Actuated Cycle: 99.2	
10th %ile Actuated Cycle: 96.4	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	190	430	135	350	220	932	50	860	220	
Future Volume (vph)	190	430	135	350	220	932	50	860	220	
Lane Group Flow (vph)	207	565	147	423	239	1122	54	935	239	
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	1	6		9
Permitted Phases										6
Detector Phase	7	4	3	8	5	2	1	6		6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0	10.0
Total Split (s)	25.0	40.0	25.0	40.0	20.0	55.0	20.0	65.0	65.0	10.0
Total Split (%)	16.7%	26.7%	16.7%	26.7%	13.3%	36.7%	13.3%	43.3%	43.3%	7%
Maximum Green (s)	20.0	35.0	20.0	35.0	15.0	48.0	15.0	60.0	60.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	Min
Act Effct Green (s)	17.0	33.0	12.3	28.3	16.3	67.1	7.7	68.3	68.3	
Actuated g/C Ratio	0.11	0.22	0.08	0.19	0.11	0.45	0.05	0.46	0.46	
v/c Ratio	0.76	0.87	0.61	0.74	0.77	0.73	0.36	0.87	0.38	
Control Delay	82.1	69.1	76.9	64.4	80.9	39.0	93.8	17.9	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1	0.0	6.5	1.2	
Total Delay	82.1	69.1	76.9	64.4	80.9	40.1	93.8	24.4	2.6	
LOS	F	E	E	E	F	D	F	C	A	
Approach Delay		72.6		67.7		47.2		23.2		
Approach LOS		E		E		D		C		
90th %ile Green (s)	20.0	38.9	16.1	35.0	15.0	53.0	10.0	60.0	60.0	5.0
90th %ile Term Code	Max	Max	Gap	Hold	Max	Coord	Gap	Coord	Coord	Max
70th %ile Green (s)	19.9	36.4	13.9	30.4	19.7	59.1	8.6	60.0	60.0	5.0
70th %ile Term Code	Gap	Gap	Gap	Hold	Max	Coord	Gap	Coord	Coord	Max
50th %ile Green (s)	17.7	33.4	12.3	28.0	18.0	64.6	7.7	66.3	66.3	5.0
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord	Coord	Max
30th %ile Green (s)	15.4	30.4	10.8	25.8	16.0	70.1	6.7	72.8	72.8	5.0
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord	Coord	Max
10th %ile Green (s)	12.2	26.0	8.5	22.3	13.0	88.5	0.0	82.5	82.5	5.0
10th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Skip	Coord	Coord	Max
Stops (vph)	181	480	128	354	201	808	51	331	12	
Fuel Used(gal)	5	13	3	9	10	35	1	8	1	
CO Emissions (g/hr)	362	888	238	611	666	2435	103	554	52	
NOx Emissions (g/hr)	70	173	46	119	129	474	20	108	10	
VOC Emissions (g/hr)	84	206	55	142	154	564	24	128	12	

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Dilemma Vehicles (#)	0	0	0	0	0	34	0	2	0	
Queue Length 50th (ft)	102	275	73	205	117	331	28	74	2	
Queue Length 95th (ft)	146	333	109	253	#193	#472	m32	m#523	m7	
Internal Link Dist (ft)		593		473		647		291		
Turn Bay Length (ft)	225		200		125		125			
Base Capacity (vph)	320	709	392	703	319	1547	294	1069	633	
Starvation Cap Reductn	0	0	0	0	0	0	0	102	213	
Spillback Cap Reductn	0	0	0	0	0	205	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	0.80	0.38	0.60	0.75	0.84	0.18	0.97	0.57	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 47.7

Intersection LOS: D

Intersection Capacity Utilization 73.3%

ICU Level of Service D

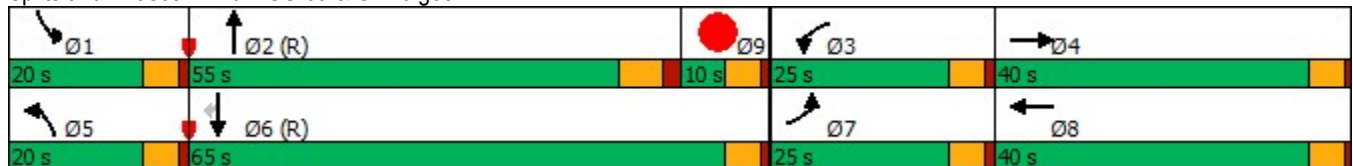
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

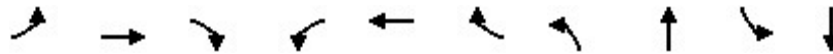
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	180	280	40	115	340	45	55	1012	40	975	
Future Volume (vph)	180	280	40	115	340	45	55	1012	40	975	
Lane Group Flow (vph)	212	329	47	135	400	53	60	1203	43	1294	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2	1	6	9
Permitted Phases			4			8					
Detector Phase	7	4	5	3	8	1	5	2	1	6	
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0	5.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5	10.0
Total Split (s)	25.0	40.0	20.0	25.0	40.0	20.0	20.0	65.0	20.0	55.0	10.0
Total Split (%)	16.7%	26.7%	13.3%	16.7%	26.7%	13.3%	13.3%	43.3%	13.3%	36.7%	7%
Maximum Green (s)	20.0	34.5	15.0	20.0	34.5	15.0	15.0	58.5	15.0	48.5	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.0	4.5	4.0
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.0	5.0	5.5	5.0	5.0	6.5	5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max	Max
Act Effct Green (s)	15.4	42.9	59.0	11.6	39.1	53.7	10.6	66.5	9.1	55.1	
Actuated g/C Ratio	0.10	0.29	0.39	0.08	0.26	0.36	0.07	0.44	0.06	0.37	
v/c Ratio	0.69	0.71	0.08	0.58	0.94	0.09	0.55	0.79	0.46	1.01	
Control Delay	76.5	58.0	0.2	76.6	85.1	0.3	110.3	23.2	82.8	72.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	11.0	
Total Delay	76.5	58.0	0.2	76.6	85.1	0.3	110.3	24.6	82.8	83.8	
LOS	E	E	A	E	F	A	F	C	F	F	
Approach Delay		60.0			75.5			28.7		83.8	
Approach LOS		E			E			C		F	
90th %ile Green (s)	19.8	39.3	15.0	15.2	34.7	13.0	15.0	60.5	13.0	48.5	5.0
90th %ile Term Code	Gap	Max	Max	Gap	Max	Gap	Max	Coord	Gap	Coord	MaxR
70th %ile Green (s)	17.2	41.4	12.6	13.1	37.3	10.7	12.6	62.8	10.7	50.9	5.0
70th %ile Term Code	Gap	Hold	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
50th %ile Green (s)	15.4	42.9	10.7	11.6	39.1	9.1	10.7	64.4	9.1	52.8	5.0
50th %ile Term Code	Gap	Hold	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
30th %ile Green (s)	13.6	44.4	8.8	10.1	40.9	7.4	8.8	66.1	7.4	54.7	5.0
30th %ile Term Code	Gap	Hold	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
10th %ile Green (s)	10.9	46.5	0.0	8.0	43.6	0.0	0.0	78.5	0.0	68.5	5.0
10th %ile Term Code	Gap	Hold	Skip	Gap	Max	Skip	Skip	Coord	Skip	Coord	MaxR
Stops (vph)	171	247	0	109	290	0	54	956	37	979	
Fuel Used(gal)	5	6	0	3	10	0	2	15	2	61	
CO Emissions (g/hr)	343	453	18	222	686	22	125	1075	151	4237	
NOx Emissions (g/hr)	67	88	4	43	133	4	24	209	29	824	
VOC Emissions (g/hr)	80	105	4	51	159	5	29	249	35	982	

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Dilemma Vehicles (#)	0	0	0	0	0	0	0	0	0	36	
Queue Length 50th (ft)	105	289	0	67	386	0	63	406	41	~495	
Queue Length 95th (ft)	137	390	0	96	#585	0	m88	194	83	#632	
Internal Link Dist (ft)		747			792			291		1894	
Turn Bay Length (ft)	75		75	100		100	75		125		
Base Capacity (vph)	400	466	648	400	425	616	154	1523	154	1282	
Starvation Cap Reductn	0	0	0	0	0	0	0	153	0	0	
Spillback Cap Reductn	0	0	1	0	0	0	0	0	0	42	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.71	0.07	0.34	0.94	0.09	0.39	0.88	0.28	1.04	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 60.4

Intersection LOS: E

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

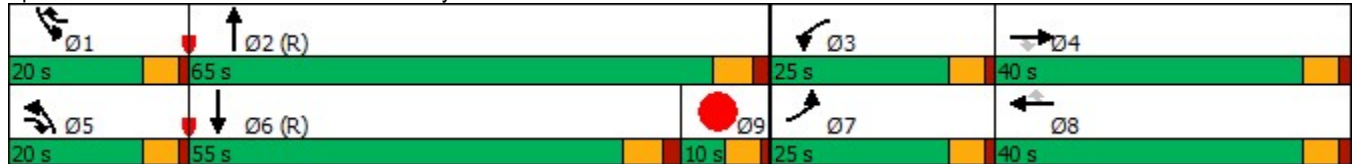
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

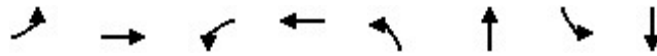
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

09-28-2020

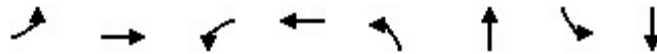


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	120	17	50	1137	26	1085
Future Volume (vph)	32	17	120	17	50	1137	26	1085
Lane Group Flow (vph)	38	96	141	51	54	1323	28	1191
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	46.0	46.0	40.5	40.5	40.5	52.0	40.5	52.0
Total Split (%)	25.7%	25.7%	22.6%	22.6%	22.6%	29.1%	22.6%	29.1%
Maximum Green (s)	40.0	40.0	35.0	35.0	35.0	45.0	35.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	2.0	2.0	1.5	1.5	1.5	2.0	1.5	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	5.5	5.5	5.5	7.0	5.5	7.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.8	9.8	14.2	14.2	8.7	49.6	7.0	45.7
Actuated g/C Ratio	0.10	0.10	0.14	0.14	0.09	0.50	0.07	0.46
v/c Ratio	0.38	0.52	0.64	0.22	0.40	0.76	0.26	0.75
Control Delay	56.7	26.2	56.0	23.0	55.2	26.2	53.6	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	26.2	56.0	23.0	55.2	26.2	53.6	28.6
LOS	E	C	E	C	E	C	D	C
Approach Delay		34.8		47.2		27.4		29.1
Approach LOS		C		D		C		C
90th %ile Green (s)	13.6	13.6	20.8	20.8	12.5	47.9	9.6	45.0
90th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
70th %ile Green (s)	10.7	10.7	16.7	16.7	10.1	47.2	7.9	45.0
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
50th %ile Green (s)	8.8	8.8	14.2	14.2	8.6	46.7	6.9	45.0
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
30th %ile Green (s)	8.0	8.0	11.9	11.9	7.3	57.8	0.0	45.0
30th %ile Term Code	Min	Min	Gap	Gap	Gap	Hold	Skip	Max
10th %ile Green (s)	8.0	8.0	8.6	8.6	0.0	45.0	0.0	45.0
10th %ile Term Code	Min	Min	Gap	Gap	Skip	Max	Skip	Max
Stops (vph)	30	26	109	19	45	917	25	858
Fuel Used(gal)	1	1	3	1	2	50	1	23
CO Emissions (g/hr)	43	54	180	36	168	3469	51	1579
NOx Emissions (g/hr)	8	10	35	7	33	675	10	307
VOC Emissions (g/hr)	10	12	42	8	39	804	12	366
Dilemma Vehicles (#)	0	0	0	0	0	35	0	54
Queue Length 50th (ft)	24	12	87	11	33	257	17	229
Queue Length 95th (ft)	59	60	153	44	79	#432	50	#375

Timings

106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	419	533	551	547	551	1751	551	1580
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.18	0.26	0.09	0.10	0.76	0.05	0.75

Intersection Summary

Cycle Length: 179

Actuated Cycle Length: 99.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 29.8

Intersection LOS: C

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 115.9

70th %ile Actuated Cycle: 106.5

50th %ile Actuated Cycle: 100.6

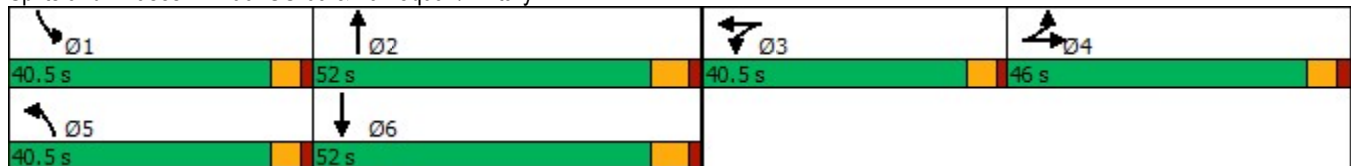
30th %ile Actuated Cycle: 96.2

10th %ile Actuated Cycle: 80.1

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

Queue shown is maximum after two cycles.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	80	185	16	420	210	240	32	704	460	270	686
Future Volume (vph)	80	185	16	420	210	240	32	704	460	270	686
Lane Group Flow (vph)	94	218	19	457	228	261	35	765	500	293	876
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			Free			Free		
Detector Phase	7	4	4	3	8		5	2		1	6
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	12.5	12.5	17.5	12.5		13.5	19.0		19.5	19.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		41.0	52.0		41.0	52.0
Total Split (%)	23.4%	23.4%	23.4%	23.4%	23.4%		23.4%	29.7%		23.4%	29.7%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		35.0	45.0		35.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	2.0		1.5	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	7.0		6.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	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	None	None	None	None	None		None	Min		None	Min
Act Effct Green (s)	14.5	24.9	24.9	29.5	39.9	146.1	10.6	45.6	146.1	20.8	58.7
Actuated g/C Ratio	0.10	0.17	0.17	0.20	0.27	1.00	0.07	0.31	1.00	0.14	0.40
v/c Ratio	0.61	0.79	0.06	0.84	0.52	0.20	0.47	1.09	0.40	0.73	0.66
Control Delay	82.8	79.4	0.4	71.3	50.6	0.3	89.2	108.2	0.9	72.4	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.8	79.4	0.4	71.3	50.6	0.3	89.2	108.2	0.9	72.4	41.1
LOS	F	E	A	E	D	A	F	F	A	E	D
Approach Delay		75.8			46.7			66.4			48.9
Approach LOS		E			D			E			D
90th %ile Green (s)	21.6	35.0	35.0	35.0	48.4		16.6	45.0		28.4	56.8
90th %ile Term Code	Gap	Max	Max	Max	Hold		Gap	Max		Gap	Hold
70th %ile Green (s)	17.4	29.7	29.7	35.0	47.3		13.0	45.0		24.0	56.0
70th %ile Term Code	Gap	Gap	Gap	Max	Hold		Gap	Max		Gap	Hold
50th %ile Green (s)	14.6	25.4	25.4	31.0	41.8		10.6	45.0		21.0	55.4
50th %ile Term Code	Gap	Gap	Gap	Gap	Hold		Gap	Max		Gap	Hold
30th %ile Green (s)	11.9	21.0	21.0	26.5	35.6		8.3	45.0		17.9	54.6
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold		Gap	Max		Gap	Hold
10th %ile Green (s)	8.6	15.5	15.5	21.1	28.0		0.0	45.0		14.0	65.0
10th %ile Term Code	Gap	Gap	Gap	Gap	Hold		Skip	Max		Gap	Hold
Stops (vph)	74	171	0	387	171	0	30	562	0	250	636
Fuel Used(gal)	3	6	0	13	6	3	1	26	2	16	42
CO Emissions (g/hr)	180	408	9	937	395	177	78	1822	169	1144	2962
NOx Emissions (g/hr)	35	79	2	182	77	34	15	354	33	223	576
VOC Emissions (g/hr)	42	94	2	217	91	41	18	422	39	265	686
Dilemma Vehicles (#)	0	6	0	0	7	0	0	20	0	0	10
Queue Length 50th (ft)	88	203	0	217	184	0	33	~442	0	140	254
Queue Length 95th (ft)	154	300	0	320	302	0	78	#694	0	211	373

Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		1085			510			700			500
Turn Bay Length (ft)	200		100	275		400	325			200	
Base Capacity (vph)	376	396	412	657	459	1296	250	701	1260	689	1331
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.55	0.05	0.70	0.50	0.20	0.14	1.09	0.40	0.43	0.66

Intersection Summary

Cycle Length: 175

Actuated Cycle Length: 146.1

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 56.8

Intersection LOS: E

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 168.4

70th %ile Actuated Cycle: 158.7

50th %ile Actuated Cycle: 147.4

30th %ile Actuated Cycle: 135.4

10th %ile Actuated Cycle: 120.6

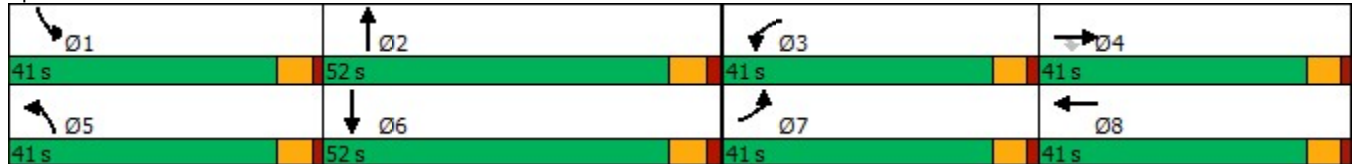
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

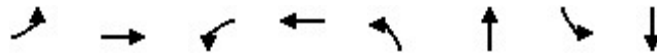
Queue shown is maximum after two cycles.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

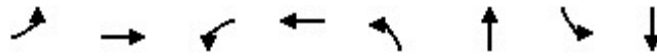
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	35	110	30	45	838	60	901
Future Volume (vph)	30	35	110	30	45	838	60	901
Lane Group Flow (vph)	0	133	0	244	49	1025	65	1006
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	40.5	40.5	40.5	40.5	30.5	32.0	30.5	42.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	27.0%	28.3%	27.0%	37.2%
Maximum Green (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	35.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	1.5	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5		5.5	5.5	7.0	5.5	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Max	None	Max
Act Effct Green (s)		20.1		20.1	8.2	32.9	9.5	37.0
Actuated g/C Ratio		0.26		0.26	0.10	0.42	0.12	0.47
v/c Ratio		0.36		0.74	0.30	1.03	0.41	0.89
Control Delay		20.3		38.4	41.8	63.7	43.2	35.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		20.3		38.4	41.8	63.7	43.2	35.6
LOS		C		D	D	E	D	D
Approach Delay		20.3		38.4		62.7		36.0
Approach LOS		C		D		E		D
90th %ile Green (s)	33.7	33.7	33.7	33.7	11.8	32.4	14.4	35.0
90th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
70th %ile Green (s)	24.9	24.9	24.9	24.9	9.5	33.1	11.4	35.0
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
50th %ile Green (s)	20.4	20.4	20.4	20.4	8.1	33.6	9.5	35.0
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
30th %ile Green (s)	14.9	14.9	14.9	14.9	0.0	25.0	7.5	38.0
30th %ile Term Code	Gap	Gap	Gap	Gap	Skip	MaxR	Gap	Hold
10th %ile Green (s)	10.4	10.4	10.4	10.4	0.0	35.0	0.0	35.0
10th %ile Term Code	Gap	Gap	Gap	Gap	Skip	Hold	Skip	MaxR
Stops (vph)		63		170	41	691	54	648
Fuel Used(gal)		2		5	2	53	2	22
CO Emissions (g/hr)		136		379	171	3723	115	1518
NOx Emissions (g/hr)		26		74	33	724	22	295
VOC Emissions (g/hr)		31		88	40	863	27	352
Dilemma Vehicles (#)		0		0	0	45	0	51
Queue Length 50th (ft)		39		103	24	~303	31	258
Queue Length 95th (ft)		88		191	65	#569	79	#534

Timings
108: US-69 & Harris Rd

09-28-2020

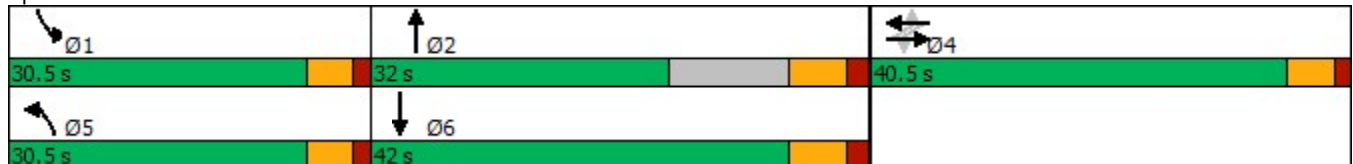


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		644		575	509	1097	439	1125
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.21		0.42	0.10	0.93	0.15	0.89

Intersection Summary

Cycle Length: 113	
Actuated Cycle Length: 78.1	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 46.8	Intersection LOS: D
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 98.5	
70th %ile Actuated Cycle: 87.4	
50th %ile Actuated Cycle: 81.5	
30th %ile Actuated Cycle: 65.4	
10th %ile Actuated Cycle: 57.9	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	20	10	25	20	15	1001	25	145	1102
Future Volume (vph)	20	10	25	20	15	1001	25	145	1102
Lane Group Flow (vph)	0	50	0	153	16	1088	27	158	1225
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.0	22.0	14.0	22.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	57.0	57.0	25.0	57.0
Total Split (%)	23.4%	23.4%	23.4%	23.4%	23.4%	53.3%	53.3%	23.4%	53.3%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0	50.0	50.0	20.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Max	Max	None	Min
Act Effct Green (s)		11.0		11.0	5.8	50.4	50.4	13.6	64.8
Actuated g/C Ratio		0.12		0.12	0.06	0.55	0.55	0.15	0.70
v/c Ratio		0.36		0.67	0.17	0.80	0.03	0.71	0.69
Control Delay		35.1		35.1	48.5	24.8	0.1	55.4	13.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		35.1		35.1	48.5	24.8	0.1	55.4	13.1
LOS		D		D	D	C	A	E	B
Approach Delay		35.1		35.1		24.5			17.9
Approach LOS		D		D		C			B
90th %ile Green (s)	18.8	18.8	18.8	18.8	7.6	50.0	50.0	20.0	62.4
90th %ile Term Code	Hold	Hold	Gap	Gap	Gap	MaxR	MaxR	Max	Hold
70th %ile Green (s)	13.8	13.8	13.8	13.8	6.2	50.0	50.0	16.8	60.6
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	MaxR	MaxR	Gap	Hold
50th %ile Green (s)	10.7	10.7	10.7	10.7	0.0	50.0	50.0	13.8	68.8
50th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	MaxR	Gap	Hold
30th %ile Green (s)	7.9	7.9	7.9	7.9	0.0	50.0	50.0	11.1	66.1
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	MaxR	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	50.0	50.0	7.8	62.8
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	MaxR	Gap	Hold
Stops (vph)		30		63	16	741	0	131	653
Fuel Used(gal)		1		2	1	30	0	8	50
CO Emissions (g/hr)		52		144	43	2088	19	585	3510
NOx Emissions (g/hr)		10		28	8	406	4	114	683
VOC Emissions (g/hr)		12		33	10	484	4	136	814
Dilemma Vehicles (#)		0		0	0	52	0	0	61
Queue Length 50th (ft)		18		41	9	252	0	88	145
Queue Length 95th (ft)		55		100	32	#505	0	167	433

Timings
101: US-69 & Hancock

09-28-2020

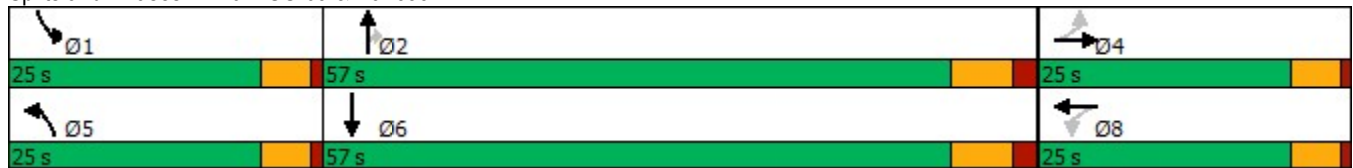


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		240		356	332	1356	775	332	1772
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		0.21		0.43	0.05	0.80	0.03	0.48	0.69

Intersection Summary

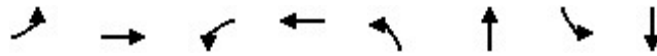
Cycle Length: 107	
Actuated Cycle Length: 92.2	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 22.0	Intersection LOS: C
Intersection Capacity Utilization 65.2%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 105.8	
70th %ile Actuated Cycle: 97.6	
50th %ile Actuated Cycle: 91.5	
30th %ile Actuated Cycle: 86	
10th %ile Actuated Cycle: 80.3	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

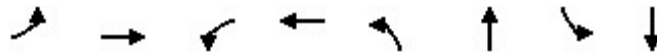
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	35	25	40	40	1056	105	1167
Future Volume (vph)	75	35	25	40	40	1056	105	1167
Lane Group Flow (vph)	0	222	0	147	43	1170	114	1409
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	21.0	21.0	21.0	21.0	25.0	67.0	17.0	67.0
Total Split (%)	18.6%	18.6%	18.6%	18.6%	22.1%	59.3%	15.0%	59.3%
Maximum Green (s)	15.0	15.0	15.0	15.0	20.0	60.0	12.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	1.0	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	5.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	Max	Max	None	Min	Max	Max
Act Effct Green (s)		15.1		15.1	8.3	57.0	12.0	65.5
Actuated g/C Ratio		0.15		0.15	0.08	0.56	0.12	0.64
v/c Ratio		1.18		0.70	0.35	0.84	0.63	0.86
Control Delay		158.2		51.5	52.5	25.2	60.9	23.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		158.2		51.5	52.5	25.2	60.9	23.4
LOS		F		D	D	C	E	C
Approach Delay		158.2		51.5		26.2		26.2
Approach LOS		F		D		C		C
90th %ile Green (s)	15.0	15.0	15.0	15.0	11.4	60.0	12.0	60.6
90th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
70th %ile Green (s)	15.0	15.0	15.0	15.0	9.6	60.0	12.0	62.4
70th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
50th %ile Green (s)	15.0	15.0	15.0	15.0	8.3	60.0	12.0	63.7
50th %ile Term Code	Max	Max	MaxR	MaxR	Gap	Max	MaxR	Hold
30th %ile Green (s)	15.0	15.0	15.0	15.0	0.0	59.8	12.0	76.8
30th %ile Term Code	Max	Max	MaxR	MaxR	Skip	Gap	MaxR	Hold
10th %ile Green (s)	15.0	15.0	15.0	15.0	0.0	46.1	12.0	63.1
10th %ile Term Code	Max	Max	MaxR	MaxR	Skip	Gap	MaxR	Hold
Stops (vph)		130		86	38	855	96	936
Fuel Used(gal)		8		2	2	54	4	37
CO Emissions (g/hr)		567		173	162	3766	277	2590
NOx Emissions (g/hr)		110		34	31	733	54	504
VOC Emissions (g/hr)		131		40	37	873	64	600
Dilemma Vehicles (#)		0		0	0	34	0	0
Queue Length 50th (ft)		~165		73	28	312	74	401
Queue Length 95th (ft)		#318		#150	62	416	#151	#631

Timings
102: US-69 & Border

09-28-2020

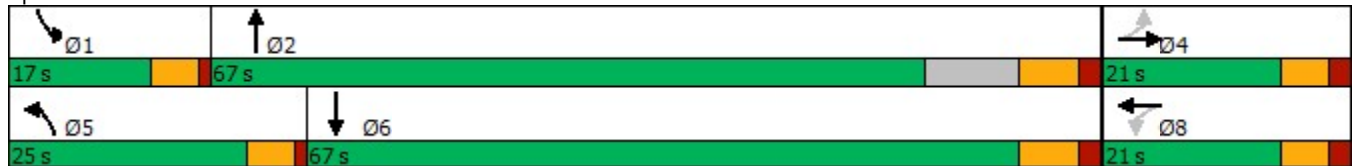


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		188		210	301	1670	180	1637
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.18		0.70	0.14	0.70	0.63	0.86

Intersection Summary

Cycle Length: 113	
Actuated Cycle Length: 102.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 36.8	Intersection LOS: D
Intersection Capacity Utilization 81.6%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 105	
70th %ile Actuated Cycle: 105	
50th %ile Actuated Cycle: 105	
30th %ile Actuated Cycle: 104.8	
10th %ile Actuated Cycle: 91.1	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Future Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Lane Group Flow (vph)	118	130	129	94	103	1104	87	65	1328	103
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	19.5	20.0	19.5	20.0	16.5	57.0	57.0	19.5	47.0	47.0
Total Split (%)	16.8%	17.2%	16.8%	17.2%	14.2%	49.1%	49.1%	16.8%	40.5%	40.5%
Maximum Green (s)	14.0	15.0	15.0	15.0	12.0	50.0	50.0	15.0	41.0	41.0
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	5.0	5.0	3.5	5.0	5.0
All-Red Time (s)	2.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.0	4.5	5.0	4.5	7.0	7.0	4.5	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	None	None	Max	Max	Max	Max	None	Max	Max
Act Effct Green (s)	12.2	15.3	13.0	15.1	12.0	51.7	51.7	10.0	48.2	48.2
Actuated g/C Ratio	0.11	0.14	0.12	0.14	0.11	0.48	0.48	0.09	0.44	0.44
v/c Ratio	0.68	0.53	0.70	0.41	0.60	0.94	0.12	0.46	1.17	0.15
Control Delay	67.2	38.7	67.2	40.7	63.3	44.2	2.2	58.1	115.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	38.7	67.2	40.7	63.3	44.2	2.2	58.1	115.0	3.3
LOS	E	D	E	D	E	D	A	E	F	A
Approach Delay		52.3		56.0		42.9			104.8	
Approach LOS		D		E		D			F	
90th %ile Green (s)	14.0	15.0	15.0	15.0	12.0	50.0	50.0	14.4	53.4	53.4
90th %ile Term Code	Max	Max	Max	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
70th %ile Green (s)	14.0	15.0	15.0	15.0	12.0	50.0	50.0	11.8	50.8	50.8
70th %ile Term Code	Max	Hold	Max	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
50th %ile Green (s)	13.9	15.3	14.6	15.0	12.0	50.0	50.0	10.0	49.0	49.0
50th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
30th %ile Green (s)	11.4	15.3	12.1	15.0	12.0	50.0	50.0	8.2	47.2	47.2
30th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	Gap	Hold	Hold
10th %ile Green (s)	8.1	15.5	8.6	15.0	12.0	56.5	56.5	0.0	41.0	41.0
10th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	Hold	Hold	Skip	MaxR	MaxR
Stops (vph)	92	69	101	56	86	827	5	54	1029	8
Fuel Used(gal)	2	2	2	1	4	34	2	2	61	2
CO Emissions (g/hr)	160	118	173	89	253	2381	108	162	4243	141
NOx Emissions (g/hr)	31	23	34	17	49	463	21	31	826	27
VOC Emissions (g/hr)	37	27	40	21	59	552	25	37	983	33
Dilemma Vehicles (#)	0	0	0	0	0	39	0	0	25	0
Queue Length 50th (ft)	81	58	88	48	71	399	0	45	~595	0
Queue Length 95th (ft)	139	117	149	97	#148	#595	18	90	#736	26

Timings
103: US-69 & Arline

09-28-2020

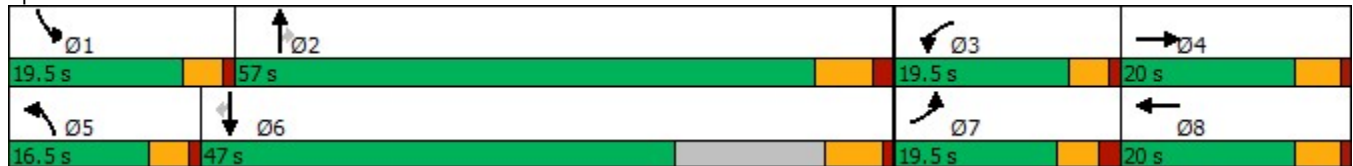


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	200	247	214	231	171	1179	718	214	1278	748
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.53	0.60	0.41	0.60	0.94	0.12	0.30	1.04	0.14

Intersection Summary

Cycle Length: 116	
Actuated Cycle Length: 108.6	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 72.9	Intersection LOS: E
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 115.4	
70th %ile Actuated Cycle: 112.8	
50th %ile Actuated Cycle: 110.9	
30th %ile Actuated Cycle: 106.6	
10th %ile Actuated Cycle: 97.1	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	240	450	180	450	160	896	70	1027	200	
Future Volume (vph)	240	450	180	450	160	896	70	1027	200	
Lane Group Flow (vph)	261	696	196	560	174	1126	76	1116	217	
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	1	6		9
Permitted Phases										6
Detector Phase	7	4	3	8	5	2	1	6		6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0	10.0
Total Split (s)	25.0	40.0	25.0	40.0	20.0	55.0	20.0	65.0	65.0	10.0
Total Split (%)	16.7%	26.7%	16.7%	26.7%	13.3%	36.7%	13.3%	43.3%	43.3%	7%
Maximum Green (s)	20.0	35.0	20.0	35.0	15.0	48.0	15.0	60.0	60.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	Min
Act Effct Green (s)	18.8	39.0	14.8	35.0	13.3	55.5	8.8	62.9	62.9	
Actuated g/C Ratio	0.13	0.26	0.10	0.23	0.09	0.37	0.06	0.42	0.42	
v/c Ratio	0.85	0.90	0.68	0.80	0.71	0.85	0.44	1.06	0.39	
Control Delay	88.9	66.0	76.7	62.8	82.7	50.7	98.7	52.7	1.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.5	0.0	14.4	1.2	
Total Delay	88.9	66.0	76.7	62.8	82.7	54.2	98.7	67.2	2.6	
LOS	F	E	E	E	F	D	F	E	A	
Approach Delay		72.3		66.4		58.0		58.9		
Approach LOS		E		E		E		E		
90th %ile Green (s)	20.0	35.8	19.2	35.0	15.0	51.5	11.5	60.0	60.0	5.0
90th %ile Term Code	Max	Max	Gap	Max	Max	Coord	Gap	Coord	Coord	Max
70th %ile Green (s)	20.0	38.4	16.6	35.0	15.0	53.1	9.9	60.0	60.0	5.0
70th %ile Term Code	Max	Max	Gap	Max	Max	Coord	Gap	Coord	Coord	Max
50th %ile Green (s)	20.0	40.2	14.8	35.0	14.3	54.2	8.8	60.7	60.7	5.0
50th %ile Term Code	Max	Max	Gap	Hold	Gap	Coord	Gap	Coord	Coord	Max
30th %ile Green (s)	18.8	41.6	13.0	35.8	12.4	55.7	7.7	63.0	63.0	5.0
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord	Coord	Max
10th %ile Green (s)	15.2	38.8	10.4	34.0	9.8	62.8	6.0	71.0	71.0	5.0
10th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord	Coord	Max
Stops (vph)	226	545	171	470	154	899	69	636	11	
Fuel Used(gal)	7	15	5	11	7	38	2	19	1	
CO Emissions (g/hr)	479	1047	317	797	492	2663	148	1297	47	
NOx Emissions (g/hr)	93	204	62	155	96	518	29	252	9	
VOC Emissions (g/hr)	111	243	73	185	114	617	34	301	11	

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Dilemma Vehicles (#)	0	0	0	0	0	34	0	2	0	
Queue Length 50th (ft)	129	327	96	269	86	370	40	~668	2	
Queue Length 95th (ft)	#197	#476	137	343	127	#472	m42	m#612	m5	
Internal Link Dist (ft)		593		473		647		291		
Turn Bay Length (ft)	225		200		125		125			
Base Capacity (vph)	325	773	392	706	275	1318	294	1048	552	
Starvation Cap Reductn	0	0	0	0	0	0	0	79	169	
Spillback Cap Reductn	0	0	0	0	0	120	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.80	0.90	0.50	0.79	0.63	0.94	0.26	1.15	0.57	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 62.8

Intersection LOS: E

Intersection Capacity Utilization 82.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

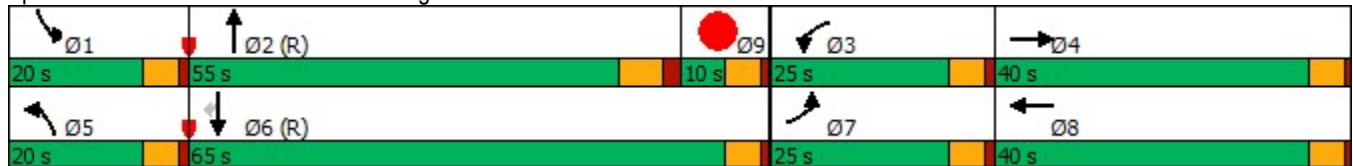
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

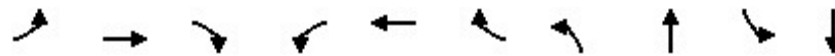
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

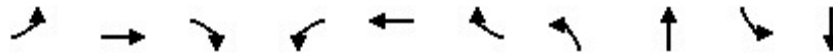
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations	↖↖	↑	↗	↖↖	↑	↗	↖	↑↑↑	↖	↑↑↑	
Traffic Volume (vph)	215	340	65	120	280	40	50	1031	45	1112	
Future Volume (vph)	215	340	65	120	280	40	50	1031	45	1112	
Lane Group Flow (vph)	253	400	76	141	329	47	54	1251	49	1405	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2	1	6	9
Permitted Phases			4			8					
Detector Phase	7	4	5	3	8	1	5	2	1	6	
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0	5.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5	10.0
Total Split (s)	25.0	40.0	20.0	25.0	40.0	20.0	20.0	65.0	20.0	55.0	10.0
Total Split (%)	16.7%	26.7%	13.3%	16.7%	26.7%	13.3%	13.3%	43.3%	13.3%	36.7%	7%
Maximum Green (s)	20.0	34.5	15.0	20.0	34.5	15.0	15.0	58.5	15.0	48.5	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.0	4.5	4.0
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.0	5.0	5.5	5.0	5.0	6.5	5.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max	Max
Act Effct Green (s)	16.9	42.6	58.2	11.9	37.6	52.7	10.1	66.0	9.6	53.4	
Actuated g/C Ratio	0.11	0.28	0.39	0.08	0.25	0.35	0.07	0.44	0.06	0.36	
v/c Ratio	0.75	0.86	0.13	0.59	0.81	0.08	0.52	0.80	0.49	1.09	
Control Delay	78.1	70.4	2.1	76.6	69.3	0.3	100.9	21.5	83.7	97.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	5.3	
Total Delay	78.1	70.4	2.1	76.6	69.3	0.3	100.9	23.7	83.7	102.3	
LOS	E	E	A	E	E	A	F	C	F	F	
Approach Delay		66.0			65.0			26.9		101.7	
Approach LOS		E			E			C		F	
90th %ile Green (s)	20.0	38.9	14.5	15.6	34.5	13.8	14.5	59.7	13.8	49.0	5.0
90th %ile Term Code	Max	Max	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
70th %ile Green (s)	19.4	41.1	11.9	13.4	35.1	11.3	11.9	62.2	11.3	51.6	5.0
70th %ile Term Code	Gap	Max	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
50th %ile Green (s)	17.4	42.6	10.1	11.9	37.1	9.6	10.1	63.9	9.6	53.4	5.0
50th %ile Term Code	Gap	Max	Gap	Gap	Max	Gap	Gap	Coord	Gap	Coord	MaxR
30th %ile Green (s)	15.4	44.1	8.3	10.4	39.1	7.9	8.3	65.6	7.9	55.2	5.0
30th %ile Term Code	Gap	Max	Gap	Gap	Hold	Gap	Gap	Coord	Gap	Coord	MaxR
10th %ile Green (s)	12.5	46.3	5.7	8.2	42.0	0.0	5.7	78.5	0.0	57.8	5.0
10th %ile Term Code	Gap	Max	Gap	Gap	Hold	Skip	Gap	Coord	Skip	Coord	MaxR
Stops (vph)	205	298	3	114	249	0	51	752	43	1094	
Fuel Used(gal)	6	9	0	3	7	0	2	14	2	73	
CO Emissions (g/hr)	415	609	32	232	505	19	108	964	171	5070	
NOx Emissions (g/hr)	81	119	6	45	98	4	21	188	33	986	
VOC Emissions (g/hr)	96	141	8	54	117	4	25	223	40	1175	

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Dilemma Vehicles (#)	0	0	0	0	0	0	0	1	0	38	
Queue Length 50th (ft)	125	373	0	70	306	0	56	175	47	~560	
Queue Length 95th (ft)	161	#539	9	98	#439	0	m67	335	91	#698	
Internal Link Dist (ft)		747			792			291		1894	
Turn Bay Length (ft)	75		75	100		100	75		125		
Base Capacity (vph)	400	463	646	400	408	603	154	1560	154	1291	
Starvation Cap Reductn	0	0	0	0	0	0	0	180	0	0	
Spillback Cap Reductn	0	0	3	0	0	0	0	0	0	140	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.63	0.86	0.12	0.35	0.81	0.08	0.35	0.91	0.32	1.22	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 66.1

Intersection LOS: E

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

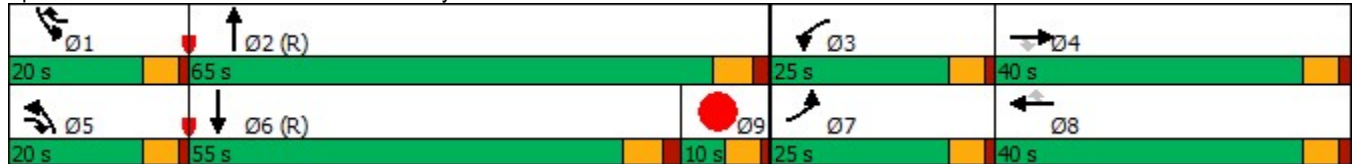
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

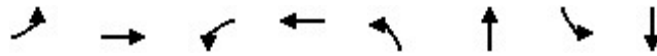
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

09-28-2020

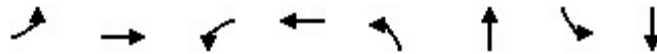


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	60	22	135	25	70	1156	35	1172
Future Volume (vph)	60	22	135	25	70	1156	35	1172
Lane Group Flow (vph)	71	108	159	69	76	1366	38	1292
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	46.0	46.0	40.5	40.5	40.5	52.0	40.5	52.0
Total Split (%)	25.7%	25.7%	22.6%	22.6%	22.6%	29.1%	22.6%	29.1%
Maximum Green (s)	40.0	40.0	35.0	35.0	35.0	45.0	35.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	2.0	2.0	1.5	1.5	1.5	2.0	1.5	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	5.5	5.5	5.5	7.0	5.5	7.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.1	13.1	16.5	16.5	10.7	51.1	7.9	46.1
Actuated g/C Ratio	0.12	0.12	0.15	0.15	0.10	0.47	0.07	0.43
v/c Ratio	0.57	0.52	0.67	0.27	0.50	0.80	0.34	0.84
Control Delay	66.0	25.4	59.9	28.1	61.1	31.4	60.5	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	25.4	59.9	28.1	61.1	31.4	60.5	36.6
LOS	E	C	E	C	E	C	E	D
Approach Delay		41.5		50.2		32.9		37.3
Approach LOS		D		D		C		D
90th %ile Green (s)	20.6	20.6	24.7	24.7	16.1	49.7	11.4	45.0
90th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
70th %ile Green (s)	15.7	15.7	19.5	19.5	12.7	48.5	9.2	45.0
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
50th %ile Green (s)	12.8	12.8	16.3	16.3	10.6	47.8	7.8	45.0
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	Max
30th %ile Green (s)	10.1	10.1	13.5	13.5	8.7	59.2	0.0	45.0
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Skip	Max
10th %ile Green (s)	8.0	8.0	10.1	10.1	0.0	45.0	0.0	45.0
10th %ile Term Code	Min	Min	Gap	Gap	Skip	Max	Skip	Max
Stops (vph)	54	28	121	28	62	963	32	948
Fuel Used(gal)	1	1	3	1	3	53	1	27
CO Emissions (g/hr)	87	59	209	55	241	3686	70	1864
NOx Emissions (g/hr)	17	11	41	11	47	717	14	363
VOC Emissions (g/hr)	20	14	48	13	56	854	16	432
Dilemma Vehicles (#)	0	0	0	0	0	33	0	53
Queue Length 50th (ft)	48	17	106	22	51	305	26	295
Queue Length 95th (ft)	100	69	185	63	112	#532	68	#531

Timings

106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	392	479	515	518	515	1712	515	1538
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.23	0.31	0.13	0.15	0.80	0.07	0.84

Intersection Summary

Cycle Length: 179

Actuated Cycle Length: 107.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 36.5

Intersection LOS: D

Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 130.4

70th %ile Actuated Cycle: 116.9

50th %ile Actuated Cycle: 108.7

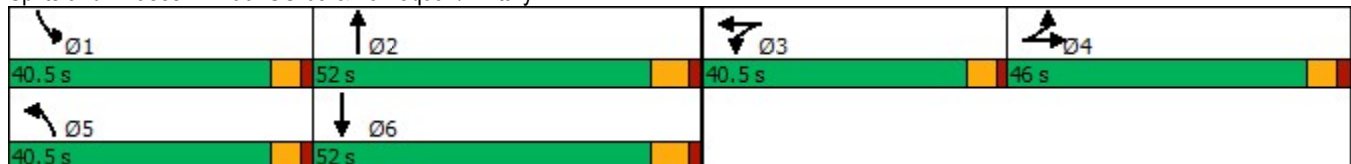
30th %ile Actuated Cycle: 101.3

10th %ile Actuated Cycle: 81.6

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

Queue shown is maximum after two cycles.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	95	290	18	480	200	340	52	735	450	310	728
Future Volume (vph)	95	290	18	480	200	340	52	735	450	310	728
Lane Group Flow (vph)	112	341	21	522	217	370	57	799	489	337	894
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			Free			Free		
Detector Phase	7	4	4	3	8		5	2		1	6
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	12.5	12.5	17.5	12.5		13.5	19.0		19.5	19.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		41.0	52.0		41.0	52.0
Total Split (%)	23.4%	23.4%	23.4%	23.4%	23.4%		23.4%	29.7%		23.4%	29.7%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		35.0	45.0		35.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	2.0		1.5	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	7.0		6.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	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	None	None	None	None	None		None	Min		None	Min
Act Effct Green (s)	17.2	35.1	35.1	33.9	51.8	163.9	14.4	45.1	163.9	24.8	58.3
Actuated g/C Ratio	0.10	0.21	0.21	0.21	0.32	1.00	0.09	0.28	1.00	0.15	0.36
v/c Ratio	0.69	0.98	0.06	0.91	0.43	0.29	0.63	1.24	0.39	0.79	0.73
Control Delay	92.7	106.2	0.3	85.1	50.0	0.6	101.4	168.2	0.9	81.3	51.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.7	106.2	0.3	85.1	50.0	0.6	101.4	168.2	0.9	81.3	51.3
LOS	F	F	A	F	D	A	F	F	A	F	D
Approach Delay		98.3			50.0			104.5			59.5
Approach LOS		F			D			F			E
90th %ile Green (s)	24.6	35.0	35.0	35.0	45.4		22.1	45.0		32.2	55.1
90th %ile Term Code	Gap	Max	Max	Max	Hold		Gap	Max		Gap	Hold
70th %ile Green (s)	20.1	35.0	35.0	35.0	49.9		17.5	45.0		27.8	55.3
70th %ile Term Code	Gap	Max	Max	Max	Hold		Gap	Max		Gap	Hold
50th %ile Green (s)	17.2	35.0	35.0	35.0	52.8		14.4	45.0		24.9	55.5
50th %ile Term Code	Gap	Max	Max	Max	Hold		Gap	Max		Gap	Hold
30th %ile Green (s)	14.4	35.0	35.0	35.0	55.6		11.5	45.0		22.0	55.5
30th %ile Term Code	Gap	Max	Max	Max	Hold		Gap	Max		Gap	Hold
10th %ile Green (s)	10.4	35.0	35.0	29.8	54.4		0.0	45.0		17.9	68.9
10th %ile Term Code	Gap	Max	Max	Gap	Hold		Skip	Max		Gap	Hold
Stops (vph)	90	252	0	440	158	0	48	586	0	293	701
Fuel Used(gal)	3	11	0	17	5	4	2	36	2	19	46
CO Emissions (g/hr)	228	741	11	1163	371	251	135	2528	165	1359	3186
NOx Emissions (g/hr)	44	144	2	226	72	49	26	492	32	264	620
VOC Emissions (g/hr)	53	172	2	270	86	58	31	586	38	315	738
Dilemma Vehicles (#)	0	8	0	0	6	0	0	18	0	0	10
Queue Length 50th (ft)	119	371	0	285	185	0	61	~563	0	183	313
Queue Length 95th (ft)	179	#566	0	#415	304	0	115	#743	0	242	398

Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		1085			510			700			500
Turn Bay Length (ft)	200		100	275		400	325			200	
Base Capacity (vph)	331	348	374	589	500	1296	220	645	1249	600	1220
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.98	0.06	0.89	0.43	0.29	0.26	1.24	0.39	0.56	0.73

Intersection Summary

Cycle Length: 175

Actuated Cycle Length: 163.9

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay: 76.0

Intersection LOS: E

Intersection Capacity Utilization 88.5%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 172.2

70th %ile Actuated Cycle: 167.8

50th %ile Actuated Cycle: 164.9

30th %ile Actuated Cycle: 162

10th %ile Actuated Cycle: 152.7

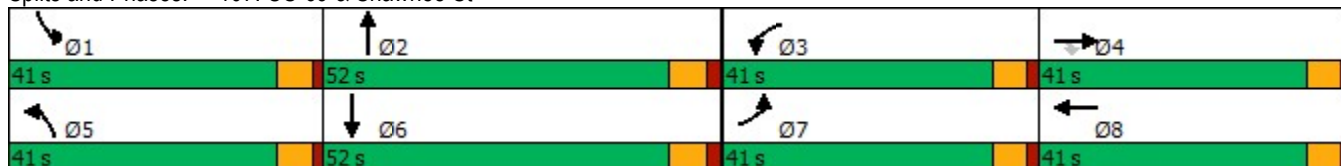
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

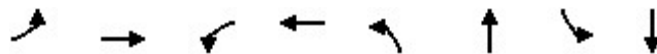
Queue shown is maximum after two cycles.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

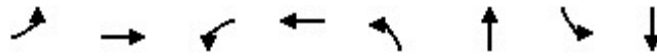
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	45	115	45	70	995	75	943
Future Volume (vph)	30	45	115	45	70	995	75	943
Lane Group Flow (vph)	0	155	0	256	76	1223	82	1063
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	40.5	40.5	40.5	40.5	30.5	32.0	30.5	42.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	27.0%	28.3%	27.0%	37.2%
Maximum Green (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	35.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	1.5	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5		5.5	5.5	7.0	5.5	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Max	None	Max
Act Effct Green (s)		22.8		22.8	9.8	35.2	11.0	36.3
Actuated g/C Ratio		0.27		0.27	0.12	0.42	0.13	0.43
v/c Ratio		0.39		0.78	0.42	1.17	0.49	1.01
Control Delay		21.9		43.3	45.7	115.7	47.4	58.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.9		43.3	45.7	115.7	47.4	58.7
LOS		C		D	D	F	D	E
Approach Delay		21.9		43.3		111.6		57.9
Approach LOS		C		D		F		E
90th %ile Green (s)	35.0	35.0	35.0	35.0	14.5	32.6	16.9	35.0
90th %ile Term Code	Max	Max	Max	Max	Gap	Hold	Gap	MaxR
70th %ile Green (s)	29.3	29.3	29.3	29.3	11.8	33.2	13.6	35.0
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
50th %ile Green (s)	23.1	23.1	23.1	23.1	9.8	33.8	11.0	35.0
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
30th %ile Green (s)	18.6	18.6	18.6	18.6	8.1	34.2	8.9	35.0
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Hold	Gap	MaxR
10th %ile Green (s)	11.6	11.6	11.6	11.6	0.0	35.0	0.0	35.0
10th %ile Term Code	Gap	Gap	Gap	Gap	Skip	Hold	Skip	MaxR
Stops (vph)		77		184	62	787	66	714
Fuel Used(gal)		2		6	4	75	2	28
CO Emissions (g/hr)		163		415	268	5241	147	1952
NOx Emissions (g/hr)		32		81	52	1020	29	380
VOC Emissions (g/hr)		38		96	62	1215	34	452
Dilemma Vehicles (#)		0		0	0	43	0	50
Queue Length 50th (ft)		50		118	39	~438	42	~337
Queue Length 95th (ft)		107		219	91	#732	96	#598

Timings
108: US-69 & Harris Rd

09-28-2020

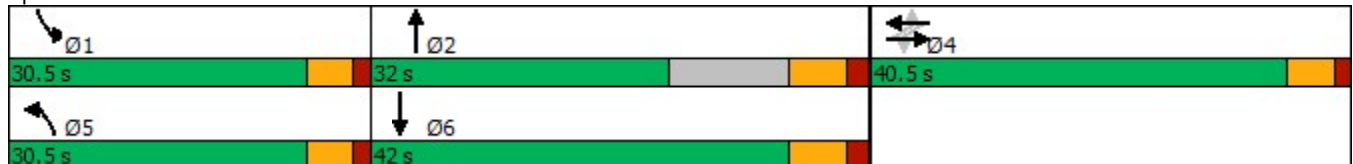


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		608		514	471	1075	393	1054
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.25		0.50	0.16	1.14	0.21	1.01

Intersection Summary

Cycle Length: 113	
Actuated Cycle Length: 84.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 79.1	Intersection LOS: E
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 102.5	
70th %ile Actuated Cycle: 94.1	
50th %ile Actuated Cycle: 85.9	
30th %ile Actuated Cycle: 79.7	
10th %ile Actuated Cycle: 59.1	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	23.7	52.4	0.33	22.7	C
Border	II	48	75.2	25.0	100.2	1.00	35.9	A
Arline	II	35	49.7	7.4	57.1	0.48	30.4	B
Okmulgee	II	35	53.9	15.9	69.8	0.52	27.0	C
Broadway	II	35	8.8	16.0	24.8	0.07	10.2	F
Tahlequah/Military	II	40	71.2	3.7	74.9	0.78	37.6	A
Shawnee St	II	45	16.1	44.2	60.3	0.15	8.8	F
Harris Rd	II	45	80.3	37.1	117.4	1.00	30.8	B
Total	II		383.9	173.0	556.9	4.34	28.1	B

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	32.5	56.4	0.22	14.0	E
Shawnee St	II	45	80.3	26.6	106.9	1.00	33.8	B
Tahlequah/Military	II	45	16.1	8.2	24.3	0.15	21.9	D
Broadway	II	40	71.2	22.2	93.4	0.78	30.2	B
Okmulgee	II	35	8.8	17.1	25.9	0.07	9.8	F
Arline	II	35	53.9	2.7	56.6	0.52	33.3	B
Border	II	35	49.7	11.0	60.7	0.48	28.6	B
Hancock	II	48	75.2	13.7	88.9	1.00	40.5	A
Total	II		379.1	134.0	513.1	4.23	29.7	B

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	30.5	59.2	0.33	20.1	D
Border	II	48	75.2	30.1	105.3	1.00	34.2	B
Arline	II	35	49.7	6.6	56.3	0.48	30.9	B
Okmulgee	II	35	53.9	21.2	75.1	0.52	25.1	C
Broadway	II	35	8.8	8.1	16.9	0.07	15.0	E
Tahlequah/Military	II	40	71.2	7.6	78.8	0.78	35.8	A
Shawnee St	II	45	16.1	45.7	61.8	0.15	8.6	F
Harris Rd	II	45	80.3	47.6	127.9	1.00	28.2	B
Total	II		383.9	197.4	581.3	4.34	26.9	C

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	34.6	58.5	0.22	13.5	E
Shawnee St	II	45	80.3	34.4	114.7	1.00	31.5	B
Tahlequah/Military	II	45	16.1	9.4	25.5	0.15	20.9	D
Broadway	II	40	71.2	15.4	86.6	0.78	32.5	B
Okmulgee	II	35	8.8	27.3	36.1	0.07	7.0	F
Arline	II	35	53.9	18.2	72.1	0.52	26.1	C
Border	II	35	49.7	11.1	60.8	0.48	28.6	B
Hancock	II	48	75.2	15.2	90.4	1.00	39.8	A
Total	II		379.1	165.6	544.7	4.23	27.9	C

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	25	20	25	10	15	892	15	85	867
Future Volume (vph)	25	20	25	10	15	892	15	85	867
Lane Group Flow (vph)	0	67	0	188	16	970	16	92	964
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	57.0	57.0	25.0	57.0
Total Split (%)	23.4%	23.4%	23.4%	23.4%	23.4%	53.3%	53.3%	23.4%	53.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	17.0	50.5	50.5	17.0	50.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		10.4		10.4	6.2	43.4	43.4	10.0	52.3
Actuated g/C Ratio		0.13		0.13	0.08	0.53	0.53	0.12	0.63
v/c Ratio		0.49		0.64	0.14	0.79	0.02	0.50	0.65
Control Delay		44.4		22.9	46.9	23.7	0.1	49.3	13.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		44.4		22.9	46.9	23.7	0.1	49.3	13.7
LOS		D		C	D	C	A	D	B
Approach Delay		44.4		22.9		23.7			16.8
Approach LOS		D		C		C			B
90th %ile Green (s)	17.9	17.9	17.9	17.9	7.6	50.5	50.5	15.6	58.5
90th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Max	Max	Gap	Hold
70th %ile Green (s)	12.1	12.1	12.1	12.1	6.2	50.5	50.5	12.0	56.3
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Max	Gap	Hold
50th %ile Green (s)	9.8	9.8	9.8	9.8	0.0	50.5	50.5	9.9	68.4
50th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Max	Max	Gap	Hold
30th %ile Green (s)	7.6	7.6	7.6	7.6	0.0	40.1	40.1	8.0	56.1
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Gap	Gap	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	23.7	23.7	0.0	23.7
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Dwell	Dwell	Skip	Dwell
Stops (vph)		45		47	16	653	0	74	508
Fuel Used(gal)		1		2	1	26	0	5	40
CO Emissions (g/hr)		80		138	42	1838	12	333	2765
NOx Emissions (g/hr)		15		27	8	358	2	65	538
VOC Emissions (g/hr)		18		32	10	426	3	77	641
Dilemma Vehicles (#)		0		0	0	46	0	0	55
Queue Length 50th (ft)		29		23	9	213	0	52	103
Queue Length 95th (ft)		76		83	32	#411	0	109	330

Timings
101: US-69 & Hancock

09-28-2020

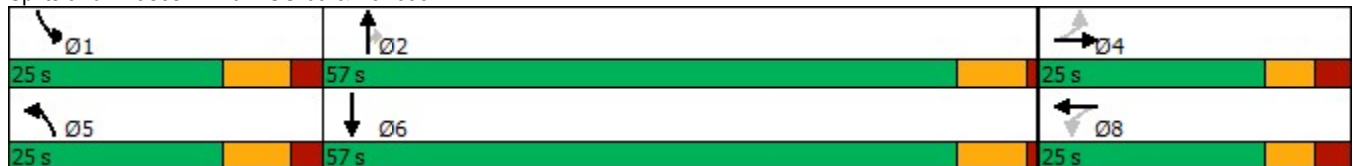


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		253		431	346	1506	916	346	1688
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		0.26		0.44	0.05	0.64	0.02	0.27	0.57

Intersection Summary

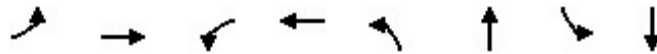
Cycle Length: 107	
Actuated Cycle Length: 82.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.1	Intersection LOS: C
Intersection Capacity Utilization 64.0%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 105.5	
70th %ile Actuated Cycle: 96.1	
50th %ile Actuated Cycle: 91.7	
30th %ile Actuated Cycle: 77.2	
10th %ile Actuated Cycle: 42.7	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

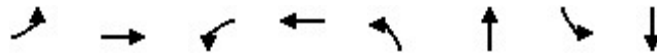
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	30	15	30	30	997	50	912
Future Volume (vph)	110	30	15	30	30	997	50	912
Lane Group Flow (vph)	0	216	0	159	33	1111	54	1073
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	34.0	34.0	34.0	34.0	13.0	63.0	13.0	63.0
Total Split (%)	30.9%	30.9%	30.9%	30.9%	11.8%	57.3%	11.8%	57.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	6.5	58.0	6.5	58.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	6.5	5.0	6.5	5.0
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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		23.6		23.6	6.3	64.0	6.4	66.6
Actuated g/C Ratio		0.21		0.21	0.06	0.58	0.06	0.61
v/c Ratio		0.89		0.43	0.38	0.79	0.61	0.74
Control Delay		74.2		20.4	62.5	25.0	68.5	11.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		74.2		20.4	62.5	25.0	68.5	11.0
LOS		E		C	E	C	E	B
Approach Delay		74.2		20.4		26.1		13.7
Approach LOS		E		C		C		B
90th %ile Green (s)	27.0	27.0	27.0	27.0	6.5	58.0	6.5	58.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	27.0	27.0	27.0	27.0	6.5	58.0	6.5	58.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	26.4	26.4	26.4	26.4	6.5	58.6	6.5	58.6
50th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	22.1	22.1	22.1	22.1	0.0	62.9	6.5	75.9
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Max	Coord
10th %ile Green (s)	15.7	15.7	15.7	15.7	0.0	82.3	0.0	82.3
10th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Skip	Coord
Stops (vph)		163		53	29	771	46	654
Fuel Used(gal)		5		2	2	51	2	25
CO Emissions (g/hr)		333		112	126	3534	137	1768
NOx Emissions (g/hr)		65		22	25	688	27	344
VOC Emissions (g/hr)		77		26	29	819	32	410
Dilemma Vehicles (#)		0		0	0	46	0	26
Queue Length 50th (ft)		134		41	23	339	41	236
Queue Length 95th (ft)		#259		92	56	#460	m59	470

Timings
102: US-69 & Border

09-28-2020

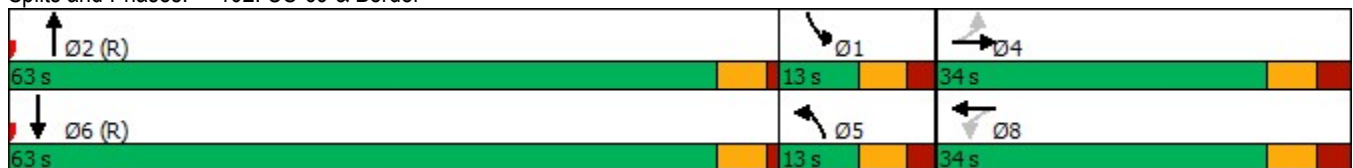


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		274		408	90	1410	90	1445
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.79		0.39	0.37	0.79	0.60	0.74

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 72.1%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Future Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Lane Group Flow (vph)	106	82	94	94	54	1176	98	33	1016	76
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	17.0	13.0	16.0	12.0	14.0	67.5	67.5	13.5	67.0	67.0
Total Split (%)	15.5%	11.8%	14.5%	10.9%	12.7%	61.4%	61.4%	12.3%	60.9%	60.9%
Maximum Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.0	8.0	11.3	7.2	7.5	68.7	68.7	7.0	65.6	65.6
Actuated g/C Ratio	0.09	0.07	0.10	0.07	0.07	0.62	0.62	0.06	0.60	0.60
v/c Ratio	0.76	0.58	0.59	0.72	0.51	0.77	0.11	0.34	0.71	0.09
Control Delay	80.4	46.9	64.9	62.1	71.0	7.4	0.2	64.7	2.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	46.9	64.9	62.1	71.0	7.4	0.2	64.7	2.7	0.1
LOS	F	D	E	E	E	A	A	E	A	A
Approach Delay		65.8		63.5		9.5			4.4	
Approach LOS		E		E		A			A	
90th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	10.5	8.5	9.5	7.5	7.7	76.0	76.0	0.0	62.3	62.3
30th %ile Term Code	Max	Hold	Max	Max	Gap	Coord	Coord	Skip	Coord	Coord
10th %ile Green (s)	8.1	0.0	18.6	6.0	0.0	79.9	79.9	0.0	79.9	79.9
10th %ile Term Code	Gap	Skip	Hold	Min	Skip	Coord	Coord	Skip	Coord	Coord
Stops (vph)	82	43	72	47	48	421	0	31	132	0
Fuel Used(gal)	2	1	2	2	2	25	2	1	20	1
CO Emissions (g/hr)	160	83	123	110	140	1727	116	86	1408	98
NOx Emissions (g/hr)	31	16	24	21	27	336	23	17	274	19
VOC Emissions (g/hr)	37	19	28	26	32	400	27	20	326	23
Dilemma Vehicles (#)	0	0	0	0	0	29	0	0	22	0
Queue Length 50th (ft)	74	32	66	41	39	73	0	24	33	0
Queue Length 95th (ft)	#146	77	#133	#107	m53	92	m0	m26	m36	m0

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	147	148	159	135	112	1535	917	105	1422	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.55	0.59	0.70	0.48	0.77	0.11	0.31	0.71	0.09

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 41 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 14.8
 Intersection LOS: B
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline

Ø1 13.5 s	Ø2 (R) 67.5 s	Ø3 16 s	Ø4 13 s
Ø5 14 s	Ø6 (R) 67 s	Ø7 17 s	Ø8 12 s

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	190	430	135	350	220	932	50	860	220
Future Volume (vph)	190	430	135	350	220	932	50	860	220
Lane Group Flow (vph)	207	565	147	423	239	1122	54	935	239
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	17.1	27.2	13.1	23.2	17.0	57.2	12.5	52.7	52.7
Total Split (%)	15.5%	24.7%	11.9%	21.1%	15.5%	52.0%	11.4%	47.9%	47.9%
Maximum Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.1	21.7	6.6	17.2	10.5	54.2	5.8	47.2	47.2
Actuated g/C Ratio	0.10	0.20	0.06	0.16	0.10	0.49	0.05	0.43	0.43
v/c Ratio	0.86	0.96	0.84	0.89	0.88	0.66	0.35	0.93	0.38
Control Delay	80.4	71.1	87.1	66.0	69.4	15.9	41.8	17.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.0	0.7
Total Delay	80.4	71.1	87.1	66.0	69.4	16.0	41.8	19.1	2.1
LOS	F	E	F	E	E	B	D	B	A
Approach Delay		73.6		71.4		25.4		16.8	
Approach LOS		E		E		C		B	
90th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	12.9	21.7	6.6	15.4	10.5	64.2	0.0	47.2	47.2
10th %ile Term Code	Hold	Max	Max	Gap	Max	Coord	Skip	Coord	Coord
Stops (vph)	167	450	119	349	204	795	50	358	10
Fuel Used(gal)	5	13	4	9	9	30	1	8	1
CO Emissions (g/hr)	352	891	254	617	631	2090	65	559	51
NOx Emissions (g/hr)	68	173	49	120	123	407	13	109	10
VOC Emissions (g/hr)	81	206	59	143	146	484	15	129	12

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	44	0	28	0
Queue Length 50th (ft)	75	203	54	151	92	218	21	58	0
Queue Length 95th (ft)	#145	#317	#111	#238	m#140	223	m26	m#410	m3
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	241	589	176	489	273	1709	160	1007	623
Starvation Cap Reductn	0	0	0	0	0	0	0	24	159
Spillback Cap Reductn	0	0	0	0	0	53	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.96	0.84	0.87	0.88	0.68	0.34	0.95	0.52

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 76.7%

ICU Level of Service D

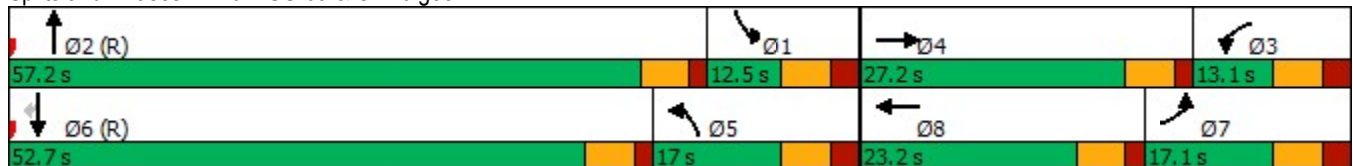
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

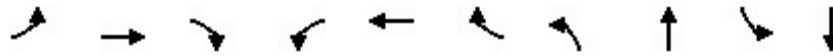
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Future Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Lane Group Flow (vph)	212	329	47	135	400	53	60	1203	43	1294
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	15.6	34.6	13.0	14.0	33.0	13.0	13.0	48.4	13.0	48.4
Total Split (%)	14.2%	31.5%	11.8%	12.7%	30.0%	11.8%	11.8%	44.0%	11.8%	44.0%
Maximum Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.2	25.8	35.2	11.4	28.0	37.4	6.3	45.4	6.2	45.4
Actuated g/C Ratio	0.08	0.23	0.32	0.10	0.25	0.34	0.06	0.41	0.06	0.41
v/c Ratio	0.84	0.86	0.09	0.43	0.97	0.10	0.68	0.85	0.49	0.89
Control Delay	78.1	61.9	1.6	53.1	78.1	2.3	58.8	16.0	44.6	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.2
Total Delay	78.1	61.9	1.6	53.1	78.1	2.3	58.8	16.4	44.6	23.3
LOS	E	E	A	D	E	A	E	B	D	C
Approach Delay		63.0			65.5			18.4		24.0
Approach LOS		E			E			B		C
90th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.1	27.7	6.5	8.9	27.5	6.5	6.5	43.4	6.5	43.4
50th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	9.1	24.2	6.5	12.4	27.5	6.5	6.5	43.4	6.5	43.4
30th %ile Term Code	Max	Gap	Max	Hold	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	9.7	19.0	0.0	20.7	30.0	0.0	0.0	53.3	0.0	53.3
10th %ile Term Code	Gap	Gap	Skip	Hold	Gap	Skip	Skip	Coord	Skip	Coord
Stops (vph)	161	257	2	106	293	3	50	467	38	867
Fuel Used(gal)	5	7	0	3	9	0	1	10	2	47
CO Emissions (g/hr)	343	472	20	182	653	24	83	705	130	3303
NOx Emissions (g/hr)	67	92	4	36	127	5	16	137	25	643
VOC Emissions (g/hr)	80	109	5	42	151	6	19	163	30	765

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	59	0	77
Queue Length 50th (ft)	77	218	0	47	282	0	44	95	29	97
Queue Length 95th (ft)	#130	299	5	#77	#436	9	m60	#206	m46	#395
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	251	431	500	311	414	526	91	1421	91	1447
Starvation Cap Reductn	0	0	0	0	0	0	0	36	0	0
Spillback Cap Reductn	0	0	1	0	0	0	0	0	0	45
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.76	0.09	0.43	0.97	0.10	0.66	0.87	0.47	0.92

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 109 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 34.7

Intersection LOS: C

Intersection Capacity Utilization 78.1%

ICU Level of Service D

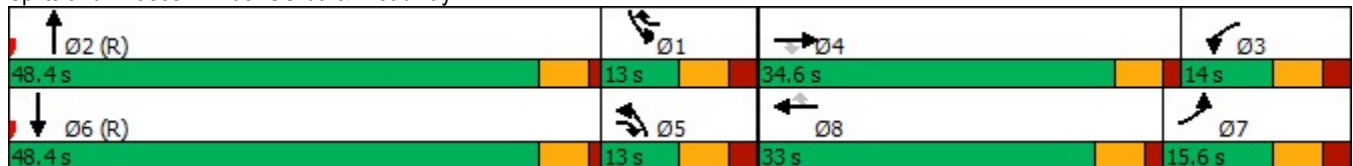
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

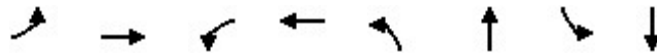
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

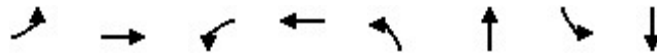
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	120	17	50	1137	26	1085
Future Volume (vph)	32	17	120	17	50	1137	26	1085
Lane Group Flow (vph)	38	96	141	51	54	1323	28	1191
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	23.0	23.0	15.0	56.0	13.0	54.0
Total Split (%)	16.4%	16.4%	20.9%	20.9%	13.6%	50.9%	11.8%	49.1%
Maximum Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	13.6	13.6	7.4	62.6	5.9	58.5
Actuated g/C Ratio	0.09	0.09	0.12	0.12	0.07	0.57	0.05	0.53
v/c Ratio	0.43	0.56	0.74	0.24	0.52	0.66	0.34	0.65
Control Delay	62.9	28.7	68.6	24.5	37.0	3.7	62.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	28.7	68.6	24.5	37.0	3.7	62.4	8.2
LOS	E	C	E	C	D	A	E	A
Approach Delay		38.4		56.9		5.1		9.5
Approach LOS		D		E		A		A
90th %ile Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	10.9	10.9	16.1	16.1	8.0	50.5	6.0	48.5
70th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	8.9	8.9	14.8	14.8	8.0	52.9	6.9	51.8
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	12.3	12.3	8.0	70.2	0.0	55.2
30th %ile Term Code	Min	Min	Gap	Gap	Hold	Coord	Skip	Coord
10th %ile Green (s)	0.0	0.0	8.8	8.8	0.0	88.7	0.0	88.7
10th %ile Term Code	Skip	Skip	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	31	26	113	19	44	205	25	496
Fuel Used(gal)	1	1	3	1	2	37	1	14
CO Emissions (g/hr)	46	57	203	37	155	2591	54	947
NOx Emissions (g/hr)	9	11	39	7	30	504	11	184
VOC Emissions (g/hr)	11	13	47	9	36	600	13	219
Dilemma Vehicles (#)	0	0	0	0	0	62	0	38
Queue Length 50th (ft)	26	14	96	13	33	12	16	145
Queue Length 95th (ft)	58	59	153	44	m42	94	m25	m160

Timings
106: US-69 & Tahlequah/Military

09-28-2020

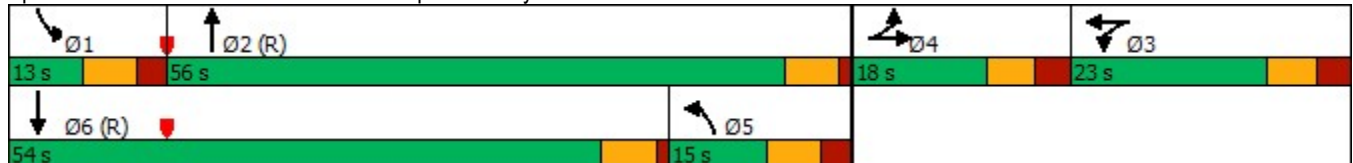


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	103	188	225	242	112	2007	87	1838
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.51	0.63	0.21	0.48	0.66	0.32	0.65

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 61 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 11.8
 Intersection LOS: B
 Intersection Capacity Utilization 62.5%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↑	↗	↖↗	↑	↗	↖	↑↑	↗	↖↗	↑↑↗
Traffic Volume (vph)	185	16	420	210	240	32	704	460	270	686
Future Volume (vph)	185	16	420	210	240	32	704	460	270	686
Lane Group Flow (vph)	312	19	457	228	261	35	765	500	293	876
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	19.4	19.4	26.4	26.4		17.3	44.7		19.5	46.9
Total Split (%)	17.6%	17.6%	24.0%	24.0%		15.7%	40.6%		17.7%	42.6%
Maximum Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	11.9	11.9	18.9	18.9	110.0	8.8	38.7	110.0	12.5	47.8
Actuated g/C Ratio	0.11	0.11	0.17	0.17	1.00	0.08	0.35	1.00	0.11	0.43
v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.43	0.97	0.40	0.91	0.60
Control Delay	86.9	0.2	83.8	68.3	0.3	48.7	44.2	1.4	80.6	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	0.2	83.8	68.3	0.3	48.7	44.2	1.4	80.6	26.6
LOS	F	A	F	E	A	D	D	A	F	C
Approach Delay	81.9			57.1			27.9			40.1
Approach LOS	F			E			C			D
90th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
50th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
30th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
30th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
10th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	234	0	370	189	0	29	472	38	241	593
Fuel Used(gal)	9	0	14	7	3	1	16	3	17	39
CO Emissions (g/hr)	607	9	1002	457	177	59	1103	205	1168	2758
NOx Emissions (g/hr)	118	2	195	89	34	11	215	40	227	537
VOC Emissions (g/hr)	141	2	232	106	41	14	256	48	271	639
Dilemma Vehicles (#)	11	0	0	9	0	0	61	0	0	37
Queue Length 50th (ft)	116	0	167	157	0	20	158	0	107	183
Queue Length 95th (ft)	#186	0	#272	#286	0	m32	#396	18	#188	235

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	330	366	465	277	1296	96	790	1260	322	1449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.36	0.97	0.40	0.91	0.60

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 71 (65%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 43.8

Intersection LOS: D

Intersection Capacity Utilization 77.6%

ICU Level of Service D

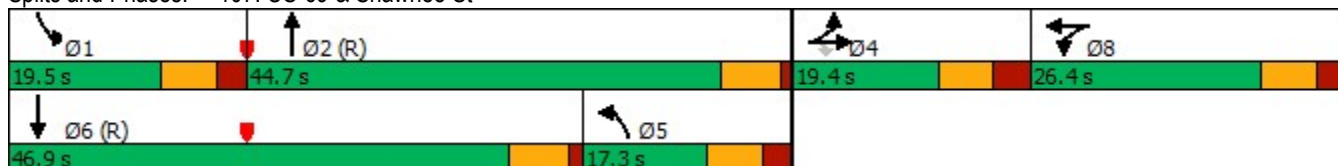
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

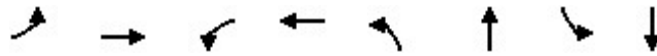
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

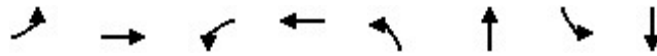
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	35	110	30	45	838	60	901
Future Volume (vph)	30	35	110	30	45	838	60	901
Lane Group Flow (vph)	0	133	0	244	49	1025	65	1006
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	40.5	40.5	40.5	40.5	30.5	57.0	30.5	52.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	23.8%	44.5%	23.8%	40.6%
Maximum Green (s)	33.5	33.5	33.5	33.5	23.0	51.0	23.0	46.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		25.2		25.2	8.9	52.3	10.7	53.9
Actuated g/C Ratio		0.24		0.24	0.08	0.50	0.10	0.51
v/c Ratio		0.40		0.82	0.38	0.88	0.49	0.83
Control Delay		29.8		56.9	58.1	37.1	60.5	32.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.8		56.9	58.1	37.1	60.5	32.5
LOS		C		E	E	D	E	C
Approach Delay		29.8		56.9		38.0		34.2
Approach LOS		C		E		D		C
90th %ile Green (s)	33.5	33.5	33.5	33.5	12.9	51.0	16.2	54.3
90th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
70th %ile Green (s)	32.7	32.7	32.7	32.7	10.6	51.0	13.0	53.4
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
50th %ile Green (s)	26.9	26.9	26.9	26.9	8.9	51.0	10.8	52.9
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
30th %ile Green (s)	21.8	21.8	21.8	21.8	7.4	51.0	8.8	52.4
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
10th %ile Green (s)	13.8	13.8	13.8	13.8	0.0	51.0	0.0	51.0
10th %ile Term Code	Gap	Gap	Gap	Gap	Skip	Max	Skip	Hold
Stops (vph)		69		180	41	717	53	718
Fuel Used(gal)		2		6	3	48	2	22
CO Emissions (g/hr)		154		441	181	3388	129	1538
NOx Emissions (g/hr)		30		86	35	659	25	299
VOC Emissions (g/hr)		36		102	42	785	30	357
Dilemma Vehicles (#)		0		0	0	42	0	34
Queue Length 50th (ft)		58		147	33	342	44	320
Queue Length 95th (ft)		120		#261	77	#585	93	#540

Timings
108: US-69 & Harris Rd

09-28-2020

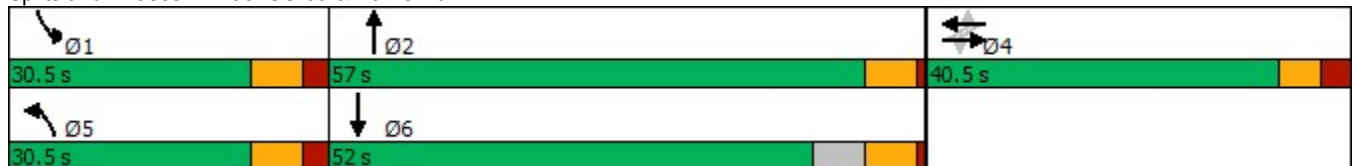


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		447		401	343	1169	295	1213
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.30		0.61	0.14	0.88	0.22	0.83

Intersection Summary

Cycle Length: 128	
Actuated Cycle Length: 105.5	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 121.2	
70th %ile Actuated Cycle: 117.2	
50th %ile Actuated Cycle: 109.2	
30th %ile Actuated Cycle: 102.1	
10th %ile Actuated Cycle: 77.8	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	20	10	25	20	15	1001	25	145	1102
Future Volume (vph)	20	10	25	20	15	1001	25	145	1102
Lane Group Flow (vph)	0	50	0	153	16	1088	27	158	1225
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	27.0	27.0	27.0	27.0	18.0	61.5	61.5	28.0	61.5
Total Split (%)	23.2%	23.2%	23.2%	23.2%	15.5%	52.8%	52.8%	24.0%	52.8%
Maximum Green (s)	20.0	20.0	20.0	20.0	10.0	55.0	55.0	20.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		11.9		11.9	6.0	51.3	51.3	14.4	68.6
Actuated g/C Ratio		0.12		0.12	0.06	0.51	0.51	0.14	0.69
v/c Ratio		0.36		0.69	0.18	0.85	0.03	0.72	0.71
Control Delay		38.4		41.4	54.5	30.5	0.1	61.7	15.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		38.4		41.4	54.5	30.5	0.1	61.7	15.2
LOS		D		D	D	C	A	E	B
Approach Delay		38.4		41.4		30.1			20.5
Approach LOS		D		D		C			C
90th %ile Green (s)	20.0	20.0	20.0	20.0	7.8	55.0	55.0	20.0	67.2
90th %ile Term Code	Hold	Hold	Max	Max	Gap	Max	Max	Max	Hold
70th %ile Green (s)	15.5	15.5	15.5	15.5	6.5	55.0	55.0	18.4	66.9
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Max	Max	Gap	Hold
50th %ile Green (s)	12.0	12.0	12.0	12.0	0.0	55.0	55.0	15.0	78.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Max	Max	Gap	Hold
30th %ile Green (s)	8.9	8.9	8.9	8.9	0.0	52.6	52.6	12.1	72.7
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Gap	Gap	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	37.7	37.7	8.2	53.9
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Gap	Gap	Gap	Hold
Stops (vph)		30		69	16	784	0	131	669
Fuel Used(gal)		1		2	1	32	0	9	51
CO Emissions (g/hr)		54		158	44	2225	19	598	3560
NOx Emissions (g/hr)		11		31	9	433	4	116	693
VOC Emissions (g/hr)		13		37	10	516	4	139	825
Dilemma Vehicles (#)		0		0	0	32	0	0	56
Queue Length 50th (ft)		20		53	10	301	0	101	169
Queue Length 95th (ft)		60		114	35	#547	0	185	490

Timings
101: US-69 & Hancock

09-28-2020

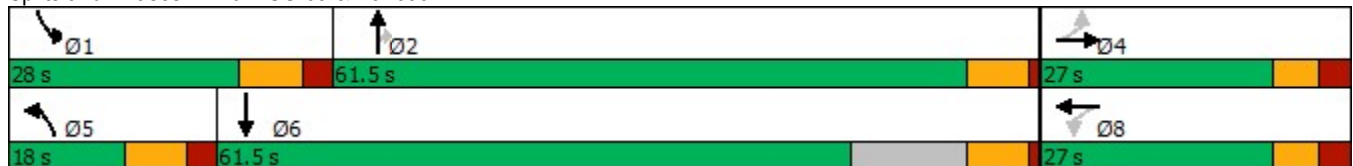


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		225		332	156	1405	851	313	1812
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		0.22		0.46	0.10	0.77	0.03	0.50	0.68

Intersection Summary

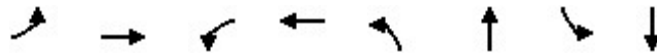
Cycle Length: 116.5	
Actuated Cycle Length: 99.7	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 116.5	
70th %ile Actuated Cycle: 110.4	
50th %ile Actuated Cycle: 103.5	
30th %ile Actuated Cycle: 95.1	
10th %ile Actuated Cycle: 72.9	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	35	25	40	40	1056	105	1167
Future Volume (vph)	75	35	25	40	40	1056	105	1167
Lane Group Flow (vph)	0	222	0	147	43	1170	114	1409
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	35.0	35.0	35.0	35.0	13.0	75.0	20.0	82.0
Total Split (%)	26.9%	26.9%	26.9%	26.9%	10.0%	57.7%	15.4%	63.1%
Maximum Green (s)	28.0	28.0	28.0	28.0	6.5	70.0	13.5	77.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		25.1		25.1	6.3	73.8	12.6	82.5
Actuated g/C Ratio		0.19		0.19	0.05	0.57	0.10	0.63
v/c Ratio		0.91		0.53	0.58	0.82	0.77	0.87
Control Delay		82.1		42.9	89.9	30.1	88.5	11.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		82.1		42.9	89.9	30.1	88.5	11.1
LOS		F		D	F	C	F	B
Approach Delay		82.1		42.9		32.2		16.9
Approach LOS		F		D		C		B
90th %ile Green (s)	28.0	28.0	28.0	28.0	6.5	70.0	13.5	77.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	28.0	28.0	28.0	28.0	6.5	70.0	13.5	77.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	28.0	28.0	28.0	28.0	6.5	70.0	13.5	77.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	24.1	24.1	24.1	24.1	6.5	74.3	13.1	80.9
30th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
10th %ile Green (s)	17.3	17.3	17.3	17.3	0.0	84.7	9.5	100.7
10th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Gap	Coord
Stops (vph)		160		86	37	852	87	721
Fuel Used(gal)		5		2	3	55	4	32
CO Emissions (g/hr)		362		158	182	3837	313	2251
NOx Emissions (g/hr)		70		31	35	747	61	438
VOC Emissions (g/hr)		84		37	42	889	73	522
Dilemma Vehicles (#)		0		0	0	41	0	18
Queue Length 50th (ft)		158		84	36	433	88	229
Queue Length 95th (ft)		#298		143	#90	551	m103	m#723

Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		270		305	76	1420	159	1621
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.82		0.48	0.57	0.82	0.72	0.87

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 116 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 28.8 Intersection LOS: C
 Intersection Capacity Utilization 82.1% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Future Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Lane Group Flow (vph)	118	130	129	94	103	1104	87	65	1328	103
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	17.0	13.0	19.0	15.0	17.0	83.4	83.4	14.6	81.0	81.0
Total Split (%)	13.1%	10.0%	14.6%	11.5%	13.1%	64.2%	64.2%	11.2%	62.3%	62.3%
Maximum Green (s)	10.5	8.5	12.5	10.5	11.0	78.4	78.4	8.6	76.0	76.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.5	8.5	12.4	10.4	10.7	81.4	81.4	8.2	76.4	76.4
Actuated g/C Ratio	0.08	0.07	0.10	0.08	0.08	0.63	0.63	0.06	0.59	0.59
v/c Ratio	0.94	0.99	0.88	0.68	0.81	0.71	0.10	0.67	0.88	0.12
Control Delay	125.8	120.2	105.9	70.9	102.7	6.6	0.1	61.5	18.2	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	125.8	120.2	105.9	70.9	102.7	6.6	0.1	61.5	18.2	0.7
LOS	F	F	F	E	F	A	A	E	B	A
Approach Delay		122.9		91.1		13.8			18.9	
Approach LOS		F		F		B			B	
90th %ile Green (s)	10.5	8.5	12.5	10.5	11.0	78.4	78.4	8.6	76.0	76.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	10.5	8.5	12.5	10.5	11.0	78.4	78.4	8.6	76.0	76.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	10.5	8.5	12.5	10.5	11.0	78.4	78.4	8.6	76.0	76.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	10.5	8.5	12.5	10.5	11.0	78.4	78.4	8.6	76.0	76.0
30th %ile Term Code	Max	Max	Max	Hold	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	10.5	8.5	11.9	9.9	9.4	93.6	93.6	0.0	78.2	78.2
10th %ile Term Code	Max	Max	Gap	Hold	Gap	Coord	Coord	Skip	Coord	Coord
Stops (vph)	84	63	96	60	82	264	0	55	1095	4
Fuel Used(gal)	3	3	3	2	4	22	1	2	37	2
CO Emissions (g/hr)	240	244	232	125	304	1540	103	165	2595	135
NOx Emissions (g/hr)	47	47	45	24	59	300	20	32	505	26
VOC Emissions (g/hr)	56	56	54	29	70	357	24	38	601	31
Dilemma Vehicles (#)	0	0	0	0	0	10	0	0	29	0
Queue Length 50th (ft)	101	81	109	63	84	55	0	57	525	2
Queue Length 95th (ft)	#206	#198	#208	#126	m106	65	m0	m57	m548	m2

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	125	131	148	140	131	1553	912	102	1506	862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.99	0.87	0.67	0.79	0.71	0.10	0.64	0.88	0.12

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 48 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 29.7 Intersection LOS: C
 Intersection Capacity Utilization 72.2% ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	240	450	180	450	160	896	70	1027	200
Future Volume (vph)	240	450	180	450	160	896	70	1027	200
Lane Group Flow (vph)	261	696	196	560	174	1126	76	1116	217
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	21.0	34.4	15.8	29.2	15.4	65.6	14.2	64.4	64.4
Total Split (%)	16.2%	26.5%	12.2%	22.5%	11.8%	50.5%	10.9%	49.5%	49.5%
Maximum Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.5	28.9	9.3	23.7	8.9	62.9	7.3	58.9	58.9
Actuated g/C Ratio	0.11	0.22	0.07	0.18	0.07	0.48	0.06	0.45	0.45
v/c Ratio	0.96	1.04	0.93	1.01	0.93	0.65	0.46	0.99	0.36
Control Delay	102.4	90.5	106.6	93.3	93.8	21.2	37.6	27.3	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.8
Total Delay	102.4	90.5	106.6	93.3	93.8	21.2	37.6	28.6	2.2
LOS	F	F	F	F	F	C	D	C	A
Approach Delay		93.7		96.7		30.9		25.0	
Approach LOS		F		F		C		C	
90th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Hold	Coord	Coord
10th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	74.3	0.0	58.9	58.9
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Skip	Coord	Coord
Stops (vph)	211	531	158	450	136	887	64	682	9
Fuel Used(gal)	7	18	6	14	7	32	1	14	1
CO Emissions (g/hr)	519	1264	388	1013	508	2222	84	950	46
NOx Emissions (g/hr)	101	246	76	197	99	432	16	185	9
VOC Emissions (g/hr)	120	293	90	235	118	515	20	220	11

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	16	0	27	0
Queue Length 50th (ft)	114	~315	86	~252	73	313	30	75	0
Queue Length 95th (ft)	#202	#442	#161	#377	m#131	m326	m35	#627	m3
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	272	671	210	552	188	1724	174	1132	607
Starvation Cap Reductn	0	0	0	0	0	0	0	7	177
Spillback Cap Reductn	0	0	0	0	0	19	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.04	0.93	1.01	0.93	0.66	0.44	0.99	0.50

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 126 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 53.9

Intersection LOS: D

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

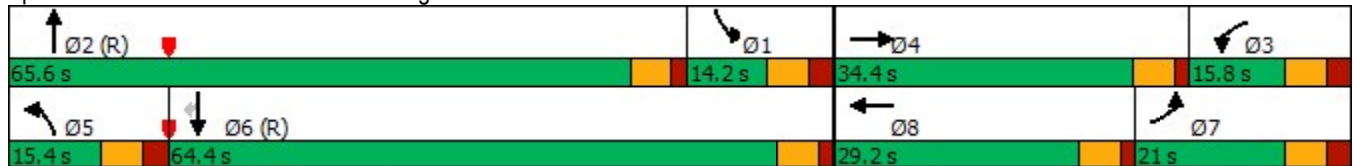
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

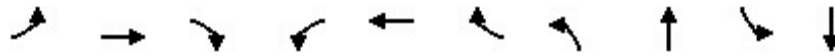
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

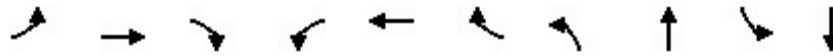
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Future Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Lane Group Flow (vph)	253	400	76	141	329	47	54	1251	49	1405
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	41.0	13.0	14.0	35.0	13.0	13.0	62.0	13.0	62.0
Total Split (%)	15.4%	31.5%	10.0%	10.8%	26.9%	10.0%	10.0%	47.7%	10.0%	47.7%
Maximum Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.4	34.1	39.5	7.7	28.4	38.9	6.4	60.8	6.3	58.3
Actuated g/C Ratio	0.10	0.26	0.30	0.06	0.22	0.30	0.05	0.47	0.05	0.45
v/c Ratio	0.82	0.94	0.14	0.79	0.92	0.09	0.71	0.75	0.65	0.87
Control Delay	77.9	77.0	0.5	89.5	81.4	0.3	109.4	8.1	65.3	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.8
Total Delay	77.9	77.0	0.5	89.5	81.4	0.3	109.4	8.5	65.3	17.1
LOS	E	E	A	F	F	A	F	A	E	B
Approach Delay		69.3			76.3			12.7		18.8
Approach LOS		E			E			B		B
90th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	35.0	6.5	8.0	29.5	6.5	6.5	57.0	6.5	57.0
30th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.1	29.0	6.0	8.2	24.1	0.0	6.0	75.8	0.0	63.3
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Skip	Gap	Coord	Skip	Coord
Stops (vph)	200	307	0	109	254	0	46	519	40	980
Fuel Used(gal)	6	9	0	4	8	0	2	9	2	50
CO Emissions (g/hr)	412	644	30	252	556	19	111	620	157	3490
NOx Emissions (g/hr)	80	125	6	49	108	4	22	121	31	679
VOC Emissions (g/hr)	96	149	7	58	129	4	26	144	36	809

Timings
105: US-69 & Broadway

09-28-2020

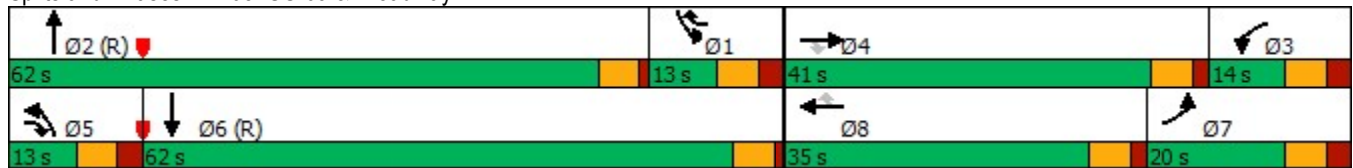


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	17	0	11
Queue Length 50th (ft)	109	326	0	61	270	0	47	106	42	279
Queue Length 95th (ft)	#158	#463	0	#108	#399	0	m67	m116	m58	223
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	312	445	541	178	370	549	77	1659	77	1623
Starvation Cap Reductn	0	0	0	0	0	0	0	109	0	0
Spillback Cap Reductn	0	0	4	0	0	0	0	0	0	101
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.90	0.14	0.79	0.89	0.09	0.70	0.81	0.64	0.92

Intersection Summary

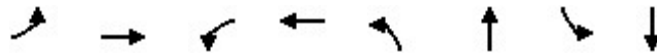
Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 123 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 33.4
 Intersection LOS: C
 Intersection Capacity Utilization 78.5%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

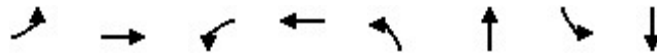
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	60	22	135	25	70	1156	35	1172
Future Volume (vph)	60	22	135	25	70	1156	35	1172
Lane Group Flow (vph)	71	108	159	69	76	1366	38	1292
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	23.0	23.0	27.0	27.0	18.0	67.0	13.0	62.0
Total Split (%)	17.7%	17.7%	20.8%	20.8%	13.8%	51.5%	10.0%	47.7%
Maximum Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	12.9	12.9	16.9	16.9	10.1	70.2	5.8	66.2
Actuated g/C Ratio	0.10	0.10	0.13	0.13	0.08	0.54	0.04	0.51
v/c Ratio	0.70	0.58	0.79	0.30	0.63	0.70	0.55	0.71
Control Delay	88.5	30.4	80.7	27.8	64.9	7.6	63.7	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	30.4	80.7	27.8	64.9	7.6	63.7	9.4
LOS	F	C	F	C	E	A	E	A
Approach Delay		53.4		64.7		10.6		10.9
Approach LOS		D		E		B		B
90th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.8	13.8	18.2	18.2	11.0	65.5	6.0	60.5
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Max	Coord
30th %ile Green (s)	10.9	10.9	15.3	15.3	11.0	71.3	6.0	66.3
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	11.2	11.2	0.0	91.3	0.0	91.3
10th %ile Term Code	Min	Min	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	58	29	128	26	69	694	34	515
Fuel Used(gal)	2	1	4	1	4	44	1	15
CO Emissions (g/hr)	108	66	252	54	249	3076	74	1027
NOx Emissions (g/hr)	21	13	49	11	49	599	14	200
VOC Emissions (g/hr)	25	15	58	13	58	713	17	238
Dilemma Vehicles (#)	0	0	0	0	0	7	0	39
Queue Length 50th (ft)	58	20	130	22	68	91	34	152
Queue Length 95th (ft)	104	72	193	61	m89	271	m45	m220

Timings
106: US-69 & Tahlequah/Military

09-28-2020

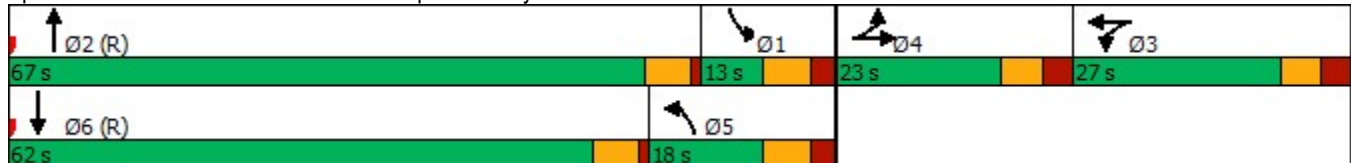


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	127	210	238	262	131	1952	71	1831
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.51	0.67	0.26	0.58	0.70	0.54	0.71

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 51 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	290	18	480	200	340	52	735	450	310	728
Future Volume (vph)	290	18	480	200	340	52	735	450	310	728
Lane Group Flow (vph)	453	21	522	217	370	57	799	489	337	894
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	26.0	26.0	31.0	31.0		18.4	51.0		22.0	54.6
Total Split (%)	20.0%	20.0%	23.8%	23.8%		14.2%	39.2%		16.9%	42.0%
Maximum Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	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	3.0		3.0	3.0
Recall Mode	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	18.5	18.5	23.5	23.5	130.0	10.5	45.0	130.0	15.0	52.3
Actuated g/C Ratio	0.14	0.14	0.18	0.18	1.00	0.08	0.35	1.00	0.12	0.40
v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.69	0.98	0.39	1.04	0.65
Control Delay	107.8	0.4	104.5	68.4	0.6	67.5	45.7	1.0	115.9	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.8	0.4	104.5	68.4	0.6	67.5	45.7	1.0	115.9	34.4
LOS	F	A	F	E	A	E	D	A	F	C
Approach Delay	103.0			62.7			30.4			56.7
Approach LOS	F			E			C			E
90th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
30th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
10th %ile Green (s)	18.5	18.5	23.5	23.5		0.0	45.0		15.0	67.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	337	0	420	182	0	49	548	6	268	644
Fuel Used(gal)	14	0	18	6	4	2	17	2	21	42
CO Emissions (g/hr)	994	11	1285	436	251	111	1215	171	1490	2939
NOx Emissions (g/hr)	193	2	250	85	49	22	236	33	290	572
VOC Emissions (g/hr)	230	2	298	101	58	26	282	40	345	681
Dilemma Vehicles (#)	13	0	0	8	0	0	38	0	0	32
Queue Length 50th (ft)	~216	0	~245	176	0	51	156	0	~157	227
Queue Length 95th (ft)	#297	0	#359	#294	0	m73	#479	4	#256	280

Timings
107: US-69 & Shawnee St

09-28-2020

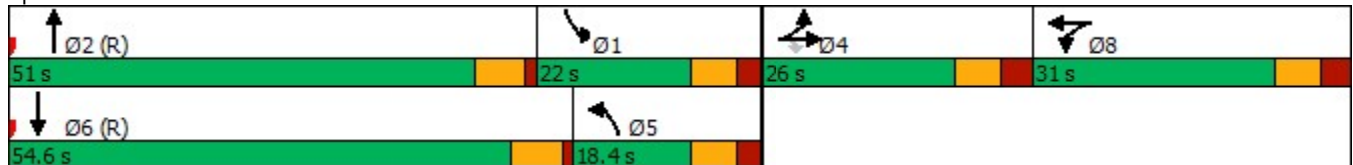


Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	435	323	498	286	1296	90	812	1249	324	1381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.63	0.98	0.39	1.04	0.65

Intersection Summary

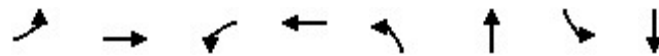
Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 60 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 55.1
 Intersection LOS: E
 Intersection Capacity Utilization 85.8%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

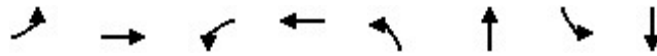
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	45	115	45	70	995	75	943
Future Volume (vph)	30	45	115	45	70	995	75	943
Lane Group Flow (vph)	0	155	0	256	76	1223	82	1063
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	42.0	42.0	42.0	42.0	27.5	91.0	27.5	91.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	17.1%	56.7%	17.1%	56.7%
Maximum Green (s)	35.0	35.0	35.0	35.0	20.0	85.0	20.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		35.4		35.4	12.7	76.6	14.4	78.3
Actuated g/C Ratio		0.24		0.24	0.09	0.52	0.10	0.53
v/c Ratio		0.46		0.94	0.58	0.94	0.66	0.82
Control Delay		48.0		94.4	84.1	47.6	90.3	34.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		48.0		94.4	84.1	47.6	90.3	34.6
LOS		D		F	F	D	F	C
Approach Delay		48.0		94.4		49.7		38.6
Approach LOS		D		F		D		D
90th %ile Green (s)	35.0	35.0	35.0	35.0	18.7	85.0	20.0	86.3
90th %ile Term Code	Max	Max	Max	Max	Gap	Max	Max	Hold
70th %ile Green (s)	35.0	35.0	35.0	35.0	15.4	85.0	18.2	87.8
70th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
50th %ile Green (s)	35.0	35.0	35.0	35.0	13.0	85.0	15.2	87.2
50th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
30th %ile Green (s)	35.0	35.0	35.0	35.0	10.5	72.4	12.1	74.0
30th %ile Term Code	Max	Max	Max	Max	Gap	Gap	Gap	Hold
10th %ile Green (s)	35.0	35.0	35.0	35.0	7.3	57.4	8.1	58.2
10th %ile Term Code	Max	Max	Max	Max	Gap	Gap	Gap	Hold
Stops (vph)		98		181	64	975	70	778
Fuel Used(gal)		3		8	4	62	3	24
CO Emissions (g/hr)		223		581	308	4314	197	1671
NOx Emissions (g/hr)		43		113	60	839	38	325
VOC Emissions (g/hr)		52		135	71	1000	46	387
Dilemma Vehicles (#)		0		0	0	34	0	26
Queue Length 50th (ft)		116		~253	76	564	82	428
Queue Length 95th (ft)		201		#467	134	#781	145	571

Timings
108: US-69 & Harris Rd

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		336		272	211	1455	176	1449
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.46		0.94	0.36	0.84	0.47	0.73

Intersection Summary

Cycle Length: 160.5	
Actuated Cycle Length: 147.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 49.2	Intersection LOS: D
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 160.5	
70th %ile Actuated Cycle: 158.7	
50th %ile Actuated Cycle: 155.7	
30th %ile Actuated Cycle: 140	
10th %ile Actuated Cycle: 121	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd

Ø1 27.5 s	Ø2 91 s	Ø4 42 s
Ø5 27.5 s	Ø6 91 s	

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	69.8	98.5	0.33	12.1	F
Border	II	48	75.2	169.7	244.9	1.00	14.7	E
Arline	II	35	49.7	78.0	127.7	0.48	13.6	E
Okmulgee	II	35	53.9	20.6	74.5	0.52	25.3	C
Broadway	II	35	8.8	118.0	126.8	0.07	2.0	F
Tahlequah/Military	II	40	71.2	9.0	80.2	0.78	35.1	A
Shawnee St	II	45	16.1	186.1	202.2	0.15	2.6	F
Harris Rd	II	45	80.3	166.4	246.7	1.00	14.6	E
Total	II		383.9	817.6	1201.5	4.34	13.0	E

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	126.0	149.9	0.22	5.3	F
Shawnee St	II	45	80.3	19.7	100.0	1.00	36.1	A
Tahlequah/Military	II	45	16.1	15.6	31.7	0.15	16.8	E
Broadway	II	40	71.2	134.3	205.5	0.78	13.7	E
Okmulgee	II	35	8.8	156.6	165.4	0.07	1.5	F
Arline	II	35	53.9	29.1	83.0	0.52	22.7	C
Border	II	35	49.7	161.2	210.9	0.48	8.2	F
Hancock	II	48	75.2	8.4	83.6	1.00	43.0	A
Total	II		379.1	650.9	1030.0	4.23	14.8	E

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	117.4	146.1	0.33	8.1	F
Border	II	48	75.2	146.8	222.0	1.00	16.2	E
Arline	II	35	49.7	85.5	135.2	0.48	12.9	F
Okmulgee	II	35	53.9	26.6	80.5	0.52	23.4	C
Broadway	II	35	8.8	92.4	101.2	0.07	2.5	F
Tahlequah/Military	II	40	71.2	33.7	104.9	0.78	26.9	C
Shawnee St	II	45	16.1	246.4	262.5	0.15	2.0	F
Harris Rd	II	45	80.3	240.5	320.8	1.00	11.3	F
Total	II		383.9	989.3	1373.2	4.34	11.4	F

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	176.4	200.3	0.22	3.9	F
Shawnee St	II	45	80.3	31.5	111.8	1.00	32.3	B
Tahlequah/Military	II	45	16.1	47.2	63.3	0.15	8.4	F
Broadway	II	40	71.2	144.9	216.1	0.78	13.0	E
Okmulgee	II	35	8.8	243.1	251.9	0.07	1.0	F
Arline	II	35	53.9	179.0	232.9	0.52	8.1	F
Border	II	35	49.7	252.0	301.7	0.48	5.8	F
Hancock	II	48	75.2	46.9	122.1	1.00	29.5	B
Total	II		379.1	1121.0	1500.1	4.23	10.1	F

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	35	25	35	15	22	1634	23	125	1519
Future Volume (vph)	35	25	35	15	22	1634	23	125	1519
Lane Group Flow (vph)	0	91	0	277	24	1776	25	136	1684
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	25.0	25.0	25.0	25.0	14.0	106.0	106.0	19.0	111.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	9.3%	70.7%	70.7%	12.7%	74.0%
Maximum Green (s)	18.0	18.0	18.0	18.0	6.0	99.5	99.5	11.0	104.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)		18.0		18.0	5.7	99.5	99.5	11.0	110.1
Actuated g/C Ratio		0.12		0.12	0.04	0.66	0.66	0.07	0.73
v/c Ratio		1.21		1.13	0.42	1.07	0.03	1.23	0.93
Control Delay		218.7		131.5	92.3	69.8	0.0	152.0	8.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		218.7		131.5	92.3	69.8	0.0	152.0	8.4
LOS		F		F	F	E	A	F	A
Approach Delay		218.7		131.5		69.2			19.1
Approach LOS		F		F		E			B
90th %ile Green (s)	18.0	18.0	18.0	18.0	6.0	99.5	99.5	11.0	104.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	18.0	18.0	18.0	18.0	6.0	99.5	99.5	11.0	104.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	18.0	18.0	18.0	18.0	6.0	99.5	99.5	11.0	104.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	18.0	18.0	18.0	18.0	0.0	99.5	99.5	11.0	118.5
30th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
10th %ile Green (s)	18.0	18.0	18.0	18.0	0.0	99.5	99.5	11.0	118.5
10th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
Stops (vph)		53		118	23	1395	0	95	198
Fuel Used(gal)		4		8	1	67	0	9	58
CO Emissions (g/hr)		309		584	76	4696	18	659	4029
NOx Emissions (g/hr)		60		114	15	914	3	128	784
VOC Emissions (g/hr)		72		135	18	1088	4	153	934
Dilemma Vehicles (#)		0		0	0	50	0	0	14
Queue Length 50th (ft)		~100		~220	23	~1011	0	~166	85
Queue Length 95th (ft)		#223		#368	57	#1147	0	m111	m36

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		75		246	60	1657	930	111	1807
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		1.21		1.13	0.40	1.07	0.03	1.23	0.93

Intersection Summary

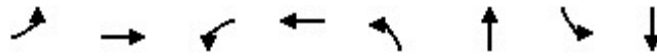
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 101 (67%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 54.2
 Intersection LOS: D
 Intersection Capacity Utilization 95.8%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

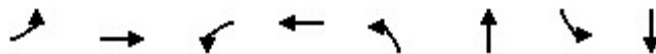
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	160	44	22	45	80	1757	70	1592
Future Volume (vph)	160	44	22	45	80	1757	70	1592
Lane Group Flow (vph)	0	316	0	232	87	1950	76	1850
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	45.0	45.0	45.0	45.0	13.0	92.0	13.0	92.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	8.7%	61.3%	8.7%	61.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		38.0		38.0	6.5	87.0	6.5	87.0
Actuated g/C Ratio		0.25		0.25	0.04	0.58	0.04	0.58
v/c Ratio		1.37		0.59	1.32	1.33	1.15	1.28
Control Delay		230.6		42.5	210.8	169.7	148.0	161.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		230.6		42.5	210.8	169.7	148.0	161.2
LOS		F		D	F	F	F	F
Approach Delay		230.6		42.5		171.4		160.6
Approach LOS		F		D		F		F
90th %ile Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	38.0	38.0	38.0	38.0	6.5	87.0	6.5	87.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
Stops (vph)		203		129	55	1284	51	1235
Fuel Used(gal)		16		4	7	141	4	96
CO Emissions (g/hr)		1105		245	483	9827	264	6742
NOx Emissions (g/hr)		215		48	94	1912	51	1312
VOC Emissions (g/hr)		256		57	112	2278	61	1562
Dilemma Vehicles (#)		0		0	0	57	0	61
Queue Length 50th (ft)		~398		148	~108	~1299	~87	~1200
Queue Length 95th (ft)		#598		223	m#94	m#1146	m#81	m#1114

Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		231		393	66	1463	66	1444
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.37		0.59	1.32	1.33	1.15	1.28

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 33 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 164.3

Intersection LOS: F

Intersection Capacity Utilization 115.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

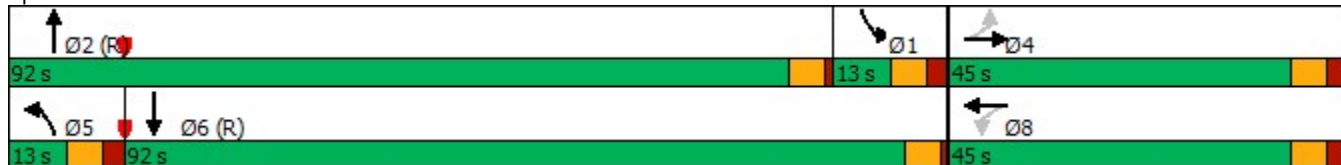
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	120	47	105	53	68	1897	118	40	1628	93
Future Volume (vph)	120	47	105	53	68	1897	118	40	1628	93
Lane Group Flow (vph)	141	110	124	124	74	2062	128	43	1770	101
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	17.0	12.0	17.0	12.0	13.5	107.5	107.5	13.5	107.5	107.5
Total Split (%)	11.3%	8.0%	11.3%	8.0%	9.0%	71.7%	71.7%	9.0%	71.7%	71.7%
Maximum Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.5	7.5	10.5	7.5	7.5	105.2	105.2	7.2	102.5	102.5
Actuated g/C Ratio	0.07	0.05	0.07	0.05	0.05	0.70	0.70	0.05	0.68	0.68
v/c Ratio	1.31	1.11	1.15	1.25	0.96	1.15	0.13	0.58	1.04	0.10
Control Delay	240.3	170.6	190.4	215.7	74.3	78.0	0.1	99.0	29.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	240.3	170.6	190.4	215.7	74.3	78.0	0.1	99.0	29.1	0.0
LOS	F	F	F	F	E	E	A	F	C	A
Approach Delay		209.8		203.0		73.5			29.1	
Approach LOS		F		F		E			C	
90th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	116.0	116.0	0.0	102.5	102.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Skip	Coord	Coord
Stops (vph)	89	55	81	60	54	295	1	39	375	0
Fuel Used(gal)	7	4	5	5	3	67	2	2	45	2
CO Emissions (g/hr)	479	276	344	373	188	4701	152	133	3139	130
NOx Emissions (g/hr)	93	54	67	73	37	915	30	26	611	25
VOC Emissions (g/hr)	111	64	80	87	44	1089	35	31	728	30
Dilemma Vehicles (#)	0	0	0	0	0	21	0	0	0	0
Queue Length 50th (ft)	~176	~98	~142	~127	72	~1266	0	45	~992	0
Queue Length 95th (ft)	#298	#213	#259	#246	m59	m120	m0	m34	m48	m0

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	108	99	108	99	77	1796	1002	77	1707	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	1.11	1.15	1.25	0.96	1.15	0.13	0.56	1.04	0.10

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 55 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.31
 Intersection Signal Delay: 69.5
 Intersection LOS: E
 Intersection Capacity Utilization 88.2%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	250	560	180	460	290	1680	68	1511	290
Future Volume (vph)	250	560	180	460	290	1680	68	1511	290
Lane Group Flow (vph)	272	739	196	560	315	1978	74	1642	315
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	20.0	34.0	15.0	29.0	20.0	88.4	12.6	81.0	81.0
Total Split (%)	13.3%	22.7%	10.0%	19.3%	13.3%	58.9%	8.4%	54.0%	54.0%
Maximum Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
Actuated g/C Ratio	0.09	0.19	0.06	0.16	0.09	0.55	0.04	0.50	0.50
v/c Ratio	1.24	1.32	1.18	1.18	1.25	0.98	0.62	1.32	0.47
Control Delay	194.6	201.0	184.5	153.7	172.9	20.6	42.3	156.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	40.9	0.0	0.0	2.6
Total Delay	194.6	201.0	184.5	153.7	172.9	61.5	42.3	156.6	3.2
LOS	F	F	F	F	F	E	D	F	A
Approach Delay		199.3		161.7		76.8		128.6	
Approach LOS		F		F		E		F	
90th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
Stops (vph)	199	524	145	423	226	1434	63	595	13
Fuel Used(gal)	12	34	8	21	18	55	1	57	1
CO Emissions (g/hr)	861	2397	583	1445	1236	3823	87	3963	64
NOx Emissions (g/hr)	168	466	113	281	241	744	17	771	12
VOC Emissions (g/hr)	200	556	135	335	287	886	20	918	15

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	38	0	38	0
Queue Length 50th (ft)	~169	~485	~117	~342	~196	574	35	~1072	7
Queue Length 95th (ft)	#266	#618	#203	#468	m#153	m364	m30	m#784	m5
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	219	560	166	474	252	2009	119	1247	677
Starvation Cap Reductn	0	0	0	0	0	0	0	4	245
Spillback Cap Reductn	0	0	0	0	0	584	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	1.32	1.18	1.18	1.25	1.39	0.62	1.32	0.73

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 148 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 124.9

Intersection LOS: F

Intersection Capacity Utilization 106.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

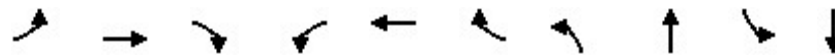
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

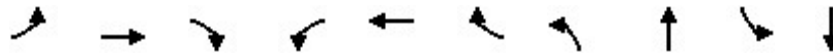
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Future Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Lane Group Flow (vph)	271	434	62	176	518	71	78	2079	58	2115
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	18.0	45.1	13.0	15.9	43.0	13.0	13.0	76.0	13.0	76.0
Total Split (%)	12.0%	30.1%	8.7%	10.6%	28.7%	8.7%	8.7%	50.7%	8.7%	50.7%
Maximum Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.5	39.6	51.6	9.4	37.5	49.5	6.5	71.0	6.5	71.0
Actuated g/C Ratio	0.08	0.26	0.34	0.06	0.25	0.33	0.04	0.47	0.04	0.47
v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.22	0.87	1.24
Control Delay	173.0	99.7	7.9	119.4	185.4	10.6	139.1	118.0	101.0	134.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4
Total Delay	173.0	99.7	7.9	119.4	185.4	10.6	139.1	118.2	101.0	134.7
LOS	F	F	A	F	F	B	F	F	F	F
Approach Delay		118.2			154.0			118.9		133.8
Approach LOS		F			F			F		F
90th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	188	325	9	133	348	12	54	1503	45	1602
Fuel Used(gal)	11	12	0	5	22	1	3	62	3	124
CO Emissions (g/hr)	743	816	33	378	1504	42	184	4361	211	8633
NOx Emissions (g/hr)	144	159	6	73	293	8	36	848	41	1680
VOC Emissions (g/hr)	172	189	8	88	349	10	43	1011	49	2001

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	42	0	2
Queue Length 50th (ft)	~162	~434	0	90	~637	6	~92	~908	61	~959
Queue Length 95th (ft)	#238	#602	29	#153	#795	38	m#91	m#878	m65	#1052
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	230	430	517	188	407	498	67	1709	67	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	96	0	0
Spillback Cap Reductn	0	0	2	0	0	0	0	0	0	186
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.29	0.87	1.40

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 146 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 128.9

Intersection LOS: F

Intersection Capacity Utilization 103.6%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

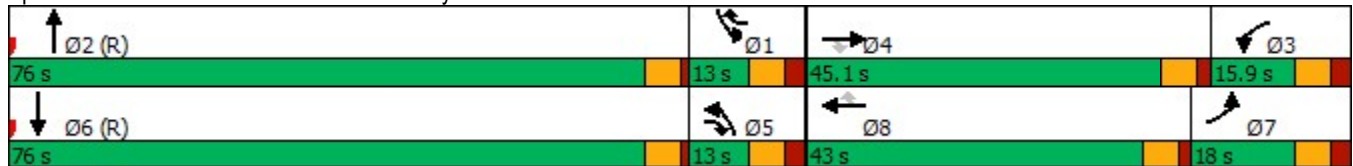
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

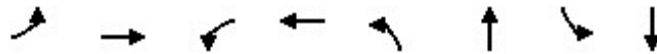
Splits and Phases: 105: US-69 & Broadway



Timings

106: US-69 & Tahlequah/Military

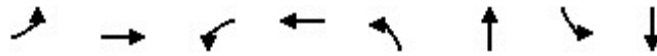
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	22	158	22	68	1935	34	1786
Future Volume (vph)	32	22	158	22	68	1935	34	1786
Lane Group Flow (vph)	38	126	186	66	74	2217	37	1957
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	16.2	16.2	26.0	26.0	15.7	95.0	12.8	92.1
Total Split (%)	10.8%	10.8%	17.3%	17.3%	10.5%	63.3%	8.5%	61.4%
Maximum Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.8	8.8	19.1	19.1	8.6	92.3	5.7	86.9
Actuated g/C Ratio	0.06	0.06	0.13	0.13	0.06	0.62	0.04	0.58
v/c Ratio	0.62	0.79	0.94	0.30	0.84	0.98	0.64	0.94
Control Delay	109.1	54.1	114.9	31.3	63.6	9.0	62.3	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	109.1	54.1	114.9	31.3	63.6	9.0	62.3	15.8
LOS	F	D	F	C	E	A	E	B
Approach Delay		66.8		93.0		10.8		16.6
Approach LOS		E		F		B		B
90th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	8.6	8.6	19.6	19.6	8.7	89.5	5.8	86.6
30th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	18.9	18.9	8.4	103.6	0.0	88.2
10th %ile Term Code	Min	Min	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	28	31	137	24	60	679	31	1387
Fuel Used(gal)	1	2	5	1	3	68	1	32
CO Emissions (g/hr)	66	112	367	54	236	4727	69	2242
NOx Emissions (g/hr)	13	22	71	10	46	920	13	436
VOC Emissions (g/hr)	15	26	85	12	55	1095	16	520
Dilemma Vehicles (#)	0	0	0	0	0	10	0	66
Queue Length 50th (ft)	37	33	184	23	76	~855	37	424
Queue Length 95th (ft)	#88	#119	#312	65	m65	m61	m38	m376

Timings
106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	63	162	197	223	89	2252	59	2082
Starvation Cap Reductn	0	0	0	0	0	0	0	8
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.78	0.94	0.30	0.83	0.98	0.63	0.94

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 55 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 19.6
 Intersection LOS: B
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↖	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Future Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Lane Group Flow (vph)	412	26	609	301	345	35	1432	652	391	1534
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	23.0	23.0	32.0	32.0		15.4	71.0		24.0	79.6
Total Split (%)	15.3%	15.3%	21.3%	21.3%		10.3%	47.3%		16.0%	53.1%
Maximum Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	15.5	15.5	24.5	24.5	150.0	7.9	65.0	150.0	17.0	76.7
Actuated g/C Ratio	0.10	0.10	0.16	0.16	1.00	0.05	0.43	1.00	0.11	0.51
v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.65	1.37	0.52	1.22	0.86
Control Delay	209.6	0.5	223.8	154.2	0.5	61.7	186.1	0.9	164.0	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total Delay	209.6	0.5	223.8	154.2	0.5	61.7	186.1	0.9	164.0	20.3
LOS	F	A	F	F	A	E	F	A	F	C
Approach Delay	197.2			145.7			127.1			49.5
Approach LOS	F			F			F			D
90th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	15.5	15.5	24.5	24.5		0.0	65.0		17.0	89.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	274	0	431	229	0	27	957	16	285	895
Fuel Used(gal)	20	0	35	13	3	1	68	3	28	65
CO Emissions (g/hr)	1394	13	2419	931	234	63	4787	234	1953	4566
NOx Emissions (g/hr)	271	3	471	181	46	12	931	46	380	888
VOC Emissions (g/hr)	323	3	561	216	54	15	1109	54	453	1058
Dilemma Vehicles (#)	8	0	0	8	0	0	22	0	0	66
Queue Length 50th (ft)	~271	0	~403	~343	0	33	~962	0	~240	339
Queue Length 95th (ft)	#354	0	#526	#538	0	m33	m#990	m0	m#176	m184

Timings
107: US-69 & Shawnee St

09-28-2020



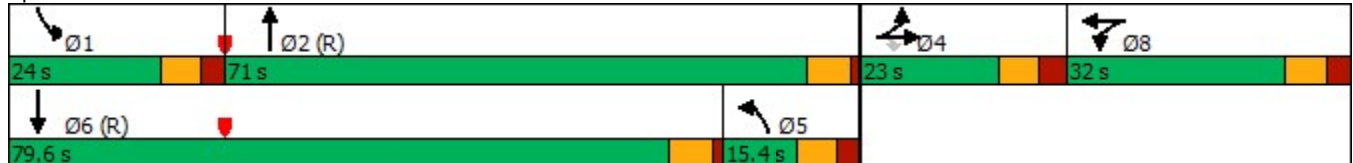
Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	315	302	446	263	1296	57	1049	1260	321	1787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	3	0	0	0	0	0	0	0	63
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.61	1.37	0.52	1.22	0.89

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 90 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.37	
Intersection Signal Delay: 110.5	Intersection LOS: F
Intersection Capacity Utilization 107.8%	ICU Level of Service G
Analysis Period (min) 15	

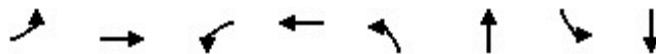
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

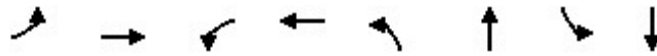
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↗	↙	↗
Traffic Volume (vph)	44	51	162	45	67	1559	89	1517
Future Volume (vph)	44	51	162	45	67	1559	89	1517
Lane Group Flow (vph)	0	197	0	361	73	1863	97	1689
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	44.0	44.0	44.0	44.0	14.0	90.0	16.0	92.0
Total Split (%)	29.3%	29.3%	29.3%	29.3%	9.3%	60.0%	10.7%	61.3%
Maximum Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		37.0		37.0	6.5	84.0	8.5	86.0
Actuated g/C Ratio		0.25		0.25	0.04	0.56	0.06	0.57
v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20
Control Delay		52.0		227.5	111.7	166.4	229.5	126.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		52.0		227.5	111.7	166.4	229.5	126.0
LOS		D		F	F	F	F	F
Approach Delay		52.0		227.5		164.3		131.6
Approach LOS		D		F		F		F
90th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		136		233	49	365	67	1284
Fuel Used(gal)		4		20	4	122	6	68
CO Emissions (g/hr)		296		1428	310	8496	396	4718
NOx Emissions (g/hr)		58		278	60	1653	77	918
VOC Emissions (g/hr)		69		331	72	1969	92	1094
Dilemma Vehicles (#)		0		0	0	18	0	43
Queue Length 50th (ft)		149		~453	~82	~1268	~117	~1052
Queue Length 95th (ft)		240		#662	m#73	m#862	#240	#1192

Timings
108: US-69 & Harris Rd

09-28-2020

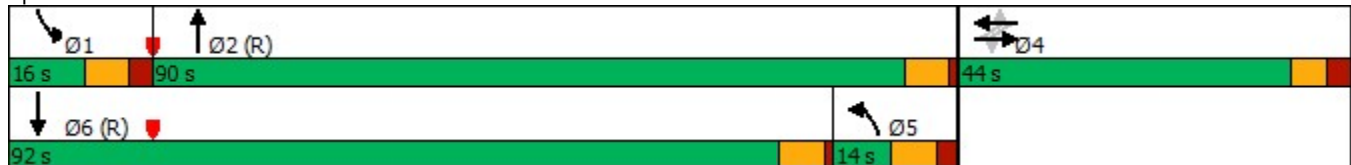


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		324		264	66	1399	79	1412
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 6 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.37
 Intersection Signal Delay: 150.8
 Intersection LOS: F
 Intersection Capacity Utilization 118.0%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	30	15	35	25	23	1682	35	210	1814
Future Volume (vph)	30	15	35	25	23	1682	35	210	1814
Lane Group Flow (vph)	0	77	0	276	25	1828	38	228	2010
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	23.0	23.0	23.0	23.0	14.0	100.0	100.0	27.0	113.0
Total Split (%)	15.3%	15.3%	15.3%	15.3%	9.3%	66.7%	66.7%	18.0%	75.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	6.0	93.5	93.5	19.0	106.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)		16.0		16.0	5.7	93.5	93.5	19.0	112.1
Actuated g/C Ratio		0.11		0.11	0.04	0.62	0.62	0.13	0.75
v/c Ratio		1.04		1.30	0.44	1.18	0.04	1.19	1.08
Control Delay		166.1		198.7	93.5	117.4	0.1	132.3	46.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		166.1		198.7	93.5	117.4	0.1	132.3	46.9
LOS		F		F	F	F	A	F	D
Approach Delay		166.1		198.7		114.7			55.6
Approach LOS		F		F		F			E
90th %ile Green (s)	16.0	16.0	16.0	16.0	6.0	93.5	93.5	19.0	106.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	16.0	16.0	16.0	16.0	6.0	93.5	93.5	19.0	106.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	16.0	16.0	16.0	16.0	6.0	93.5	93.5	19.0	106.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	16.0	16.0	16.0	16.0	0.0	93.5	93.5	19.0	120.5
30th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
10th %ile Green (s)	16.0	16.0	16.0	16.0	0.0	93.5	93.5	19.0	120.5
10th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
Stops (vph)		42		123	23	1395	0	169	813
Fuel Used(gal)		3		12	1	85	0	15	91
CO Emissions (g/hr)		207		811	78	5919	27	1057	6392
NOx Emissions (g/hr)		40		158	15	1152	5	206	1244
VOC Emissions (g/hr)		48		188	18	1372	6	245	1482
Dilemma Vehicles (#)		0		0	0	48	0	0	22
Queue Length 50th (ft)		~67		~272	24	~1126	0	~275	~1219
Queue Length 95th (ft)		#182		#422	59	#1263	0	m156	m50

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)					200		175	325	
Base Capacity (vph)		74		213	60	1545	879	192	1868
Starvation Cap Reductn		0		0	0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0	0
Reduced v/c Ratio		1.04		1.30	0.42	1.18	0.04	1.19	1.08

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 117 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay: 91.2

Intersection LOS: F

Intersection Capacity Utilization 102.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

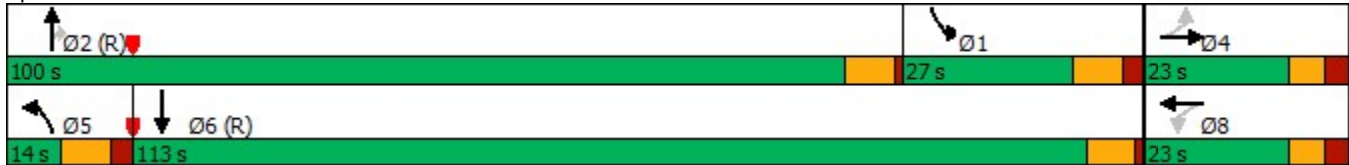
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

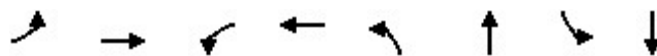
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 101: US-69 & Hancock

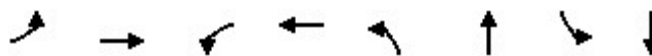


Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	52	35	60	125	1752	150	1894
Future Volume (vph)	110	52	35	60	125	1752	150	1894
Lane Group Flow (vph)	0	324	0	218	136	1937	163	2266
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	38.0	38.0	38.0	38.0	17.0	95.0	17.0	95.0
Total Split (%)	25.3%	25.3%	25.3%	25.3%	11.3%	63.3%	11.3%	63.3%
Maximum Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		31.0		31.0	10.5	90.0	10.5	90.0
Actuated g/C Ratio		0.21		0.21	0.07	0.60	0.07	0.60
v/c Ratio		1.47		0.79	1.27	1.29	1.52	1.49
Control Delay		273.2		69.8	189.4	146.8	287.4	252.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		273.2		69.8	189.4	146.8	287.4	252.0
LOS		F		E	F	F	F	F
Approach Delay		273.2		69.8		149.5		254.4
Approach LOS		F		E		F		F
90th %ile Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	31.0	31.0	31.0	31.0	10.5	90.0	10.5	90.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
Stops (vph)		195		146	92	1157	103	1319
Fuel Used(gal)		19		4	10	130	12	155
CO Emissions (g/hr)		1308		312	722	9063	861	10852
NOx Emissions (g/hr)		254		61	141	1763	167	2111
VOC Emissions (g/hr)		303		72	167	2100	199	2515
Dilemma Vehicles (#)		0		0	0	24	0	67
Queue Length 50th (ft)		~416		179	~165	~1264	~220	~1603
Queue Length 95th (ft)		#618		#277	m#119	m#932	m#144	m#1009



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)					200		225	
Base Capacity (vph)		220		275	107	1500	107	1520
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.47		0.79	1.27	1.29	1.52	1.49

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 49 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.52

Intersection Signal Delay: 204.5

Intersection LOS: F

Intersection Capacity Utilization 127.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

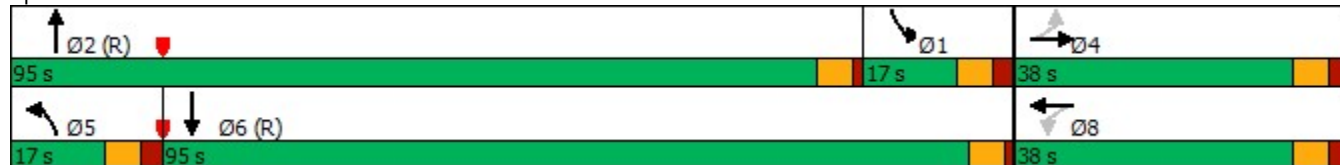
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

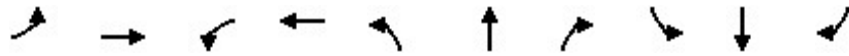
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	140	68	132	68	120	1729	106	78	2004	125
Future Volume (vph)	140	68	132	68	120	1729	106	78	2004	125
Lane Group Flow (vph)	165	127	155	174	130	1879	115	85	2178	136
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	19.0	15.0	18.0	14.0	17.0	103.0	103.0	14.0	100.0	100.0
Total Split (%)	12.7%	10.0%	12.0%	9.3%	11.3%	68.7%	68.7%	9.3%	66.7%	66.7%
Maximum Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
Actuated g/C Ratio	0.08	0.07	0.08	0.06	0.07	0.65	0.65	0.05	0.63	0.63
v/c Ratio	1.28	1.05	1.31	1.41	1.15	1.16	0.12	1.04	1.34	0.15
Control Delay	223.9	152.2	239.3	266.1	123.0	85.5	0.4	109.2	179.0	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	223.9	152.2	239.3	266.1	123.0	85.5	0.4	109.2	179.0	0.9
LOS	F	F	F	F	F	F	A	F	F	A
Approach Delay		192.7		253.5		83.2			166.4	
Approach LOS		F		F		F			F	
90th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
Stops (vph)	106	77	99	84	95	482	3	61	1565	9
Fuel Used(gal)	8	4	7	9	6	66	2	4	125	3
CO Emissions (g/hr)	527	294	523	632	414	4582	139	262	8718	181
NOx Emissions (g/hr)	102	57	102	123	81	891	27	51	1696	35
VOC Emissions (g/hr)	122	68	121	147	96	1062	32	61	2021	42
Dilemma Vehicles (#)	0	0	0	0	0	75	0	0	26	0
Queue Length 50th (ft)	~204	~120	~194	~200	~154	~1133	1	~91	~1484	3
Queue Length 95th (ft)	#334	#239	#320	#332	m105	m150	m1	m58	m757	m1

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	129	121	118	123	113	1619	940	82	1621	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	1.05	1.31	1.41	1.15	1.16	0.12	1.04	1.34	0.15

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 65 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 139.1
 Intersection LOS: F
 Intersection Capacity Utilization 107.9%
 ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline

Ø2 (R) 103 s	Ø1 14 s	Ø4 15 s	Ø3 18 s
Ø6 (R) 100 s	Ø5 17 s	Ø8 14 s	Ø7 19 s

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	317	590	235	590	212	1554	87	1752	265
Future Volume (vph)	317	590	235	590	212	1554	87	1752	265
Lane Group Flow (vph)	345	913	255	734	230	1890	95	1904	288
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	21.0	36.0	17.0	32.0	16.0	84.2	12.8	81.0	81.0
Total Split (%)	14.0%	24.0%	11.3%	21.3%	10.7%	56.1%	8.5%	54.0%	54.0%
Maximum Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
Actuated g/C Ratio	0.10	0.20	0.07	0.18	0.06	0.52	0.04	0.50	0.50
v/c Ratio	1.44	1.50	1.24	1.38	1.33	1.01	0.77	1.50	0.45
Control Delay	264.4	271.4	195.8	225.2	206.1	26.6	47.7	243.1	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	35.2	0.0	0.0	2.3
Total Delay	264.4	271.4	195.8	225.2	206.1	61.7	47.7	243.1	3.1
LOS	F	F	F	F	F	E	D	F	A
Approach Delay		269.5		217.6		77.4		204.8	
Approach LOS		F		F		E		F	
90th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
Stops (vph)	234	579	186	510	159	1560	77	926	12
Fuel Used(gal)	20	54	11	37	14	56	2	98	1
CO Emissions (g/hr)	1399	3776	798	2563	1001	3900	116	6876	59
NOx Emissions (g/hr)	272	735	155	499	195	759	23	1338	11
VOC Emissions (g/hr)	324	875	185	594	232	904	27	1594	14

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	32	0	37	0
Queue Length 50th (ft)	~235	~636	~158	~497	~149	~621	46	~1344	6
Queue Length 95th (ft)	#340	#775	#254	#630	m#112	m362	m38	m#960	m4
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	240	609	206	533	173	1872	123	1267	634
Starvation Cap Reductn	0	0	0	0	0	0	0	0	224
Spillback Cap Reductn	0	0	0	0	0	501	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.44	1.50	1.24	1.38	1.33	1.38	0.77	1.50	0.70

Intersection Summary

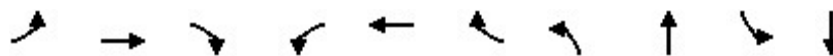
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.50
 Intersection Signal Delay: 178.3
 Intersection LOS: F
 Intersection Capacity Utilization 119.6%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

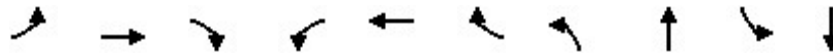
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Future Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Lane Group Flow (vph)	329	518	100	186	424	62	72	2056	65	2284
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	42.0	13.0	15.0	37.0	13.0	13.0	80.0	13.0	80.0
Total Split (%)	13.3%	28.0%	8.7%	10.0%	24.7%	8.7%	8.7%	53.3%	8.7%	53.3%
Maximum Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.5	36.5	48.5	8.5	31.5	37.0	6.5	75.0	6.5	75.0
Actuated g/C Ratio	0.09	0.24	0.32	0.06	0.21	0.25	0.04	0.50	0.04	0.50
v/c Ratio	1.22	1.31	0.20	1.09	1.24	0.16	1.07	1.16	0.97	1.27
Control Delay	181.5	199.7	16.6	159.0	178.1	7.2	110.7	92.4	93.0	144.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.6
Total Delay	181.5	199.7	16.6	159.0	178.1	7.2	110.7	92.6	93.0	145.4
LOS	F	F	B	F	F	A	F	F	F	F
Approach Delay		174.0			157.0			93.2		144.0
Approach LOS		F			F			F		F
90th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	226	343	26	129	289	9	51	1515	49	1727
Fuel Used(gal)	13	23	1	7	17	0	2	52	3	138
CO Emissions (g/hr)	937	1581	68	482	1195	34	143	3639	231	9636
NOx Emissions (g/hr)	182	308	13	94	233	7	28	708	45	1875
VOC Emissions (g/hr)	217	366	16	112	277	8	33	843	53	2233

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	42	0	2
Queue Length 50th (ft)	~202	~648	26	~105	~513	0	~80	~861	68	~1052
Queue Length 95th (ft)	#280	#806	66	#174	#671	25	m#70	m#754	m63	m#956
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	270	396	490	170	342	388	67	1768	67	1802
Starvation Cap Reductn	0	0	0	0	0	0	0	126	0	0
Spillback Cap Reductn	0	0	4	0	0	0	0	0	0	290
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.31	0.21	1.09	1.24	0.16	1.07	1.25	0.97	1.51

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 148 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 132.4

Intersection LOS: F

Intersection Capacity Utilization 104.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

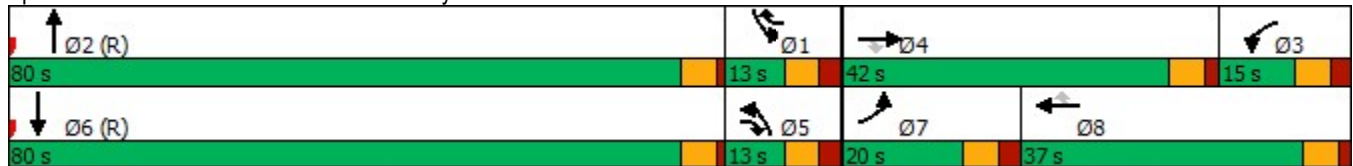
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

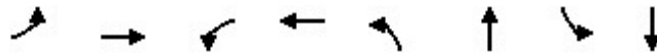
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

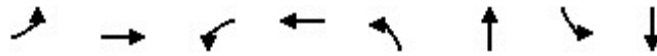
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	58	29	170	33	92	1879	46	1937
Future Volume (vph)	58	29	170	33	92	1879	46	1937
Lane Group Flow (vph)	68	142	200	92	100	2189	50	2130
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	26.2	26.2	17.2	93.0	12.8	88.6
Total Split (%)	12.0%	12.0%	17.5%	17.5%	11.5%	62.0%	8.5%	59.1%
Maximum Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Actuated g/C Ratio	0.07	0.07	0.13	0.13	0.07	0.58	0.04	0.55
v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07
Control Delay	147.4	73.7	129.9	42.4	74.9	33.7	77.8	47.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	147.4	73.7	129.9	42.4	74.9	33.7	77.8	47.2
LOS	F	E	F	D	E	C	E	D
Approach Delay		97.6		102.3		35.5		47.9
Approach LOS		F		F		D		D
90th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	49	45	146	44	78	570	38	1618
Fuel Used(gal)	2	2	6	1	5	76	1	49
CO Emissions (g/hr)	150	164	430	91	332	5306	100	3417
NOx Emissions (g/hr)	29	32	84	18	65	1032	20	665
VOC Emissions (g/hr)	35	38	100	21	77	1230	23	792
Dilemma Vehicles (#)	0	0	0	0	0	37	0	21
Queue Length 50th (ft)	67	59	~201	50	105	~837	52	~841
Queue Length 95th (ft)	#154	#167	#341	101	m91	m119	m46	m420

Timings
106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	75	162	198	223	105	2090	59	1990
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 57 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 47.5
 Intersection LOS: D
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military

Ø2 (R)	Ø1	Ø4	Ø3
93 s	12.8 s	18 s	26.2 s
Ø6 (R)	Ø5		
88.6 s	17.2 s		

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↕	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Future Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Lane Group Flow (vph)	594	29	690	288	489	59	1432	652	446	1601
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	27.0	27.0	32.0	32.0		16.4	66.0		25.0	74.6
Total Split (%)	18.0%	18.0%	21.3%	21.3%		10.9%	44.0%		16.7%	49.7%
Maximum Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	19.5	19.5	24.5	24.5	150.0	9.4	60.0	150.0	18.0	68.6
Actuated g/C Ratio	0.13	0.13	0.16	0.16	1.00	0.06	0.40	1.00	0.12	0.46
v/c Ratio	1.49	0.09	1.56	1.10	0.37	0.92	1.49	0.53	1.30	1.00
Control Delay	277.1	0.5	302.9	142.2	0.8	72.2	246.4	0.9	193.3	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2
Total Delay	277.1	0.5	302.9	142.2	0.8	72.2	246.4	0.9	193.3	67.6
LOS	F	A	F	F	A	E	F	A	F	E
Approach Delay	264.2			170.6			166.9			95.0
Approach LOS	F			F			F			F
90th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
10th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
Stops (vph)	367	0	450	221	0	40	895	21	313	1161
Fuel Used(gal)	35	0	49	12	5	2	84	3	34	75
CO Emissions (g/hr)	2481	15	3438	846	334	109	5862	238	2386	5210
NOx Emissions (g/hr)	483	3	669	165	65	21	1141	46	464	1014
VOC Emissions (g/hr)	575	3	797	196	77	25	1359	55	553	1207
Dilemma Vehicles (#)	11	0	0	8	0	0	47	0	0	73
Queue Length 50th (ft)	~421	0	~490	~319	0	57	~1010	0	~286	~484
Queue Length 95th (ft)	#504	0	#618	#512	0	m55	m#952	m0	m#176	m233

Timings
107: US-69 & Shawnee St

09-28-2020



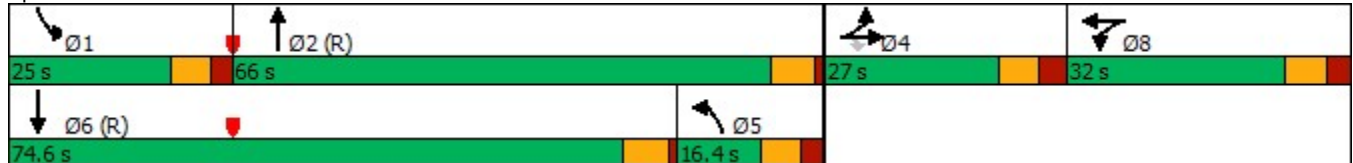
Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	398	335	442	261	1333	64	960	1227	343	1598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	13	0	0	0	0	0	0	0	216
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.09	1.56	1.10	0.37	0.92	1.49	0.53	1.30	1.16

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 84 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.56
 Intersection Signal Delay: 154.0
 Intersection LOS: F
 Intersection Capacity Utilization 116.9%
 ICU Level of Service H
 Analysis Period (min) 15

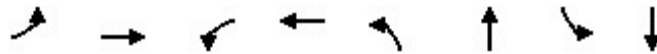
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

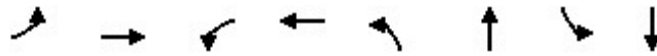
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↗	↙	↗
Traffic Volume (vph)	45	67	170	67	104	1586	170	1607
Future Volume (vph)	45	67	170	67	104	1586	170	1607
Lane Group Flow (vph)	0	231	0	390	113	1933	185	1804
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	45.0	45.0	45.0	45.0	16.0	84.0	21.0	89.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	10.7%	56.0%	14.0%	59.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		38.0		38.0	8.5	78.0	13.5	83.0
Actuated g/C Ratio		0.25		0.25	0.06	0.52	0.09	0.55
v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31
Control Delay		55.9		288.1	186.0	240.5	288.4	176.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		55.9		288.1	186.0	240.5	288.4	176.4
LOS		E		F	F	F	F	F
Approach Delay		55.9		288.1		237.5		186.8
Approach LOS		E		F		F		F
90th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		167		242	74	390	122	1283
Fuel Used(gal)		5		26	8	153	13	88
CO Emissions (g/hr)		363		1842	590	10699	893	6154
NOx Emissions (g/hr)		71		358	115	2082	174	1197
VOC Emissions (g/hr)		84		427	137	2480	207	1426
Dilemma Vehicles (#)		0		0	0	13	0	42
Queue Length 50th (ft)		182		~521	~140	~1373	~246	~1197
Queue Length 95th (ft)		285		#735	m#113	m#881	#410	#1335

Timings
108: US-69 & Harris Rd

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		337		257	86	1294	127	1374
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.52
 Intersection Signal Delay: 211.1
 Intersection LOS: F
 Intersection Capacity Utilization 129.1%
 ICU Level of Service H
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

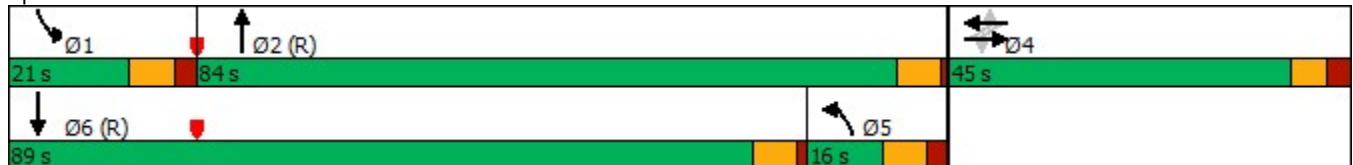
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 108: US-69 & Harris Rd



Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	19.1	47.8	0.33	24.9	C
Border	II	48	75.2	19.2	94.4	1.00	38.1	A
Arline	II	35	49.7	10.1	59.8	0.48	29.1	B
Okmulgee	II	35	53.9	16.5	70.4	0.52	26.7	C
Broadway	II	35	8.8	16.0	24.8	0.07	10.2	F
Tahlequah/Military	II	40	71.2	3.2	74.4	0.78	37.9	A
Shawnee St	II	45	16.1	43.7	59.8	0.15	8.9	F
Harris Rd	II	45	80.3	34.7	115.0	1.00	31.4	B
Total	II		383.9	162.5	546.4	4.34	28.6	B

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	29.9	53.8	0.22	14.7	E
Shawnee St	II	45	80.3	26.6	106.9	1.00	33.8	B
Tahlequah/Military	II	45	16.1	8.2	24.3	0.15	21.9	D
Broadway	II	40	71.2	22.7	93.9	0.78	30.0	B
Okmulgee	II	35	8.8	17.1	25.9	0.07	9.8	F
Arline	II	35	53.9	2.7	56.6	0.52	33.3	B
Border	II	35	49.7	6.3	56.0	0.48	31.0	B
Hancock	II	48	75.2	11.1	86.3	1.00	41.7	A
Total	II		379.1	124.6	503.7	4.23	30.2	B

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	23.7	52.4	0.33	22.7	C
Border	II	48	75.2	20.1	95.3	1.00	37.8	A
Arline	II	35	49.7	9.4	59.1	0.48	29.4	B
Okmulgee	II	35	53.9	23.2	77.1	0.52	24.4	C
Broadway	II	35	8.8	9.4	18.2	0.07	13.9	E
Tahlequah/Military	II	40	71.2	7.4	78.6	0.78	35.9	A
Shawnee St	II	45	16.1	45.6	61.7	0.15	8.6	F
Harris Rd	II	45	80.3	48.3	128.6	1.00	28.1	B
Total	II		383.9	187.1	571.0	4.34	27.4	C

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	34.7	58.6	0.22	13.5	E
Shawnee St	II	45	80.3	34.4	114.7	1.00	31.5	B
Tahlequah/Military	II	45	16.1	9.4	25.5	0.15	20.9	D
Broadway	II	40	71.2	15.4	86.6	0.78	32.5	B
Okmulgee	II	35	8.8	27.5	36.3	0.07	7.0	F
Arline	II	35	53.9	11.3	65.2	0.52	28.9	B
Border	II	35	49.7	6.1	55.8	0.48	31.1	B
Hancock	II	48	75.2	10.5	85.7	1.00	42.0	A
Total	II		379.1	149.3	528.4	4.23	28.8	B

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	25	20	25	10	15	892	15	85	867
Future Volume (vph)	25	20	25	10	15	892	15	85	867
Lane Group Flow (vph)	28	39	29	159	16	970	16	92	964
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	20.0	20.0	20.0	20.0	14.0	67.0	67.0	20.0	73.0
Total Split (%)	18.7%	18.7%	18.7%	18.7%	13.1%	62.6%	62.6%	18.7%	68.2%
Maximum Green (s)	13.0	13.0	13.0	13.0	6.0	60.5	60.5	12.0	66.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	8.7	8.7	8.7	8.7	5.8	47.1	47.1	9.3	56.0
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.07	0.56	0.56	0.11	0.67
v/c Ratio	0.28	0.23	0.24	0.58	0.15	0.74	0.02	0.55	0.62
Control Delay	48.7	30.9	46.2	18.6	49.4	19.1	0.1	54.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	30.9	46.2	18.6	49.4	19.1	0.1	54.0	11.1
LOS	D	C	D	B	D	B	A	D	B
Approach Delay		38.3		22.9		19.3			14.8
Approach LOS		D		C		B			B
90th %ile Green (s)	13.0	13.0	13.0	13.0	6.0	60.5	60.5	12.0	66.5
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Hold
70th %ile Green (s)	10.5	10.5	10.5	10.5	6.0	59.0	59.0	12.0	65.0
70th %ile Term Code	Gap	Gap	Hold	Hold	Max	Gap	Gap	Max	Hold
50th %ile Green (s)	8.3	8.3	8.3	8.3	0.0	47.9	47.9	9.9	65.8
50th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Gap	Gap	Gap	Hold
30th %ile Green (s)	6.5	6.5	6.5	6.5	0.0	37.9	37.9	7.7	53.6
30th %ile Term Code	Hold	Hold	Hold	Hold	Skip	Gap	Gap	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	29.4	29.4	0.0	29.4
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Dwell	Dwell	Skip	Dwell
Stops (vph)	24	21	23	29	16	621	0	76	453
Fuel Used(gal)	1	1	1	1	1	25	0	5	38
CO Emissions (g/hr)	37	38	36	104	43	1738	12	341	2677
NOx Emissions (g/hr)	7	7	7	20	8	338	2	66	521
VOC Emissions (g/hr)	9	9	8	24	10	403	3	79	620
Dilemma Vehicles (#)	0	0	0	0	0	27	0	0	54
Queue Length 50th (ft)	15	11	15	6	9	203	0	49	94
Queue Length 95th (ft)	46	46	44	59	33	327	0	115	276

Timings
101: US-69 & Hancock

09-28-2020

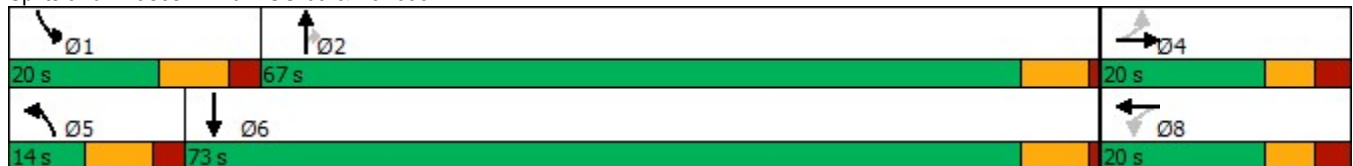


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)	200		200		200		175	325	
Base Capacity (vph)	162	265	196	354	118	1721	1028	235	1836
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.15	0.15	0.45	0.14	0.56	0.02	0.39	0.53

Intersection Summary

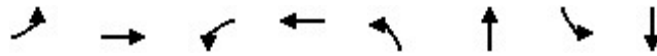
Cycle Length: 107	
Actuated Cycle Length: 83.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 71.7%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 107	
70th %ile Actuated Cycle: 103	
50th %ile Actuated Cycle: 87.6	
30th %ile Actuated Cycle: 73.6	
10th %ile Actuated Cycle: 48.4	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

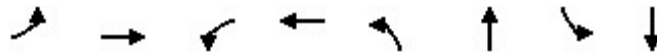
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	30	15	30	30	997	50	912
Future Volume (vph)	110	30	15	30	30	997	50	912
Lane Group Flow (vph)	122	94	18	141	33	1111	54	1073
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	29.0	29.0	29.0	29.0	13.0	67.0	14.0	68.0
Total Split (%)	26.4%	26.4%	26.4%	26.4%	11.8%	60.9%	12.7%	61.8%
Maximum Green (s)	22.0	22.0	22.0	22.0	6.5	62.0	7.5	63.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	17.1	17.1	17.1	17.1	6.3	69.7	7.1	73.1
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.06	0.63	0.06	0.66
v/c Ratio	0.77	0.34	0.10	0.45	0.38	0.72	0.55	0.68
Control Delay	73.8	19.8	38.7	17.2	62.5	19.2	62.4	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	19.8	38.7	17.2	62.5	19.2	62.4	6.3
LOS	E	B	D	B	E	B	E	A
Approach Delay		50.3		19.6		20.4		8.9
Approach LOS		D		B		C		A
90th %ile Green (s)	22.0	22.0	22.0	22.0	6.5	62.0	7.5	63.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	21.2	21.2	21.2	21.2	6.5	62.8	7.5	63.8
70th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	17.9	17.9	17.9	17.9	6.5	66.1	7.5	67.1
50th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	14.6	14.6	14.6	14.6	0.0	69.4	7.5	83.4
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Max	Coord
10th %ile Green (s)	9.6	9.6	9.6	9.6	0.0	88.4	0.0	88.4
10th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Skip	Coord
Stops (vph)	104	32	14	34	29	701	49	462
Fuel Used(gal)	3	1	0	1	2	48	2	23
CO Emissions (g/hr)	192	65	19	89	126	3379	134	1600
NOx Emissions (g/hr)	37	13	4	17	25	657	26	311
VOC Emissions (g/hr)	45	15	5	21	29	783	31	371
Dilemma Vehicles (#)	0	0	0	0	0	46	0	14
Queue Length 50th (ft)	83	20	11	21	23	283	41	88
Queue Length 95th (ft)	144	65	29	68	56	417	m58	323

Timings
102: US-69 & Border

09-28-2020

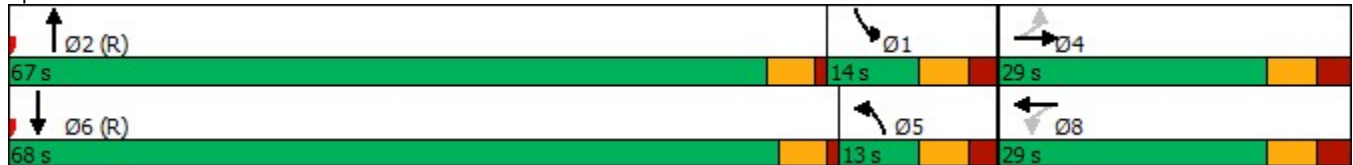


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	204	340	224	371	90	1538	104	1587
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.28	0.08	0.38	0.37	0.72	0.52	0.68

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 101 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 17.9
 Intersection LOS: B
 Intersection Capacity Utilization 66.4%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Future Volume (vph)	90	35	80	40	50	1082	90	30	935	70
Lane Group Flow (vph)	106	82	94	94	54	1176	98	33	1016	76
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	17.0	13.0	16.0	12.0	14.0	67.5	67.5	13.5	67.0	67.0
Total Split (%)	15.5%	11.8%	14.5%	10.9%	12.7%	61.4%	61.4%	12.3%	60.9%	60.9%
Maximum Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.0	8.0	11.3	7.2	7.5	68.7	68.7	7.0	65.6	65.6
Actuated g/C Ratio	0.09	0.07	0.10	0.07	0.07	0.62	0.62	0.06	0.60	0.60
v/c Ratio	0.76	0.58	0.59	0.72	0.51	0.77	0.11	0.34	0.71	0.09
Control Delay	80.4	46.9	64.9	62.1	74.2	10.1	0.2	64.6	2.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	46.9	64.9	62.1	74.2	10.1	0.2	64.6	2.7	0.1
LOS	F	D	E	E	E	B	A	E	A	A
Approach Delay		65.8		63.5		12.0			4.4	
Approach LOS		E		E		B			A	
90th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	10.5	8.5	9.5	7.5	8.0	62.5	62.5	7.5	62.0	62.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	10.5	8.5	9.5	7.5	7.7	76.0	76.0	0.0	62.3	62.3
30th %ile Term Code	Max	Hold	Max	Max	Gap	Coord	Coord	Skip	Coord	Coord
10th %ile Green (s)	8.1	0.0	18.6	6.0	0.0	79.9	79.9	0.0	79.9	79.9
10th %ile Term Code	Gap	Skip	Hold	Min	Skip	Coord	Coord	Skip	Coord	Coord
Stops (vph)	82	43	72	47	49	650	0	31	132	0
Fuel Used(gal)	2	1	2	2	2	27	2	1	20	1
CO Emissions (g/hr)	160	83	123	110	143	1889	116	86	1408	98
NOx Emissions (g/hr)	31	16	24	21	28	367	23	17	274	19
VOC Emissions (g/hr)	37	19	28	26	33	438	27	20	326	23
Dilemma Vehicles (#)	0	0	0	0	0	38	0	0	24	0
Queue Length 50th (ft)	74	32	66	41	40	362	1	24	33	0
Queue Length 95th (ft)	#146	77	#133	#107	m58	193	m0	m26	m36	m0

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	147	148	159	135	112	1535	917	105	1422	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.55	0.59	0.70	0.48	0.77	0.11	0.31	0.71	0.09

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 39 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 15.9
 Intersection LOS: B
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline

Ø1	Ø2 (R)	Ø3	Ø4
13.5 s	67.5 s	16 s	13 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	67 s	17 s	12 s

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	190	430	135	350	220	932	50	860	220
Future Volume (vph)	190	430	135	350	220	932	50	860	220
Lane Group Flow (vph)	207	565	147	423	239	1122	54	935	239
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	17.1	27.2	13.1	23.2	17.0	57.2	12.5	52.7	52.7
Total Split (%)	15.5%	24.7%	11.9%	21.1%	15.5%	52.0%	11.4%	47.9%	47.9%
Maximum Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.1	21.7	6.6	17.2	10.5	54.2	5.8	47.2	47.2
Actuated g/C Ratio	0.10	0.20	0.06	0.16	0.10	0.49	0.05	0.43	0.43
v/c Ratio	0.86	0.96	0.84	0.89	0.88	0.66	0.35	0.93	0.38
Control Delay	80.4	71.1	87.1	66.0	69.9	16.5	41.8	17.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.0	0.7
Total Delay	80.4	71.1	87.1	66.0	69.9	16.6	41.8	19.1	2.1
LOS	F	E	F	E	E	B	D	B	A
Approach Delay		73.6		71.4		25.9		16.8	
Approach LOS		E		E		C		B	
90th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	10.6	21.7	6.6	17.7	10.5	51.7	6.0	47.2	47.2
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	12.9	21.7	6.6	15.4	10.5	64.2	0.0	47.2	47.2
10th %ile Term Code	Hold	Max	Max	Gap	Max	Coord	Skip	Coord	Coord
Stops (vph)	167	450	119	349	204	806	50	358	10
Fuel Used(gal)	5	13	4	9	9	30	1	8	1
CO Emissions (g/hr)	352	891	254	617	633	2104	65	559	51
NOx Emissions (g/hr)	68	173	49	120	123	409	13	109	10
VOC Emissions (g/hr)	81	206	59	143	147	488	15	129	12

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	44	0	30	0
Queue Length 50th (ft)	75	203	54	151	92	219	21	58	0
Queue Length 95th (ft)	#145	#317	#111	#238	m#140	224	m26	m#410	m3
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	241	589	176	489	273	1709	160	1007	623
Starvation Cap Reductn	0	0	0	0	0	0	0	24	159
Spillback Cap Reductn	0	0	0	0	0	53	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.96	0.84	0.87	0.88	0.68	0.34	0.95	0.52

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 76.7%

ICU Level of Service D

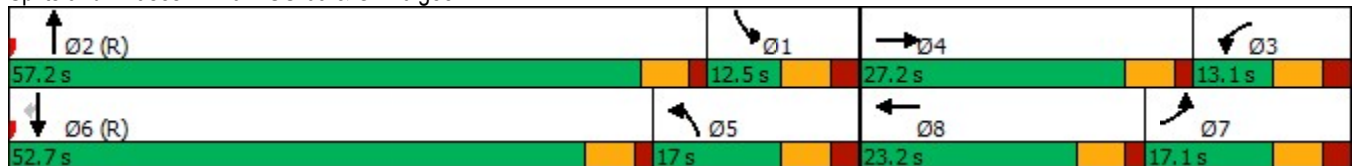
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

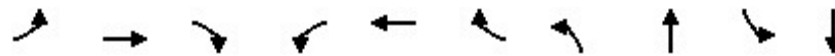
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

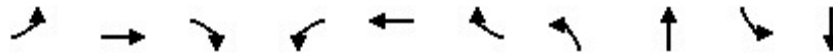
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Future Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Lane Group Flow (vph)	212	329	47	135	400	53	60	1203	43	1294
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	15.6	34.6	13.0	14.0	33.0	13.0	13.0	48.4	13.0	48.4
Total Split (%)	14.2%	31.5%	11.8%	12.7%	30.0%	11.8%	11.8%	44.0%	11.8%	44.0%
Maximum Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.2	25.8	35.2	11.4	28.0	37.4	6.3	45.4	6.2	45.4
Actuated g/C Ratio	0.08	0.23	0.32	0.10	0.25	0.34	0.06	0.41	0.06	0.41
v/c Ratio	0.84	0.86	0.09	0.43	0.97	0.10	0.68	0.85	0.49	0.89
Control Delay	78.1	61.9	1.6	53.1	78.1	2.3	58.8	16.0	44.6	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.2
Total Delay	78.1	61.9	1.6	53.1	78.1	2.3	58.8	16.5	44.6	23.8
LOS	E	E	A	D	E	A	E	B	D	C
Approach Delay		63.0			65.5			18.5		24.5
Approach LOS		E			E			B		C
90th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.1	27.7	6.5	8.9	27.5	6.5	6.5	43.4	6.5	43.4
50th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	9.1	24.2	6.5	12.4	27.5	6.5	6.5	43.4	6.5	43.4
30th %ile Term Code	Max	Gap	Max	Hold	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	9.7	19.0	0.0	20.7	30.0	0.0	0.0	53.3	0.0	53.3
10th %ile Term Code	Gap	Gap	Skip	Hold	Gap	Skip	Skip	Coord	Skip	Coord
Stops (vph)	161	257	2	106	293	3	50	467	38	862
Fuel Used(gal)	5	7	0	3	9	0	1	10	2	47
CO Emissions (g/hr)	343	472	20	182	653	24	83	705	130	3309
NOx Emissions (g/hr)	67	92	4	36	127	5	16	137	25	644
VOC Emissions (g/hr)	80	109	5	42	151	6	19	163	30	767

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	62	0	79
Queue Length 50th (ft)	77	218	0	47	282	0	44	95	29	104
Queue Length 95th (ft)	#130	299	5	#77	#436	9	m60	#206	m45	#150
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	251	431	500	311	414	526	91	1421	91	1447
Starvation Cap Reductn	0	0	0	0	0	0	0	36	0	0
Spillback Cap Reductn	0	0	1	0	0	0	0	0	0	45
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.76	0.09	0.43	0.97	0.10	0.66	0.87	0.47	0.92

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 107 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 78.1%

ICU Level of Service D

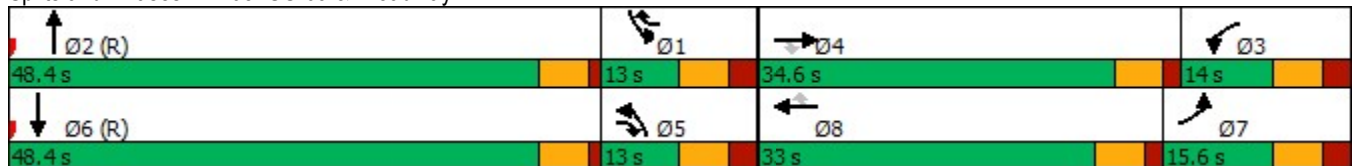
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

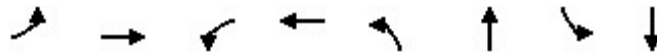
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	120	17	50	1137	26	1085
Future Volume (vph)	32	17	120	17	50	1137	26	1085
Lane Group Flow (vph)	38	96	141	51	54	1323	28	1191
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	23.0	23.0	15.0	56.0	13.0	54.0
Total Split (%)	16.4%	16.4%	20.9%	20.9%	13.6%	50.9%	11.8%	49.1%
Maximum Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	13.6	13.6	7.4	62.6	5.9	58.5
Actuated g/C Ratio	0.09	0.09	0.12	0.12	0.07	0.57	0.05	0.53
v/c Ratio	0.43	0.56	0.74	0.24	0.52	0.66	0.34	0.65
Control Delay	62.9	28.7	68.6	24.5	36.1	3.2	62.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	28.7	68.6	24.5	36.1	3.2	62.4	8.2
LOS	E	C	E	C	D	A	E	A
Approach Delay		38.4		56.9		4.5		9.5
Approach LOS		D		E		A		A
90th %ile Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	10.9	10.9	16.1	16.1	8.0	50.5	6.0	48.5
70th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	8.9	8.9	14.8	14.8	8.0	52.9	6.9	51.8
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	12.3	12.3	8.0	70.2	0.0	55.2
30th %ile Term Code	Min	Min	Gap	Gap	Hold	Coord	Skip	Coord
10th %ile Green (s)	0.0	0.0	8.8	8.8	0.0	88.7	0.0	88.7
10th %ile Term Code	Skip	Skip	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	31	26	113	19	44	197	25	496
Fuel Used(gal)	1	1	3	1	2	37	1	14
CO Emissions (g/hr)	46	57	203	37	154	2576	54	947
NOx Emissions (g/hr)	9	11	39	7	30	501	11	184
VOC Emissions (g/hr)	11	13	47	9	36	597	13	219
Dilemma Vehicles (#)	0	0	0	0	0	45	0	38
Queue Length 50th (ft)	26	14	96	13	33	21	16	145
Queue Length 95th (ft)	58	59	153	44	m42	86	m25	m160

Timings
106: US-69 & Tahlequah/Military

09-28-2020

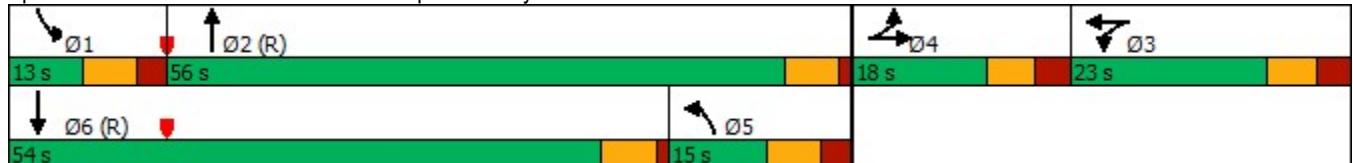


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	103	188	225	242	112	2007	87	1838
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.51	0.63	0.21	0.48	0.66	0.32	0.65

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 11.6
 Intersection LOS: B
 Intersection Capacity Utilization 62.5%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↕	↗	↖↗	↕	↗	↖	↕↕	↗	↖↗	↕↕↖
Traffic Volume (vph)	185	16	420	210	240	32	704	460	270	686
Future Volume (vph)	185	16	420	210	240	32	704	460	270	686
Lane Group Flow (vph)	312	19	457	228	261	35	765	500	293	876
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	19.4	19.4	26.4	26.4		17.3	44.7		19.5	46.9
Total Split (%)	17.6%	17.6%	24.0%	24.0%		15.7%	40.6%		17.7%	42.6%
Maximum Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	11.9	11.9	18.9	18.9	110.0	8.8	38.7	110.0	12.5	47.8
Actuated g/C Ratio	0.11	0.11	0.17	0.17	1.00	0.08	0.35	1.00	0.11	0.43
v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.43	0.97	0.40	0.91	0.60
Control Delay	86.9	0.2	83.8	68.3	0.3	48.4	43.7	1.4	80.6	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	0.2	83.8	68.3	0.3	48.4	43.7	1.4	80.6	26.6
LOS	F	A	F	E	A	D	D	A	F	C
Approach Delay	81.9			57.1			27.5			40.1
Approach LOS	F			E			C			D
90th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
50th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
30th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
30th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
10th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	234	0	370	189	0	29	469	37	241	593
Fuel Used(gal)	9	0	14	7	3	1	16	3	17	39
CO Emissions (g/hr)	607	9	1002	457	177	59	1094	204	1168	2758
NOx Emissions (g/hr)	118	2	195	89	34	11	213	40	227	537
VOC Emissions (g/hr)	141	2	232	106	41	14	254	47	271	639
Dilemma Vehicles (#)	11	0	0	9	0	0	59	0	0	37
Queue Length 50th (ft)	116	0	167	157	0	20	161	0	107	183
Queue Length 95th (ft)	#186	0	#272	#286	0	m32	#396	18	#188	235

Timings
107: US-69 & Shawnee St

09-28-2020

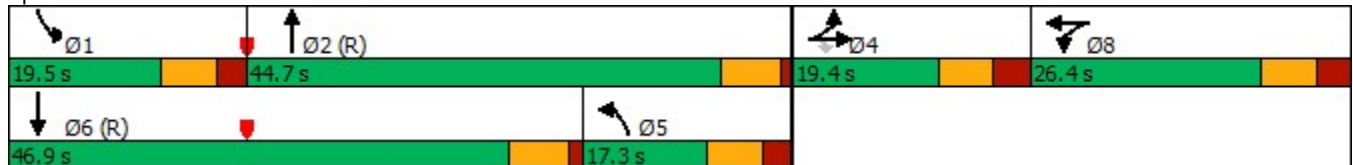


Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	330	366	465	277	1296	96	790	1260	322	1449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.36	0.97	0.40	0.91	0.60

Intersection Summary

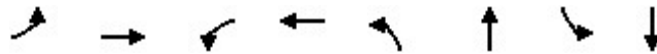
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 70 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 43.7
 Intersection LOS: D
 Intersection Capacity Utilization 77.6%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

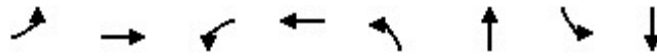
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	35	110	30	45	838	60	901
Future Volume (vph)	30	35	110	30	45	838	60	901
Lane Group Flow (vph)	0	133	0	244	49	1025	65	1006
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	39.0	39.0	39.0	39.0	15.3	71.0	18.0	73.7
Total Split (%)	30.5%	30.5%	30.5%	30.5%	12.0%	55.5%	14.1%	57.6%
Maximum Green (s)	32.0	32.0	32.0	32.0	7.8	65.0	10.5	67.7
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		25.9		25.9	7.8	52.1	9.8	53.8
Actuated g/C Ratio		0.25		0.25	0.07	0.49	0.09	0.51
v/c Ratio		0.38		0.79	0.43	0.88	0.53	0.83
Control Delay		33.3		56.8	68.1	34.7	70.4	29.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.3		56.8	68.1	34.7	70.4	29.9
LOS		C		E	E	C	E	C
Approach Delay		33.3		56.8		36.2		32.4
Approach LOS		C		E		D		C
90th %ile Green (s)	32.0	32.0	32.0	32.0	7.8	65.0	10.5	67.7
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	32.0	32.0	32.0	32.0	7.8	65.0	10.5	67.7
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Hold
50th %ile Green (s)	29.4	29.4	29.4	29.4	7.8	58.6	10.5	61.3
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Gap	Max	Hold
30th %ile Green (s)	22.7	22.7	22.7	22.7	7.6	47.3	9.1	48.8
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold
10th %ile Green (s)	13.3	13.3	13.3	13.3	0.0	25.5	0.0	25.5
10th %ile Term Code	Gap	Gap	Gap	Gap	Skip	Gap	Skip	Hold
Stops (vph)		71		172	41	767	53	731
Fuel Used(gal)		2		6	3	49	2	22
CO Emissions (g/hr)		161		438	187	3399	138	1516
NOx Emissions (g/hr)		31		85	36	661	27	295
VOC Emissions (g/hr)		37		101	43	788	32	351
Dilemma Vehicles (#)		0		0	0	41	0	39
Queue Length 50th (ft)		64		161	37	356	49	328
Queue Length 95th (ft)		132		#304	#90	482	#117	445

Timings
108: US-69 & Harris Rd

09-28-2020

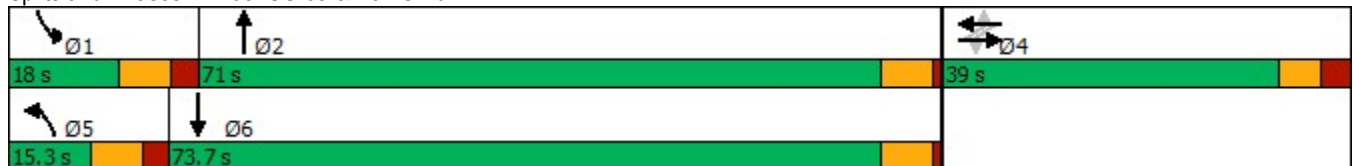


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		470		421	127	1514	148	1569
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.28		0.58	0.39	0.68	0.44	0.64

Intersection Summary

Cycle Length: 128	
Actuated Cycle Length: 105.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 36.4	Intersection LOS: D
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 128	
70th %ile Actuated Cycle: 128	
50th %ile Actuated Cycle: 119	
30th %ile Actuated Cycle: 99.6	
10th %ile Actuated Cycle: 51.8	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	20	10	25	20	15	1001	25	145	1102
Future Volume (vph)	20	10	25	20	15	1001	25	145	1102
Lane Group Flow (vph)	22	28	29	124	16	1088	27	158	1225
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	17.0	17.0	17.0	17.0	14.0	72.5	72.5	27.0	85.5
Total Split (%)	14.6%	14.6%	14.6%	14.6%	12.0%	62.2%	62.2%	23.2%	73.4%
Maximum Green (s)	10.0	10.0	10.0	10.0	6.0	66.0	66.0	19.0	79.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	7.9	7.9	7.9	7.9	5.7	53.8	53.8	14.3	71.7
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.06	0.55	0.55	0.15	0.73
v/c Ratio	0.26	0.21	0.31	0.60	0.18	0.80	0.03	0.72	0.67
Control Delay	56.2	32.5	57.3	28.5	56.9	23.7	0.1	62.1	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	32.5	57.3	28.5	56.9	23.7	0.1	62.1	10.5
LOS	E	C	E	C	E	C	A	E	B
Approach Delay		42.9		33.9		23.6			16.4
Approach LOS		D		C		C			B
90th %ile Green (s)	10.0	10.0	10.0	10.0	6.0	66.0	66.0	19.0	79.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Hold
70th %ile Green (s)	10.0	10.0	10.0	10.0	6.0	66.0	66.0	19.0	79.0
70th %ile Term Code	Hold	Hold	Max	Max	Max	Max	Max	Max	Hold
50th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	59.2	59.2	15.5	82.7
50th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Gap	Gap	Gap	Hold
30th %ile Green (s)	6.4	6.4	6.4	6.4	0.0	46.7	46.7	11.7	66.4
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Gap	Gap	Gap	Hold
10th %ile Green (s)	5.5	5.5	5.5	5.5	0.0	33.8	33.8	7.8	49.6
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Gap	Gap	Gap	Hold
Stops (vph)	20	14	24	31	16	754	0	130	556
Fuel Used(gal)	0	0	1	1	1	30	0	9	48
CO Emissions (g/hr)	32	27	40	99	44	2089	19	598	3372
NOx Emissions (g/hr)	6	5	8	19	9	406	4	116	656
VOC Emissions (g/hr)	7	6	9	23	10	484	4	139	782
Dilemma Vehicles (#)	0	0	0	0	0	24	0	0	58
Queue Length 50th (ft)	14	7	19	15	10	276	0	101	134
Queue Length 95th (ft)	44	37	49	70	36	411	0	187	356

Timings
101: US-69 & Hancock

09-28-2020

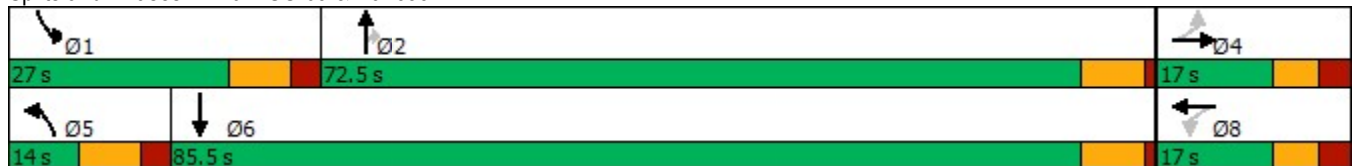


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)	200		200		200		175	325	
Base Capacity (vph)	114	169	125	238	96	1732	1005	305	2050
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.17	0.23	0.52	0.17	0.63	0.03	0.52	0.60

Intersection Summary

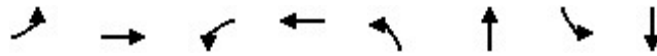
Cycle Length: 116.5	
Actuated Cycle Length: 98.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 67.8%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 116.5	
70th %ile Actuated Cycle: 116.5	
50th %ile Actuated Cycle: 104.2	
30th %ile Actuated Cycle: 86.3	
10th %ile Actuated Cycle: 68.6	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

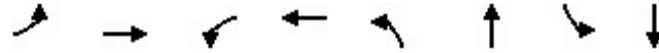
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	35	25	40	40	1056	105	1167
Future Volume (vph)	75	35	25	40	40	1056	105	1167
Lane Group Flow (vph)	83	139	29	118	43	1170	114	1409
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	25.0	25.0	25.0	25.0	14.0	83.0	22.0	91.0
Total Split (%)	19.2%	19.2%	19.2%	19.2%	10.8%	63.8%	16.9%	70.0%
Maximum Green (s)	18.0	18.0	18.0	18.0	7.5	78.0	15.5	86.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	14.4	14.4	14.4	14.4	7.1	83.6	13.5	92.4
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.05	0.64	0.10	0.71
v/c Ratio	0.74	0.60	0.30	0.57	0.52	0.73	0.72	0.78
Control Delay	90.5	34.3	59.6	42.5	81.3	20.1	78.1	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.5	34.3	59.6	42.5	81.3	20.1	78.1	6.1
LOS	F	C	E	D	F	C	E	A
Approach Delay		55.3		45.9		22.3		11.5
Approach LOS		E		D		C		B
90th %ile Green (s)	18.0	18.0	18.0	18.0	7.5	78.0	15.5	86.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	18.0	18.0	18.0	18.0	7.5	78.0	15.5	86.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	15.5	15.5	15.5	15.5	7.5	81.0	15.0	88.5
50th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
30th %ile Green (s)	12.5	12.5	12.5	12.5	7.5	86.4	12.6	91.5
30th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
10th %ile Green (s)	8.1	8.1	8.1	8.1	0.0	94.4	9.0	109.9
10th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Gap	Coord
Stops (vph)	71	53	24	55	39	719	95	638
Fuel Used(gal)	2	2	1	2	3	51	4	30
CO Emissions (g/hr)	149	123	40	120	179	3554	302	2116
NOx Emissions (g/hr)	29	24	8	23	35	691	59	412
VOC Emissions (g/hr)	35	29	9	28	41	824	70	490
Dilemma Vehicles (#)	0	0	0	0	0	41	0	17
Queue Length 50th (ft)	68	45	23	55	36	344	85	64
Queue Length 95th (ft)	#133	113	52	108	#79	468	m100	m402

Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	140	270	121	245	88	1608	182	1814
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.51	0.24	0.48	0.49	0.73	0.63	0.78

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 112 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 20.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Future Volume (vph)	100	50	110	50	95	1016	80	60	1222	95
Lane Group Flow (vph)	118	130	129	94	103	1104	87	65	1328	103
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	19.0	13.0	19.0	13.0	17.0	83.4	83.4	14.6	81.0	81.0
Total Split (%)	14.6%	10.0%	14.6%	10.0%	13.1%	64.2%	64.2%	11.2%	62.3%	62.3%
Maximum Green (s)	12.5	8.5	12.5	8.5	11.0	78.4	78.4	8.6	76.0	76.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.7	8.6	12.4	8.3	10.7	81.3	81.3	8.2	76.3	76.3
Actuated g/C Ratio	0.10	0.07	0.10	0.06	0.08	0.63	0.63	0.06	0.59	0.59
v/c Ratio	0.79	0.98	0.88	0.82	0.81	0.71	0.10	0.67	0.88	0.12
Control Delay	90.8	117.1	105.9	93.5	108.5	9.4	0.2	70.3	11.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.8	117.1	105.9	93.5	108.5	9.4	0.2	70.3	11.3	0.6
LOS	F	F	F	F	F	A	A	E	B	A
Approach Delay		104.6		100.7		16.6			13.1	
Approach LOS		F		F		B			B	
90th %ile Green (s)	12.5	8.5	12.5	8.5	11.0	78.4	78.4	8.6	76.0	76.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	12.5	8.5	12.5	8.5	11.0	78.4	78.4	8.6	76.0	76.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	12.5	8.5	12.5	8.5	11.0	78.4	78.4	8.6	76.0	76.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	12.5	8.5	12.5	8.5	11.0	78.4	78.4	8.6	76.0	76.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	13.3	9.1	11.9	7.7	9.4	93.0	93.0	0.0	77.6	77.6
10th %ile Term Code	Hold	Max	Gap	Gap	Gap	Coord	Coord	Skip	Coord	Coord
Stops (vph)	90	63	96	56	87	547	0	54	387	4
Fuel Used(gal)	3	3	3	2	5	25	1	2	30	2
CO Emissions (g/hr)	192	239	232	149	315	1730	103	172	2103	135
NOx Emissions (g/hr)	37	46	45	29	61	337	20	33	409	26
VOC Emissions (g/hr)	45	55	54	35	73	401	24	40	487	31
Dilemma Vehicles (#)	0	0	0	0	0	13	0	0	28	0
Queue Length 50th (ft)	99	81	109	64	93	210	0	55	166	2
Queue Length 95th (ft)	#185	#198	#208	#147	m#143	111	m0	m56	m173	m2

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	240	450	180	450	160	896	70	1027	200
Future Volume (vph)	240	450	180	450	160	896	70	1027	200
Lane Group Flow (vph)	261	696	196	560	174	1126	76	1116	217
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	21.0	34.4	15.8	29.2	15.4	65.6	14.2	64.4	64.4
Total Split (%)	16.2%	26.5%	12.2%	22.5%	11.8%	50.5%	10.9%	49.5%	49.5%
Maximum Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.5	28.9	9.3	23.7	8.9	62.9	7.3	58.9	58.9
Actuated g/C Ratio	0.11	0.22	0.07	0.18	0.07	0.48	0.06	0.45	0.45
v/c Ratio	0.96	1.04	0.93	1.01	0.93	0.65	0.46	0.99	0.36
Control Delay	102.4	90.5	106.6	93.3	92.6	23.2	37.6	27.5	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.8
Total Delay	102.4	90.5	106.6	93.3	92.6	23.2	37.6	28.7	2.2
LOS	F	F	F	F	F	C	D	C	A
Approach Delay		93.7		96.7		32.5		25.1	
Approach LOS		F		F		C		C	
90th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	60.1	7.7	58.9	58.9
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Hold	Coord	Coord
10th %ile Green (s)	14.5	28.9	9.3	23.7	8.9	74.3	0.0	58.9	58.9
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Skip	Coord	Coord
Stops (vph)	211	531	158	450	136	878	64	734	9
Fuel Used(gal)	7	18	6	14	7	32	1	14	1
CO Emissions (g/hr)	519	1264	388	1013	505	2247	84	980	46
NOx Emissions (g/hr)	101	246	76	197	98	437	16	191	9
VOC Emissions (g/hr)	120	293	90	235	117	521	20	227	11

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	14	0	19	0
Queue Length 50th (ft)	114	~315	86	~252	72	309	31	73	0
Queue Length 95th (ft)	#202	#442	#161	#377	m#132	356	m35	#627	m3
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	272	671	210	552	188	1724	174	1132	607
Starvation Cap Reductn	0	0	0	0	0	0	0	7	178
Spillback Cap Reductn	0	0	0	0	0	22	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.04	0.93	1.01	0.93	0.66	0.44	0.99	0.51

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 128 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 54.4

Intersection LOS: D

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

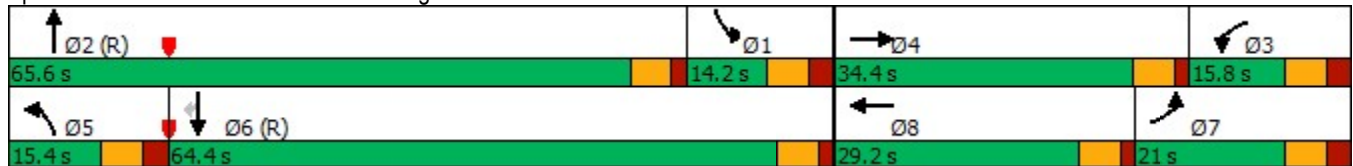
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

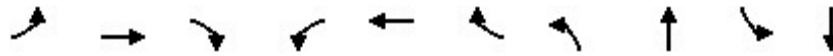
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

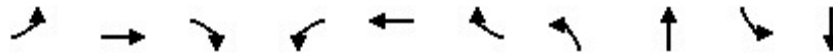
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Future Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Lane Group Flow (vph)	253	400	76	141	329	47	54	1251	49	1405
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	41.0	13.0	14.0	35.0	13.0	13.0	62.0	13.0	62.0
Total Split (%)	15.4%	31.5%	10.0%	10.8%	26.9%	10.0%	10.0%	47.7%	10.0%	47.7%
Maximum Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.4	34.1	39.5	7.7	28.4	38.9	6.4	60.8	6.3	58.3
Actuated g/C Ratio	0.10	0.26	0.30	0.06	0.22	0.30	0.05	0.47	0.05	0.45
v/c Ratio	0.82	0.94	0.14	0.79	0.92	0.09	0.71	0.75	0.65	0.87
Control Delay	77.9	77.0	0.5	89.5	81.4	0.3	108.3	9.4	65.3	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.1
Total Delay	77.9	77.0	0.5	89.5	81.4	0.3	108.3	9.9	65.3	17.5
LOS	E	E	A	F	F	A	F	A	E	B
Approach Delay		69.3			76.3			14.0		19.1
Approach LOS		E			E			B		B
90th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	35.0	6.5	8.0	29.5	6.5	6.5	57.0	6.5	57.0
30th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.1	29.0	6.0	8.2	24.1	0.0	6.0	75.8	0.0	63.3
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Skip	Gap	Coord	Skip	Coord
Stops (vph)	200	307	0	109	254	0	46	545	40	980
Fuel Used(gal)	6	9	0	4	8	0	2	9	2	50
CO Emissions (g/hr)	412	644	30	252	556	19	111	657	157	3490
NOx Emissions (g/hr)	80	125	6	49	108	4	22	128	31	679
VOC Emissions (g/hr)	96	149	7	58	129	4	26	152	36	809

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	25	0	11
Queue Length 50th (ft)	109	326	0	61	270	0	46	116	42	279
Queue Length 95th (ft)	#158	#463	0	#108	#399	0	m66	m126	m58	223
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	312	445	541	178	370	549	77	1659	77	1623
Starvation Cap Reductn	0	0	0	0	0	0	0	109	0	0
Spillback Cap Reductn	0	0	5	0	0	0	0	0	0	111
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.90	0.14	0.79	0.89	0.09	0.70	0.81	0.64	0.93

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 33.9

Intersection LOS: C

Intersection Capacity Utilization 78.5%

ICU Level of Service D

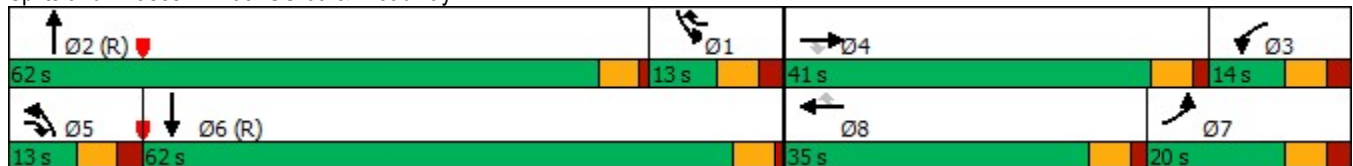
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

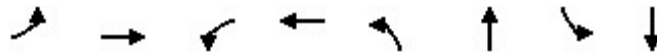
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	60	22	135	25	70	1156	35	1172
Future Volume (vph)	60	22	135	25	70	1156	35	1172
Lane Group Flow (vph)	71	108	159	69	76	1366	38	1292
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	23.0	23.0	27.0	27.0	18.0	67.0	13.0	62.0
Total Split (%)	17.7%	17.7%	20.8%	20.8%	13.8%	51.5%	10.0%	47.7%
Maximum Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	12.9	12.9	16.9	16.9	10.1	70.2	5.8	66.2
Actuated g/C Ratio	0.10	0.10	0.13	0.13	0.08	0.54	0.04	0.51
v/c Ratio	0.70	0.58	0.79	0.30	0.63	0.70	0.55	0.71
Control Delay	88.5	30.4	80.7	27.8	64.9	7.4	63.7	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	30.4	80.7	27.8	64.9	7.4	63.7	9.4
LOS	F	C	F	C	E	A	E	A
Approach Delay		53.4		64.7		10.5		10.9
Approach LOS		D		E		B		B
90th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.8	13.8	18.2	18.2	11.0	65.5	6.0	60.5
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Max	Coord
30th %ile Green (s)	10.9	10.9	15.3	15.3	11.0	71.3	6.0	66.3
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	11.2	11.2	0.0	91.3	0.0	91.3
10th %ile Term Code	Min	Min	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	58	29	128	26	69	690	34	515
Fuel Used(gal)	2	1	4	1	4	44	1	15
CO Emissions (g/hr)	108	66	252	54	249	3071	74	1027
NOx Emissions (g/hr)	21	13	49	11	48	597	14	200
VOC Emissions (g/hr)	25	15	58	13	58	712	17	238
Dilemma Vehicles (#)	0	0	0	0	0	3	0	39
Queue Length 50th (ft)	58	20	130	22	68	91	34	152
Queue Length 95th (ft)	104	72	193	61	m89	270	m45	m220

Timings
106: US-69 & Tahlequah/Military

09-28-2020

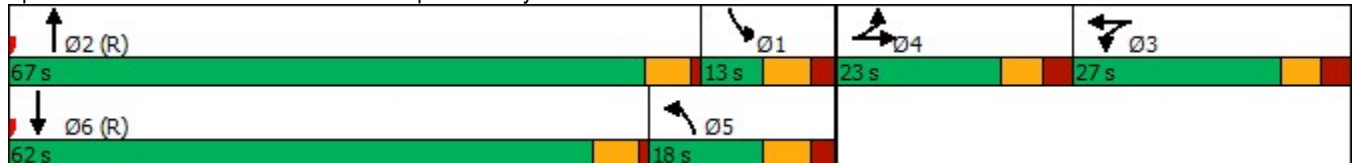


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	127	210	238	262	131	1952	71	1831
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.51	0.67	0.26	0.58	0.70	0.54	0.71

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 52 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 17.0
 Intersection LOS: B
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↗	↕	↗	↖	↕↕	↗	↖↗	↕↕↖
Traffic Volume (vph)	290	18	480	200	340	52	735	450	310	728
Future Volume (vph)	290	18	480	200	340	52	735	450	310	728
Lane Group Flow (vph)	453	21	522	217	370	57	799	489	337	894
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	26.0	26.0	31.0	31.0		18.4	51.0		22.0	54.6
Total Split (%)	20.0%	20.0%	23.8%	23.8%		14.2%	39.2%		16.9%	42.0%
Maximum Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	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	3.0		3.0	3.0
Recall Mode	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	18.5	18.5	23.5	23.5	130.0	10.5	45.0	130.0	15.0	52.3
Actuated g/C Ratio	0.14	0.14	0.18	0.18	1.00	0.08	0.35	1.00	0.12	0.40
v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.69	0.98	0.39	1.04	0.65
Control Delay	107.8	0.4	104.5	68.4	0.6	67.4	45.6	1.0	115.9	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.8	0.4	104.5	68.4	0.6	67.4	45.6	1.0	115.9	34.4
LOS	F	A	F	E	A	E	D	A	F	C
Approach Delay	103.0			62.7			30.3			56.7
Approach LOS	F			E			C			E
90th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
30th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
10th %ile Green (s)	18.5	18.5	23.5	23.5		0.0	45.0		15.0	67.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	337	0	420	182	0	49	542	6	268	644
Fuel Used(gal)	14	0	18	6	4	2	17	2	21	42
CO Emissions (g/hr)	994	11	1285	436	251	111	1208	171	1490	2939
NOx Emissions (g/hr)	193	2	250	85	49	22	235	33	290	572
VOC Emissions (g/hr)	230	2	298	101	58	26	280	40	345	681
Dilemma Vehicles (#)	13	0	0	8	0	0	40	0	0	32
Queue Length 50th (ft)	~216	0	~245	176	0	51	172	0	~157	227
Queue Length 95th (ft)	#297	0	#359	#294	0	m73	#479	4	#256	280

Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	435	323	498	286	1296	90	812	1249	324	1381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.63	0.98	0.39	1.04	0.65

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 55.1

Intersection LOS: E

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

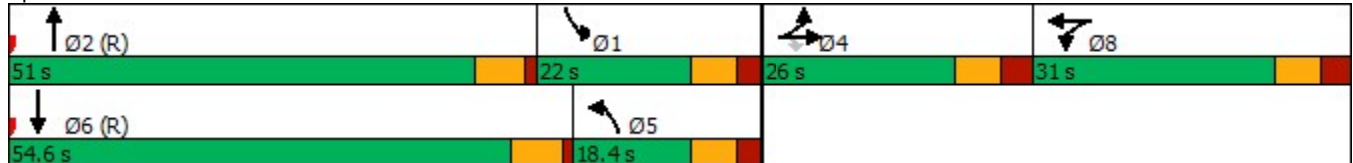
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

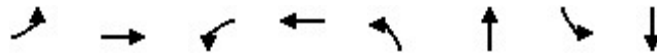
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

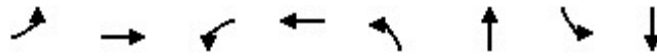
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	45	115	45	70	995	75	943
Future Volume (vph)	30	45	115	45	70	995	75	943
Lane Group Flow (vph)	0	155	0	256	76	1223	82	1063
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	48.0	48.0	48.0	48.0	19.6	90.5	22.0	92.9
Total Split (%)	29.9%	29.9%	29.9%	29.9%	12.2%	56.4%	13.7%	57.9%
Maximum Green (s)	41.0	41.0	41.0	41.0	12.1	84.5	14.5	86.9
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		36.8		36.8	10.9	76.6	13.0	78.6
Actuated g/C Ratio		0.25		0.25	0.07	0.52	0.09	0.53
v/c Ratio		0.44		0.90	0.67	0.94	0.73	0.81
Control Delay		44.7		85.7	98.0	48.3	103.5	34.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		44.7		85.7	98.0	48.3	103.5	34.7
LOS		D		F	F	D	F	C
Approach Delay		44.7		85.7		51.2		39.6
Approach LOS		D		F		D		D
90th %ile Green (s)	41.0	41.0	41.0	41.0	12.1	84.5	14.5	86.9
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	41.0	41.0	41.0	41.0	12.1	84.5	14.5	86.9
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Hold
50th %ile Green (s)	41.0	41.0	41.0	41.0	12.1	84.5	14.5	86.9
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Hold
30th %ile Green (s)	36.8	36.8	36.8	36.8	11.0	76.4	13.0	78.4
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold
10th %ile Green (s)	25.0	25.0	25.0	25.0	7.6	54.3	8.7	55.4
10th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold
Stops (vph)		95		194	64	974	68	776
Fuel Used(gal)		3		8	5	62	3	24
CO Emissions (g/hr)		215		558	322	4325	209	1670
NOx Emissions (g/hr)		42		109	63	841	41	325
VOC Emissions (g/hr)		50		129	75	1002	48	387
Dilemma Vehicles (#)		0		0	0	35	0	28
Queue Length 50th (ft)		114		249	79	610	85	462
Queue Length 95th (ft)		190		#420	#157	#785	#174	566

Timings
108: US-69 & Harris Rd

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		395		322	128	1461	128	1477
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.39		0.80	0.59	0.84	0.64	0.72

Intersection Summary

Cycle Length: 160.5	
Actuated Cycle Length: 147.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 49.3	Intersection LOS: D
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 160.5	
70th %ile Actuated Cycle: 160.5	
50th %ile Actuated Cycle: 160.5	
30th %ile Actuated Cycle: 146.7	
10th %ile Actuated Cycle: 108.5	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	46.6	75.3	0.33	15.8	E
Border	II	48	75.2	116.5	191.7	1.00	18.8	D
Arline	II	35	49.7	78.9	128.6	0.48	13.5	E
Okmulgee	II	35	53.9	21.4	75.3	0.52	25.0	C
Broadway	II	35	8.8	118.0	126.8	0.07	2.0	F
Tahlequah/Military	II	40	71.2	9.1	80.3	0.78	35.1	A
Shawnee St	II	45	16.1	188.4	204.5	0.15	2.6	F
Harris Rd	II	45	80.3	165.5	245.8	1.00	14.7	E
Total	II		383.9	744.4	1128.3	4.34	13.8	E

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	126.0	149.9	0.22	5.3	F
Shawnee St	II	45	80.3	16.6	96.9	1.00	37.3	A
Tahlequah/Military	II	45	16.1	14.8	30.9	0.15	17.2	D
Broadway	II	40	71.2	133.9	205.1	0.78	13.7	E
Okmulgee	II	35	8.8	156.6	165.4	0.07	1.5	F
Arline	II	35	53.9	28.5	82.4	0.52	22.8	C
Border	II	35	49.7	111.2	160.9	0.48	10.8	F
Hancock	II	48	75.2	4.7	79.9	1.00	45.0	A
Total	II		379.1	592.3	971.4	4.23	15.7	E

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	80.6	109.3	0.33	10.9	F
Border	II	48	75.2	96.3	171.5	1.00	21.0	D
Arline	II	35	49.7	102.8	152.5	0.48	11.4	F
Okmulgee	II	35	53.9	32.7	86.6	0.52	21.7	D
Broadway	II	35	8.8	93.1	101.9	0.07	2.5	F
Tahlequah/Military	II	40	71.2	30.6	101.8	0.78	27.7	C
Shawnee St	II	45	16.1	246.2	262.3	0.15	2.0	F
Harris Rd	II	45	80.3	240.5	320.8	1.00	11.3	F
Total	II		383.9	922.8	1306.7	4.34	12.0	F

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	176.4	200.3	0.22	3.9	F
Shawnee St	II	45	80.3	31.5	111.8	1.00	32.3	B
Tahlequah/Military	II	45	16.1	46.7	62.8	0.15	8.5	F
Broadway	II	40	71.2	137.9	209.1	0.78	13.5	E
Okmulgee	II	35	8.8	246.8	255.6	0.07	1.0	F
Arline	II	35	53.9	170.4	224.3	0.52	8.4	F
Border	II	35	49.7	167.7	217.4	0.48	8.0	F
Hancock	II	48	75.2	14.8	90.0	1.00	40.0	A
Total	II		379.1	992.2	1371.3	4.23	11.1	F

Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	35	25	35	15	22	1634	23	125	1519
Future Volume (vph)	35	25	35	15	22	1634	23	125	1519
Lane Group Flow (vph)	39	52	41	236	24	1776	25	136	1684
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	17.0	17.0	17.0	17.0	14.0	112.0	112.0	21.0	119.0
Total Split (%)	11.3%	11.3%	11.3%	11.3%	9.3%	74.7%	74.7%	14.0%	79.3%
Maximum Green (s)	10.0	10.0	10.0	10.0	6.0	105.5	105.5	13.0	112.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.7	105.5	105.5	13.0	118.1
Actuated g/C Ratio	0.07	0.07	0.07	0.07	0.04	0.70	0.70	0.09	0.79
v/c Ratio	0.93	0.44	0.53	0.98	0.42	1.01	0.03	1.04	0.87
Control Delay	185.8	54.3	92.5	75.4	92.3	46.6	0.0	84.1	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	185.8	54.3	92.5	75.4	92.3	46.6	0.0	84.1	4.7
LOS	F	D	F	E	F	D	A	F	A
Approach Delay		110.7		78.0		46.5			10.7
Approach LOS		F		E		D			B
90th %ile Green (s)	10.0	10.0	10.0	10.0	6.0	105.5	105.5	13.0	112.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	10.0	10.0	10.0	10.0	6.0	105.5	105.5	13.0	112.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	10.0	10.0	10.0	10.0	6.0	105.5	105.5	13.0	112.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	10.0	10.0	10.0	10.0	0.0	105.5	105.5	13.0	126.5
30th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
10th %ile Green (s)	10.0	10.0	10.0	10.0	0.0	105.5	105.5	13.0	126.5
10th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
Stops (vph)	26	29	33	52	23	1369	0	103	138
Fuel Used(gal)	2	1	1	5	1	59	0	8	56
CO Emissions (g/hr)	117	67	74	320	76	4122	18	546	3889
NOx Emissions (g/hr)	23	13	14	62	15	802	3	106	757
VOC Emissions (g/hr)	27	15	17	74	18	955	4	127	901
Dilemma Vehicles (#)	0	0	0	0	0	52	0	0	28
Queue Length 50th (ft)	39	29	40	77	23	~897	0	~146	24
Queue Length 95th (ft)	#119	76	#82	#222	57	#1094	0	m126	m33

Timings
101: US-69 & Hancock

09-28-2020

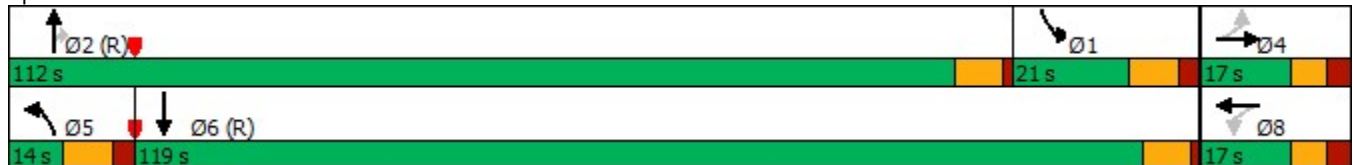


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)	200		200		200		175	325	
Base Capacity (vph)	42	119	77	241	60	1757	981	131	1938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.44	0.53	0.98	0.40	1.01	0.03	1.04	0.87

Intersection Summary

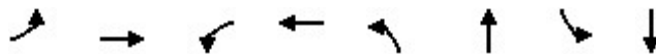
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 98 (65%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 33.9
 Intersection LOS: C
 Intersection Capacity Utilization 102.8%
 ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	160	44	22	45	80	1757	70	1592
Future Volume (vph)	160	44	22	45	80	1757	70	1592
Lane Group Flow (vph)	178	138	26	206	87	1950	76	1850
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	37.0	37.0	37.0	37.0	13.0	100.0	13.0	100.0
Total Split (%)	24.7%	24.7%	24.7%	24.7%	8.7%	66.7%	8.7%	66.7%
Maximum Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.04	0.63	0.04	0.63
v/c Ratio	1.23	0.41	0.13	0.58	1.32	1.22	1.15	1.17
Control Delay	197.0	35.6	51.6	38.0	210.1	116.5	147.8	111.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	197.0	35.6	51.6	38.0	210.1	116.5	147.8	111.2
LOS	F	D	D	D	F	F	F	F
Approach Delay		126.5		39.5		120.5		112.6
Approach LOS		F		D		F		F
90th %ile Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	30.0	30.0	30.0	30.0	6.5	95.0	6.5	95.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
Stops (vph)	123	66	19	93	55	1358	51	1258
Fuel Used(gal)	8	2	0	3	7	122	4	79
CO Emissions (g/hr)	549	130	32	198	482	8543	264	5543
NOx Emissions (g/hr)	107	25	6	39	94	1662	51	1078
VOC Emissions (g/hr)	127	30	7	46	112	1980	61	1285
Dilemma Vehicles (#)	0	0	0	0	0	33	0	67
Queue Length 50th (ft)	~214	71	21	106	~108	~1226	~87	~1127
Queue Length 95th (ft)	#374	142	48	179	m#108	m#1215	m#81	m#1042

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	120	47	105	53	68	1897	118	40	1628	93
Future Volume (vph)	120	47	105	53	68	1897	118	40	1628	93
Lane Group Flow (vph)	141	110	124	124	74	2062	128	43	1770	101
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	17.0	12.0	17.0	12.0	13.5	107.5	107.5	13.5	107.5	107.5
Total Split (%)	11.3%	8.0%	11.3%	8.0%	9.0%	71.7%	71.7%	9.0%	71.7%	71.7%
Maximum Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.5	7.5	10.5	7.5	7.5	105.2	105.2	7.2	102.5	102.5
Actuated g/C Ratio	0.07	0.05	0.07	0.05	0.05	0.70	0.70	0.05	0.68	0.68
v/c Ratio	1.31	1.11	1.15	1.25	0.96	1.15	0.13	0.58	1.04	0.10
Control Delay	240.3	170.6	190.4	215.7	77.6	78.9	0.3	101.0	28.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	240.3	170.6	190.4	215.7	77.6	78.9	0.3	101.0	28.5	0.0
LOS	F	F	F	F	E	E	A	F	C	A
Approach Delay		209.8		203.0		74.4			28.6	
Approach LOS		F		F		E			C	
90th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	102.5	102.5	7.5	102.5	102.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	10.5	7.5	10.5	7.5	7.5	116.0	116.0	0.0	102.5	102.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Skip	Coord	Coord
Stops (vph)	89	55	81	60	54	879	1	39	351	0
Fuel Used(gal)	7	4	5	5	3	72	2	2	45	2
CO Emissions (g/hr)	479	276	344	373	191	5032	153	134	3113	130
NOx Emissions (g/hr)	93	54	67	73	37	979	30	26	606	25
VOC Emissions (g/hr)	111	64	80	87	44	1166	35	31	721	30
Dilemma Vehicles (#)	0	0	0	0	0	33	0	0	4	0
Queue Length 50th (ft)	~176	~98	~142	~127	73	~1262	1	45	~1006	0
Queue Length 95th (ft)	#298	#213	#259	#246	m64	m194	m0	m34	m48	m0

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	108	99	108	99	77	1796	1002	77	1707	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	1.11	1.15	1.25	0.96	1.15	0.13	0.56	1.04	0.10

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 61 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.31
 Intersection Signal Delay: 69.7
 Intersection Capacity Utilization 88.2%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

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

Splits and Phases: 103: US-69 & Arline

Ø1	Ø2 (R)	Ø4	Ø3
13.5 s	107.5 s	12 s	17 s
Ø6 (R)	Ø5	Ø8	Ø7
107.5 s	13.5 s	12 s	17 s

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	250	560	180	460	290	1680	68	1511	290
Future Volume (vph)	250	560	180	460	290	1680	68	1511	290
Lane Group Flow (vph)	272	739	196	560	315	1978	74	1642	315
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	20.0	34.0	15.0	29.0	20.0	88.4	12.6	81.0	81.0
Total Split (%)	13.3%	22.7%	10.0%	19.3%	13.3%	58.9%	8.4%	54.0%	54.0%
Maximum Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
Actuated g/C Ratio	0.09	0.19	0.06	0.16	0.09	0.55	0.04	0.50	0.50
v/c Ratio	1.24	1.32	1.18	1.18	1.25	0.98	0.62	1.32	0.47
Control Delay	194.6	201.0	184.5	153.7	173.1	21.4	42.3	156.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	40.9	0.0	0.0	2.6
Total Delay	194.6	201.0	184.5	153.7	173.1	62.2	42.3	156.6	3.2
LOS	F	F	F	F	F	E	D	F	A
Approach Delay		199.3		161.7		77.4		128.7	
Approach LOS		F		F		E		F	
90th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	13.5	28.5	8.5	23.5	13.5	82.9	6.1	75.5	75.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
Stops (vph)	199	524	145	423	226	1445	63	597	13
Fuel Used(gal)	12	34	8	21	18	55	1	57	1
CO Emissions (g/hr)	861	2397	583	1445	1237	3849	87	3964	64
NOx Emissions (g/hr)	168	466	113	281	241	749	17	771	12
VOC Emissions (g/hr)	200	556	135	335	287	892	20	919	15

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	68	0	39	0
Queue Length 50th (ft)	~169	~485	~117	~342	~196	575	35	~1073	7
Queue Length 95th (ft)	#266	#618	#203	#468	m#153	m364	m30	m#783	m5
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	219	560	166	474	252	2009	119	1247	677
Starvation Cap Reductn	0	0	0	0	0	0	0	4	245
Spillback Cap Reductn	0	0	0	0	0	584	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	1.32	1.18	1.18	1.25	1.39	0.62	1.32	0.73

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 125.2

Intersection LOS: F

Intersection Capacity Utilization 106.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

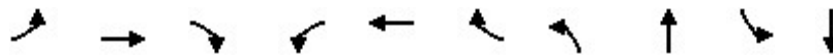
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

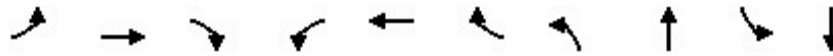
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Future Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Lane Group Flow (vph)	271	434	62	176	518	71	78	2079	58	2115
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	18.0	45.1	13.0	15.9	43.0	13.0	13.0	76.0	13.0	76.0
Total Split (%)	12.0%	30.1%	8.7%	10.6%	28.7%	8.7%	8.7%	50.7%	8.7%	50.7%
Maximum Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.5	39.6	51.6	9.4	37.5	49.5	6.5	71.0	6.5	71.0
Actuated g/C Ratio	0.08	0.26	0.34	0.06	0.25	0.33	0.04	0.47	0.04	0.47
v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.22	0.87	1.24
Control Delay	173.0	99.7	7.9	119.4	185.4	10.6	139.1	118.0	90.3	133.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4
Total Delay	173.0	99.7	7.9	119.4	185.4	10.6	139.1	118.2	90.3	134.2
LOS	F	F	A	F	F	B	F	F	F	F
Approach Delay		118.2			154.0			118.9		133.1
Approach LOS		F			F			F		F
90th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	188	325	9	133	348	12	54	1504	43	1480
Fuel Used(gal)	11	12	0	5	22	1	3	62	3	122
CO Emissions (g/hr)	743	816	33	378	1504	42	184	4362	202	8537
NOx Emissions (g/hr)	144	159	6	73	293	8	36	849	39	1661
VOC Emissions (g/hr)	172	189	8	88	349	10	43	1011	47	1979

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	42	0	64
Queue Length 50th (ft)	~162	~434	0	90	~637	6	~93	~908	58	~927
Queue Length 95th (ft)	#238	#602	29	#153	#795	38	m#91	m#878	m61	#1019
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	230	430	517	188	407	498	67	1709	67	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	96	0	0
Spillback Cap Reductn	0	0	2	0	0	0	0	0	0	186
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.29	0.87	1.40

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 128.7

Intersection LOS: F

Intersection Capacity Utilization 103.6%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

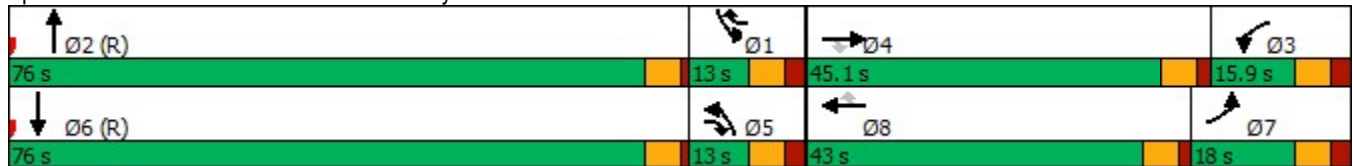
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

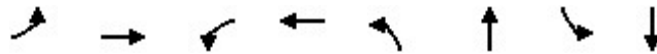
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

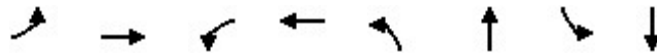
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	22	158	22	68	1935	34	1786
Future Volume (vph)	32	22	158	22	68	1935	34	1786
Lane Group Flow (vph)	38	126	186	66	74	2217	37	1957
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	16.2	16.2	26.0	26.0	15.7	95.0	12.8	92.1
Total Split (%)	10.8%	10.8%	17.3%	17.3%	10.5%	63.3%	8.5%	61.4%
Maximum Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.8	8.8	19.1	19.1	8.6	92.3	5.7	86.9
Actuated g/C Ratio	0.06	0.06	0.13	0.13	0.06	0.62	0.04	0.58
v/c Ratio	0.62	0.76	0.94	0.30	0.84	0.98	0.64	0.94
Control Delay	109.1	47.6	114.9	31.3	96.8	9.1	59.9	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	109.1	47.6	114.9	31.3	96.8	9.1	59.9	15.0
LOS	F	D	F	C	F	A	E	B
Approach Delay		61.8		93.0		11.9		15.9
Approach LOS		E		F		B		B
90th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	8.6	8.6	19.6	19.6	8.7	89.5	5.8	86.6
30th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	18.9	18.9	8.4	103.6	0.0	88.2
10th %ile Term Code	Min	Min	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	28	27	137	24	59	343	30	1399
Fuel Used(gal)	1	1	5	1	4	64	1	32
CO Emissions (g/hr)	66	100	367	54	267	4499	67	2233
NOx Emissions (g/hr)	13	19	71	10	52	875	13	434
VOC Emissions (g/hr)	15	23	85	12	62	1043	16	518
Dilemma Vehicles (#)	0	0	0	0	0	9	0	66
Queue Length 50th (ft)	37	27	184	23	72	~855	36	442
Queue Length 95th (ft)	#88	#107	#312	65	m61	m41	m36	m376

Timings
106: US-69 & Tahlequah/Military

09-28-2020

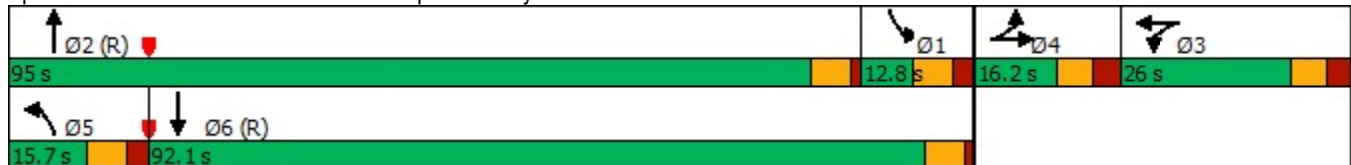


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	63	168	197	223	89	2252	59	2082
Starvation Cap Reductn	0	0	0	0	0	0	0	8
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.75	0.94	0.30	0.83	0.98	0.63	0.94

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 74 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 19.7
 Intersection LOS: B
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↖	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Future Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Lane Group Flow (vph)	412	26	609	301	345	35	1432	652	391	1534
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	23.0	23.0	32.0	32.0		15.4	71.0		24.0	79.6
Total Split (%)	15.3%	15.3%	21.3%	21.3%		10.3%	47.3%		16.0%	53.1%
Maximum Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	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	3.0		3.0	3.0
Recall Mode	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	15.5	15.5	24.5	24.5	150.0	7.9	65.0	150.0	17.0	76.7
Actuated g/C Ratio	0.10	0.10	0.16	0.16	1.00	0.05	0.43	1.00	0.11	0.51
v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.65	1.37	0.52	1.22	0.86
Control Delay	209.6	0.6	223.8	154.2	0.5	72.2	188.4	0.9	143.3	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total Delay	209.6	0.6	223.8	154.2	0.5	72.2	188.4	0.9	143.3	17.2
LOS	F	A	F	F	A	E	F	A	F	B
Approach Delay	197.2			145.7			128.8			42.8
Approach LOS	F			F			F			D
90th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	15.5	15.5	24.5	24.5		0.0	65.0		17.0	89.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	274	0	431	229	0	29	918	19	296	927
Fuel Used(gal)	20	0	35	13	3	1	69	3	27	65
CO Emissions (g/hr)	1394	13	2419	931	234	69	4795	237	1857	4531
NOx Emissions (g/hr)	271	3	471	181	46	14	933	46	361	881
VOC Emissions (g/hr)	323	3	561	216	54	16	1111	55	430	1050
Dilemma Vehicles (#)	8	0	0	8	0	0	54	0	0	58
Queue Length 50th (ft)	~271	0	~403	~343	0	36	~962	0	~248	339
Queue Length 95th (ft)	#354	0	#526	#538	0	m37	m#990	m0	m#183	m106

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	315	296	446	263	1296	57	1049	1260	321	1787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	3	0	0	0	0	0	0	0	63
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.61	1.37	0.52	1.22	0.89

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 84 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 108.9

Intersection LOS: F

Intersection Capacity Utilization 107.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

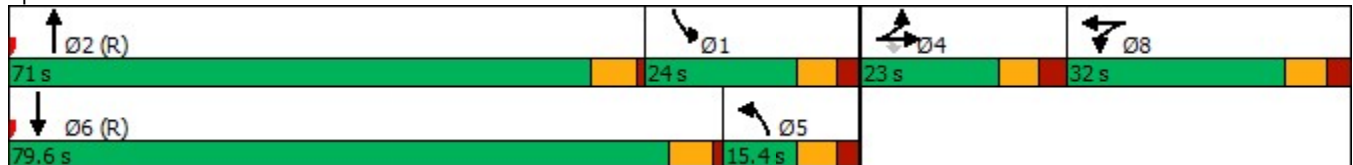
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

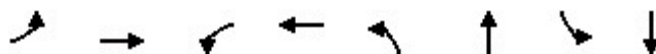
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

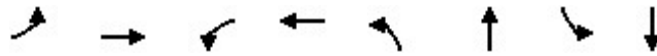
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	44	51	162	45	67	1559	89	1517
Future Volume (vph)	44	51	162	45	67	1559	89	1517
Lane Group Flow (vph)	0	197	0	361	73	1863	97	1689
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	44.0	44.0	44.0	44.0	14.0	90.0	16.0	92.0
Total Split (%)	29.3%	29.3%	29.3%	29.3%	9.3%	60.0%	10.7%	61.3%
Maximum Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		37.0		37.0	6.5	84.0	8.5	86.0
Actuated g/C Ratio		0.25		0.25	0.04	0.56	0.06	0.57
v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20
Control Delay		52.0		227.5	119.3	165.5	229.5	126.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		52.0		227.5	119.3	165.5	229.5	126.0
LOS		D		F	F	F	F	F
Approach Delay		52.0		227.5		163.7		131.6
Approach LOS		D		F		F		F
90th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		136		233	50	365	67	1284
Fuel Used(gal)		4		20	5	121	6	68
CO Emissions (g/hr)		296		1428	318	8474	396	4718
NOx Emissions (g/hr)		58		278	62	1649	77	918
VOC Emissions (g/hr)		69		331	74	1964	92	1094
Dilemma Vehicles (#)		0		0	0	8	0	43
Queue Length 50th (ft)		149		~453	~82	~1268	~117	~1052
Queue Length 95th (ft)		240		#662	m#73	m#862	#240	#1192

Timings
108: US-69 & Harris Rd

09-28-2020



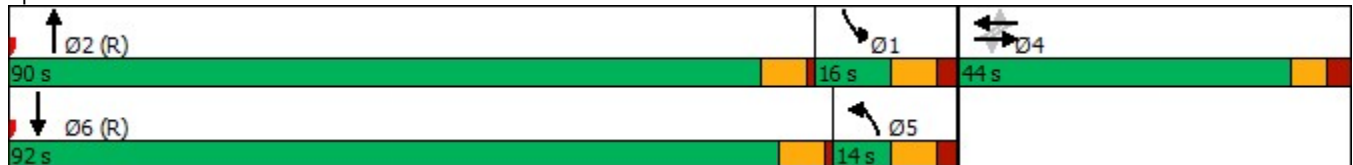
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		324		264	66	1399	79	1412
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.37
 Intersection Signal Delay: 150.6
 Intersection Capacity Utilization 118.0%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

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

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	30	15	35	25	23	1682	35	210	1814
Future Volume (vph)	30	15	35	25	23	1682	35	210	1814
Lane Group Flow (vph)	33	44	41	235	25	1828	38	228	2010
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	22.5	14.0	22.5
Total Split (s)	15.0	15.0	15.0	15.0	14.0	107.0	107.0	28.0	121.0
Total Split (%)	10.0%	10.0%	10.0%	10.0%	9.3%	71.3%	71.3%	18.7%	80.7%
Maximum Green (s)	8.0	8.0	8.0	8.0	6.0	100.5	100.5	20.0	114.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	8.0	6.5	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	8.0	8.0	8.0	8.0	5.7	100.5	100.5	20.0	120.1
Actuated g/C Ratio	0.05	0.05	0.05	0.05	0.04	0.67	0.67	0.13	0.80
v/c Ratio	0.79	0.43	0.66	0.96	0.44	1.10	0.04	1.13	1.00
Control Delay	152.4	47.1	113.3	66.8	93.5	80.6	0.1	110.7	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	152.4	47.1	113.3	66.8	93.5	80.6	0.1	110.7	14.8
LOS	F	D	F	E	F	F	A	F	B
Approach Delay		92.2		73.7		79.1			24.6
Approach LOS		F		E		E			C
90th %ile Green (s)	8.0	8.0	8.0	8.0	6.0	100.5	100.5	20.0	114.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	8.0	8.0	8.0	8.0	6.0	100.5	100.5	20.0	114.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	8.0	8.0	8.0	8.0	6.0	100.5	100.5	20.0	114.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	100.5	100.5	20.0	128.5
30th %ile Term Code	Max	Max	Max	Max	Skip	Coord	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	100.5	100.5	20.0	128.5
10th %ile Term Code	Hold	Hold	Max	Max	Skip	Coord	Coord	Max	Coord
Stops (vph)	24	19	32	39	23	1418	0	171	556
Fuel Used(gal)	1	1	1	4	1	73	0	14	76
CO Emissions (g/hr)	86	50	83	289	78	5069	27	995	5294
NOx Emissions (g/hr)	17	10	16	56	15	986	5	194	1030
VOC Emissions (g/hr)	20	12	19	67	18	1175	6	231	1227
Dilemma Vehicles (#)	0	0	0	0	0	50	0	0	38
Queue Length 50th (ft)	33	16	40	54	24	~1064	0	~262	~1140
Queue Length 95th (ft)	#101	59	#97	#195	59	#1201	0	m184	m51

Timings
101: US-69 & Hancock

09-28-2020

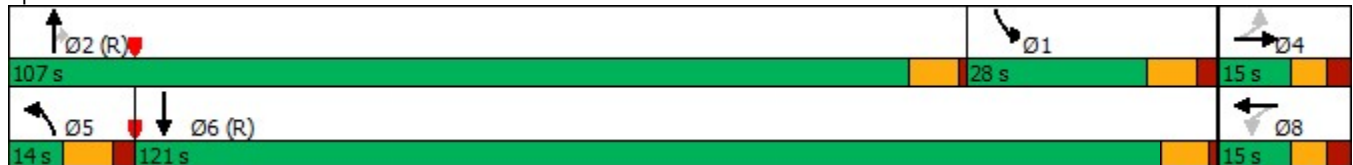


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		664		691		1663			3348
Turn Bay Length (ft)	200		200		200		175	325	
Base Capacity (vph)	42	103	62	244	60	1660	939	202	2002
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.43	0.66	0.96	0.42	1.10	0.04	1.13	1.00

Intersection Summary

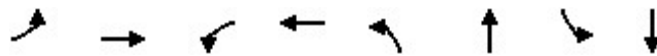
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 149 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 51.8
 Intersection LOS: D
 Intersection Capacity Utilization 109.7%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

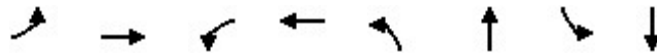
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	52	35	60	125	1752	150	1894
Future Volume (vph)	110	52	35	60	125	1752	150	1894
Lane Group Flow (vph)	122	202	41	177	136	1937	163	2266
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	28.0	28.0	28.0	28.0	17.0	103.0	19.0	105.0
Total Split (%)	18.7%	18.7%	18.7%	18.7%	11.3%	68.7%	12.7%	70.0%
Maximum Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.07	0.65	0.08	0.67
v/c Ratio	1.27	0.77	0.52	0.73	1.27	1.19	1.28	1.34
Control Delay	230.5	60.7	84.1	65.3	189.8	96.3	172.9	167.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	230.5	60.7	84.1	65.3	189.8	96.3	172.9	167.7
LOS	F	E	F	E	F	F	F	F
Approach Delay		124.6		68.8		102.4		168.1
Approach LOS		F		E		F		F
90th %ile Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	21.0	21.0	21.0	21.0	10.5	98.0	12.5	100.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
Stops (vph)	83	114	32	108	93	1177	112	756
Fuel Used(gal)	6	4	1	3	10	112	9	115
CO Emissions (g/hr)	429	262	68	239	724	7803	621	8056
NOx Emissions (g/hr)	84	51	13	47	141	1518	121	1567
VOC Emissions (g/hr)	100	61	16	55	168	1808	144	1867
Dilemma Vehicles (#)	0	0	0	0	0	25	0	40
Queue Length 50th (ft)	~149	129	38	129	~165	~1194	~199	~1511
Queue Length 95th (ft)	#287	#252	78	201	m#146	m#1036	m122	m#102

Timings
102: US-69 & Border

09-28-2020

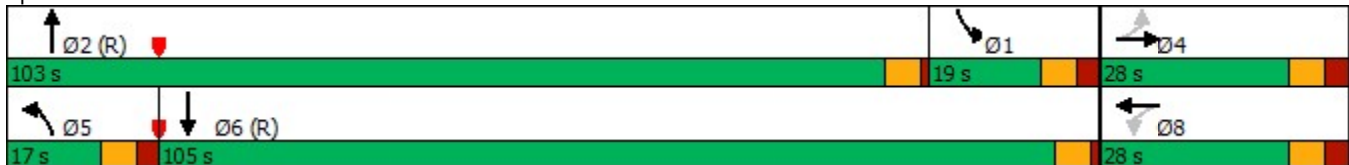


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	96	261	79	241	107	1634	127	1688
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.77	0.52	0.73	1.27	1.19	1.28	1.34

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 80 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 134.0 Intersection LOS: F
 Intersection Capacity Utilization 114.9% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	140	68	132	68	120	1729	106	78	2004	125
Future Volume (vph)	140	68	132	68	120	1729	106	78	2004	125
Lane Group Flow (vph)	165	127	155	174	130	1879	115	85	2178	136
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	22.0	13.5	21.0	21.0
Total Split (s)	19.0	15.0	18.0	14.0	17.0	103.0	103.0	14.0	100.0	100.0
Total Split (%)	12.7%	10.0%	12.0%	9.3%	11.3%	68.7%	68.7%	9.3%	66.7%	66.7%
Maximum Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
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	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
Actuated g/C Ratio	0.08	0.07	0.08	0.06	0.07	0.65	0.65	0.05	0.63	0.63
v/c Ratio	1.28	1.05	1.31	1.41	1.15	1.16	0.12	1.04	1.34	0.15
Control Delay	223.9	152.2	239.3	266.1	138.9	102.8	5.5	113.7	170.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	223.9	152.2	239.3	266.1	138.9	102.8	5.5	113.7	170.4	0.5
LOS	F	F	F	F	F	F	A	F	F	A
Approach Delay		192.7		253.5		99.8			158.8	
Approach LOS		F		F		F			F	
90th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	12.5	10.5	11.5	9.5	11.0	98.0	98.0	8.0	95.0	95.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
Stops (vph)	106	77	99	84	91	1204	21	61	529	6
Fuel Used(gal)	8	4	7	9	6	77	2	4	113	3
CO Emissions (g/hr)	527	294	523	632	439	5387	156	267	7930	178
NOx Emissions (g/hr)	102	57	102	123	85	1048	30	52	1543	35
VOC Emissions (g/hr)	122	68	121	147	102	1248	36	62	1838	41
Dilemma Vehicles (#)	0	0	0	0	0	68	0	0	35	0
Queue Length 50th (ft)	~204	~120	~194	~200	~149	~1136	19	~92	~1452	3
Queue Length 95th (ft)	#334	#239	#320	#332	m111	m594	m12	m59	m176	m1

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469			1954	
Turn Bay Length (ft)	250		125		125		125	175		100
Base Capacity (vph)	129	121	118	123	113	1619	940	82	1621	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	1.05	1.31	1.41	1.15	1.16	0.12	1.04	1.34	0.15

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 50 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 142.4
 Intersection LOS: F
 Intersection Capacity Utilization 107.9%
 ICU Level of Service G
 Analysis Period (min) 15

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

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	317	590	235	590	212	1554	87	1752	265
Future Volume (vph)	317	590	235	590	212	1554	87	1752	265
Lane Group Flow (vph)	345	913	255	734	230	1890	95	1904	288
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0	17.0
Total Split (s)	21.0	36.0	17.0	32.0	16.0	84.2	12.8	81.0	81.0
Total Split (%)	14.0%	24.0%	11.3%	21.3%	10.7%	56.1%	8.5%	54.0%	54.0%
Maximum Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
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)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
Actuated g/C Ratio	0.10	0.20	0.07	0.18	0.06	0.52	0.04	0.50	0.50
v/c Ratio	1.44	1.50	1.24	1.38	1.33	1.01	0.77	1.50	0.45
Control Delay	264.4	271.4	195.8	225.2	204.7	32.7	53.6	246.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	35.2	0.0	0.5	3.1
Total Delay	264.4	271.4	195.8	225.2	204.7	68.0	53.6	247.3	5.3
LOS	F	F	F	F	F	E	D	F	A
Approach Delay		269.5		217.6		82.8		208.8	
Approach LOS		F		F		F		F	
90th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	14.5	30.5	10.5	26.5	9.5	78.7	6.3	75.5	75.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
Stops (vph)	234	579	186	510	159	1619	82	1286	58
Fuel Used(gal)	20	54	11	37	14	58	2	102	1
CO Emissions (g/hr)	1399	3776	798	2563	996	4084	126	7157	88
NOx Emissions (g/hr)	272	735	155	499	194	795	24	1392	17
VOC Emissions (g/hr)	324	875	185	594	231	947	29	1659	20

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	0	49	0	2	0
Queue Length 50th (ft)	~235	~636	~158	~497	~149	~688	50	~1391	25
Queue Length 95th (ft)	#340	#775	#254	#630	m#112	m467	m42	m#992	m13
Internal Link Dist (ft)		593		473		647		291	
Turn Bay Length (ft)	225		200		125		125		
Base Capacity (vph)	240	609	206	533	173	1872	123	1267	634
Starvation Cap Reductn	0	0	0	0	0	0	0	156	245
Spillback Cap Reductn	0	0	0	0	0	529	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.44	1.50	1.24	1.38	1.33	1.41	0.77	1.71	0.74

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 181.4

Intersection LOS: F

Intersection Capacity Utilization 119.6%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

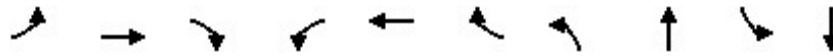
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

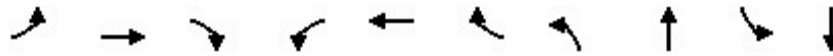
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Future Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Lane Group Flow (vph)	329	518	100	186	424	62	72	2056	65	2284
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	42.0	13.0	15.0	37.0	13.0	13.0	80.0	13.0	80.0
Total Split (%)	13.3%	28.0%	8.7%	10.0%	24.7%	8.7%	8.7%	53.3%	8.7%	53.3%
Maximum Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.5	36.5	48.5	8.5	31.5	37.0	6.5	75.0	6.5	75.0
Actuated g/C Ratio	0.09	0.24	0.32	0.06	0.21	0.25	0.04	0.50	0.04	0.50
v/c Ratio	1.22	1.31	0.19	1.09	1.24	0.15	1.07	1.16	0.97	1.27
Control Delay	181.5	199.7	5.9	159.0	178.1	0.9	103.3	93.1	108.0	137.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.9
Total Delay	181.5	199.7	5.9	159.0	178.1	0.9	103.3	93.4	108.0	138.8
LOS	F	F	A	F	F	A	F	F	F	F
Approach Delay		172.9			156.5			93.7		138.0
Approach LOS		F			F			F		F
90th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	226	343	9	129	289	0	50	1572	47	1502
Fuel Used(gal)	13	23	1	7	17	0	2	53	3	133
CO Emissions (g/hr)	937	1581	49	482	1195	26	136	3687	242	9272
NOx Emissions (g/hr)	182	308	10	94	233	5	26	717	47	1804
VOC Emissions (g/hr)	217	366	11	112	277	6	31	855	56	2149

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	13	0	38
Queue Length 50th (ft)	~202	~648	0	~105	~513	0	~77	~870	63	~1016
Queue Length 95th (ft)	#280	#806	31	#174	#671	0	m65	m#763	m58	m#922
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	270	396	521	170	342	423	67	1768	67	1802
Starvation Cap Reductn	0	0	0	0	0	0	0	149	0	0
Spillback Cap Reductn	0	0	12	0	0	0	0	0	0	437
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.31	0.20	1.09	1.24	0.15	1.07	1.27	0.97	1.67

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 148 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 130.0

Intersection LOS: F

Intersection Capacity Utilization 104.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

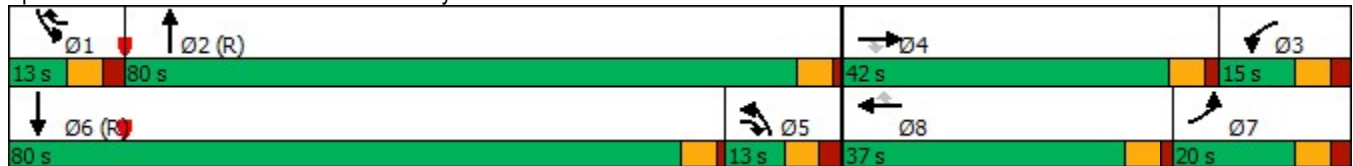
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

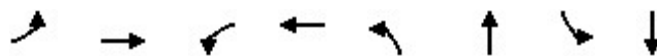
Splits and Phases: 105: US-69 & Broadway



Timings

106: US-69 & Tahlequah/Military

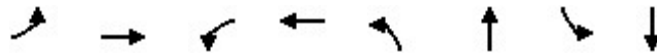
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	58	29	170	33	92	1879	46	1937
Future Volume (vph)	58	29	170	33	92	1879	46	1937
Lane Group Flow (vph)	68	142	200	92	100	2189	50	2130
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	26.2	26.2	17.2	93.0	12.8	88.6
Total Split (%)	12.0%	12.0%	17.5%	17.5%	11.5%	62.0%	8.5%	59.1%
Maximum Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Actuated g/C Ratio	0.07	0.07	0.13	0.13	0.07	0.58	0.04	0.55
v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07
Control Delay	147.4	73.7	129.9	42.4	71.2	30.6	77.0	46.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	147.4	73.7	129.9	42.4	71.2	30.6	77.0	46.7
LOS	F	E	F	D	E	C	E	D
Approach Delay		97.6		102.3		32.4		47.4
Approach LOS		F		F		C		D
90th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	49	45	146	44	78	500	38	1573
Fuel Used(gal)	2	2	6	1	5	74	1	48
CO Emissions (g/hr)	150	164	430	91	327	5168	100	3363
NOx Emissions (g/hr)	29	32	84	18	64	1005	19	654
VOC Emissions (g/hr)	35	38	100	21	76	1198	23	779
Dilemma Vehicles (#)	0	0	0	0	0	56	0	37
Queue Length 50th (ft)	67	59	~201	50	105	~833	52	~835
Queue Length 95th (ft)	#154	#167	#341	101	m92	m120	m46	m398

Timings
106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	75	162	198	223	105	2090	59	1990
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 56 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 45.8
 Intersection LOS: D
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military

↑ Ø2 (R)	↘ Ø1	↗ Ø4	↖ Ø3
93 s	12.8 s	18 s	26.2 s
↓ Ø6 (R)	↖ Ø5		
88.6 s	17.2 s		

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↖	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Future Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Lane Group Flow (vph)	594	29	690	288	489	59	1432	652	446	1601
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	27.0	27.0	32.0	32.0		16.4	66.0		25.0	74.6
Total Split (%)	18.0%	18.0%	21.3%	21.3%		10.9%	44.0%		16.7%	49.7%
Maximum Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	19.5	19.5	24.5	24.5	150.0	9.4	60.0	150.0	18.0	68.6
Actuated g/C Ratio	0.13	0.13	0.16	0.16	1.00	0.06	0.40	1.00	0.12	0.46
v/c Ratio	1.49	0.09	1.56	1.10	0.37	0.92	1.49	0.53	1.30	1.00
Control Delay	277.1	0.5	302.9	142.2	0.8	71.8	246.2	0.9	193.3	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2
Total Delay	277.1	0.5	302.9	142.2	0.8	71.8	246.2	0.9	193.3	67.7
LOS	F	A	F	F	A	E	F	A	F	E
Approach Delay	264.2			170.6			166.8			95.0
Approach LOS	F			F			F			F
90th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
10th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
Stops (vph)	367	0	450	221	0	40	895	19	313	1161
Fuel Used(gal)	35	0	49	12	5	2	84	3	34	75
CO Emissions (g/hr)	2481	15	3438	846	334	109	5858	237	2386	5210
NOx Emissions (g/hr)	483	3	669	165	65	21	1140	46	464	1014
VOC Emissions (g/hr)	575	3	797	196	77	25	1358	55	553	1207
Dilemma Vehicles (#)	11	0	0	8	0	0	47	0	0	73
Queue Length 50th (ft)	~421	0	~490	~319	0	57	~1010	0	~286	~484
Queue Length 95th (ft)	#504	0	#618	#512	0	m55	m#952	m0	m#176	m233

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	398	335	442	261	1333	64	960	1227	343	1598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	12	0	0	0	0	0	0	0	223
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.09	1.56	1.10	0.37	0.92	1.49	0.53	1.30	1.16

Intersection Summary

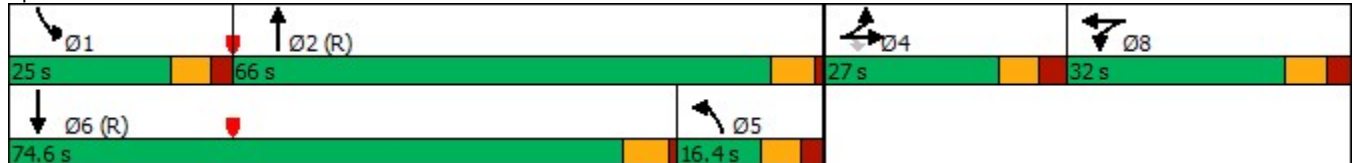
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 84 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.56
 Intersection Signal Delay: 154.0
 Intersection Capacity Utilization 116.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

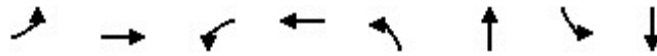
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

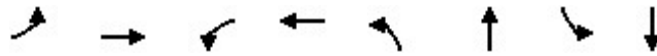
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↗	↙	↗
Traffic Volume (vph)	45	67	170	67	104	1586	170	1607
Future Volume (vph)	45	67	170	67	104	1586	170	1607
Lane Group Flow (vph)	0	231	0	390	113	1933	185	1804
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	45.0	45.0	45.0	45.0	16.0	84.0	21.0	89.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	10.7%	56.0%	14.0%	59.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		38.0		38.0	8.5	78.0	13.5	83.0
Actuated g/C Ratio		0.25		0.25	0.06	0.52	0.09	0.55
v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31
Control Delay		55.9		288.1	186.0	240.5	288.4	176.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		55.9		288.1	186.0	240.5	288.4	176.4
LOS		E		F	F	F	F	F
Approach Delay		55.9		288.1		237.5		186.8
Approach LOS		E		F		F		F
90th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		167		242	74	390	122	1283
Fuel Used(gal)		5		26	8	153	13	88
CO Emissions (g/hr)		363		1842	590	10699	893	6154
NOx Emissions (g/hr)		71		358	115	2082	174	1197
VOC Emissions (g/hr)		84		427	137	2480	207	1426
Dilemma Vehicles (#)		0		0	0	13	0	42
Queue Length 50th (ft)		182		~521	~140	~1373	~246	~1197
Queue Length 95th (ft)		285		#735	m#113	m#881	#410	#1335

Timings
108: US-69 & Harris Rd

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		337		257	86	1294	127	1374
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.52
 Intersection Signal Delay: 211.1
 Intersection LOS: F
 Intersection Capacity Utilization 129.1%
 ICU Level of Service H
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

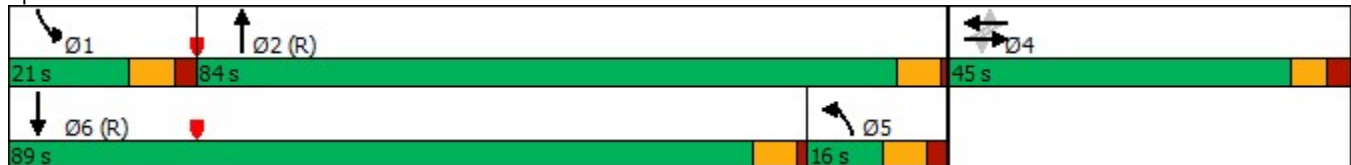
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 108: US-69 & Harris Rd



Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	36	35.7	14.6	50.3	0.33	23.6	C
Border	II	48	75.2	15.8	91.0	1.00	39.5	A
Arline	II	35	49.7	9.7	59.4	0.48	29.3	B
Okmulgee	II	35	53.8	14.6	68.4	0.52	27.5	C
Broadway	II	35	8.8	14.8	23.6	0.07	10.7	F
Tahlequah/Military	II	40	71.2	2.8	74.0	0.78	38.1	A
Shawnee St	II	45	16.1	39.4	55.5	0.15	9.6	F
Harris Rd	II	45	80.3	37.1	117.4	1.00	30.8	B
Total	II		390.8	148.8	539.6	4.34	28.9	B

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	32.5	56.4	0.22	14.0	E
Shawnee St	II	45	80.3	26.6	106.9	1.00	33.8	B
Tahlequah/Military	II	45	16.1	8.9	25.0	0.15	21.3	D
Broadway	II	40	71.2	18.1	89.3	0.78	31.6	B
Okmulgee	II	35	8.8	10.5	19.3	0.07	13.1	E
Arline	II	35	53.8	6.4	60.2	0.52	31.3	B
Border	II	35	49.7	3.3	53.0	0.48	32.8	B
Hancock	II	48	75.2	7.7	82.9	1.00	43.4	A
Total	II		379.0	114.0	493.0	4.23	30.9	B

Arterial Level of Service: NB US-69

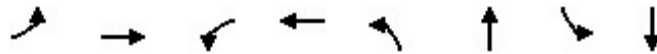
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	36	35.7	16.9	52.6	0.33	22.6	C
Border	II	48	75.2	14.4	89.6	1.00	40.2	A
Arline	II	35	49.7	16.4	66.1	0.48	26.3	C
Okmulgee	II	35	53.8	20.6	74.4	0.52	25.3	C
Broadway	II	35	8.8	8.1	16.9	0.07	15.0	E
Tahlequah/Military	II	40	71.2	7.5	78.7	0.78	35.8	A
Shawnee St	II	45	16.1	42.6	58.7	0.15	9.1	F
Harris Rd	II	45	80.3	47.6	127.9	1.00	28.2	B
Total	II		390.8	174.1	564.9	4.34	27.7	C

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	34.6	58.5	0.22	13.5	E
Shawnee St	II	45	80.3	34.4	114.7	1.00	31.5	B
Tahlequah/Military	II	45	16.1	13.7	29.8	0.15	17.8	D
Broadway	II	40	71.2	14.3	85.5	0.78	33.0	B
Okmulgee	II	35	8.8	17.7	26.5	0.07	9.5	F
Arline	II	35	53.8	11.8	65.6	0.52	28.7	B
Border	II	35	49.7	9.0	58.7	0.48	29.6	B
Hancock	II	48	75.2	7.2	82.4	1.00	43.7	A
Total	II		379.0	142.7	521.7	4.23	29.2	B

Timings
101: US-69 & Hancock

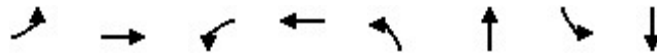
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	25	20	25	10	15	892	85	867
Future Volume (vph)	25	20	25	10	15	892	85	867
Lane Group Flow (vph)	28	39	29	159	16	986	92	964
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	14.0	14.0	14.0	14.0	14.0	31.0	15.0	32.0
Total Split (%)	23.3%	23.3%	23.3%	23.3%	23.3%	51.7%	25.0%	53.3%
Maximum Green (s)	7.0	7.0	7.0	7.0	6.0	24.5	7.0	25.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.6	6.6	6.6	6.6	5.5	29.1	6.6	37.5
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.10	0.53	0.12	0.68
v/c Ratio	0.18	0.20	0.19	0.54	0.11	0.55	0.51	0.42
Control Delay	27.0	19.5	27.2	14.1	26.5	14.6	36.1	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	19.5	27.2	14.1	26.5	14.6	36.1	7.7
LOS	C	B	C	B	C	B	D	A
Approach Delay		22.7		16.1		14.8		10.2
Approach LOS		C		B		B		B
90th %ile Green (s)	7.0	7.0	7.0	7.0	6.0	24.5	7.0	25.5
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	7.0	7.0	7.0	7.0	0.0	24.5	7.0	39.5
70th %ile Term Code	Max	Max	Max	Max	Skip	Max	Max	Hold
50th %ile Green (s)	7.0	7.0	7.0	7.0	0.0	24.5	7.0	39.5
50th %ile Term Code	Max	Max	Hold	Hold	Skip	Max	Max	Hold
30th %ile Green (s)	5.8	5.8	5.8	5.8	0.0	24.5	6.5	39.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Max	Gap	Hold
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	30.0	0.0	30.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Dwell	Skip	Dwell
Stops (vph)	26	24	26	35	18	625	77	413
Fuel Used(gal)	0	0	0	1	0	19	5	37
CO Emissions (g/hr)	30	33	30	97	29	1323	320	2595
NOx Emissions (g/hr)	6	6	6	19	6	257	62	505
VOC Emissions (g/hr)	7	8	7	23	7	307	74	601
Dilemma Vehicles (#)	0	0	0	0	0	66	0	65
Queue Length 50th (ft)	9	7	10	4	6	104	32	49
Queue Length 95th (ft)	30	31	29	45	21	147	#81	138

Timings
101: US-69 & Hancock

09-28-2020

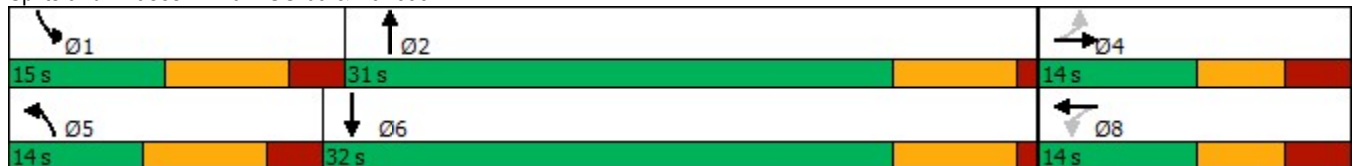


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	172	212	172	309	172	1789	201	2291
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.17	0.51	0.09	0.55	0.46	0.42

Intersection Summary

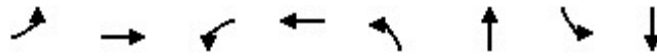
Cycle Length: 60	
Actuated Cycle Length: 55	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 60	
70th %ile Actuated Cycle: 60	
50th %ile Actuated Cycle: 60	
30th %ile Actuated Cycle: 58.3	
10th %ile Actuated Cycle: 36.5	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

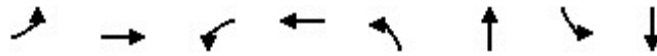
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	30	15	30	30	997	50	912
Future Volume (vph)	110	30	15	30	30	997	50	912
Lane Group Flow (vph)	122	94	18	141	33	1111	54	1073
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	35.0	35.0	35.0	35.0	13.0	57.0	18.0	62.0
Total Split (%)	31.8%	31.8%	31.8%	31.8%	11.8%	51.8%	16.4%	56.4%
Maximum Green (s)	28.0	28.0	28.0	28.0	6.5	52.0	11.5	57.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	17.7	17.7	17.7	17.7	6.3	66.9	9.2	72.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.06	0.61	0.08	0.66
v/c Ratio	0.74	0.33	0.10	0.44	0.38	0.52	0.42	0.47
Control Delay	68.3	18.8	37.1	16.3	62.5	15.8	76.2	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	18.8	37.1	16.3	62.5	15.8	76.2	3.3
LOS	E	B	D	B	E	B	E	A
Approach Delay		46.8		18.7		17.1		6.8
Approach LOS		D		B		B		A
90th %ile Green (s)	25.8	25.8	25.8	25.8	6.5	52.7	13.0	59.2
90th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
70th %ile Green (s)	21.1	21.1	21.1	21.1	6.5	59.6	10.8	63.9
70th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
50th %ile Green (s)	17.8	17.8	17.8	17.8	6.5	64.5	9.2	67.2
50th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
30th %ile Green (s)	14.4	14.4	14.4	14.4	0.0	69.4	7.7	83.6
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Gap	Coord
10th %ile Green (s)	9.6	9.6	9.6	9.6	0.0	88.4	0.0	88.4
10th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Skip	Coord
Stops (vph)	102	31	14	33	29	590	47	116
Fuel Used(gal)	3	1	0	1	2	46	2	20
CO Emissions (g/hr)	183	63	19	87	126	3220	143	1377
NOx Emissions (g/hr)	36	12	4	17	25	627	28	268
VOC Emissions (g/hr)	42	15	4	20	29	746	33	319
Dilemma Vehicles (#)	0	0	0	0	0	46	0	11
Queue Length 50th (ft)	83	20	11	21	23	163	41	31
Queue Length 95th (ft)	137	62	28	65	56	264	m66	38

Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	260	416	286	443	90	2120	164	2259
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.23	0.06	0.32	0.37	0.52	0.33	0.47

Intersection Summary

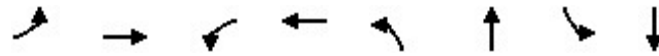
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 10 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 56.4%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

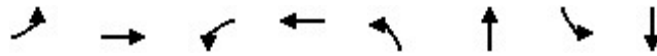
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	35	80	40	50	1082	30	935
Future Volume (vph)	90	35	80	40	50	1082	30	935
Lane Group Flow (vph)	106	82	94	94	54	1274	33	1092
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	13.5	21.0
Total Split (s)	21.0	17.0	20.0	16.0	16.5	59.0	14.0	56.5
Total Split (%)	19.1%	15.5%	18.2%	14.5%	15.0%	53.6%	12.7%	51.4%
Maximum Green (s)	14.5	12.5	13.5	11.5	10.5	54.0	8.0	51.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	12.0	9.6	12.2	9.2	8.8	66.5	7.3	62.5
Actuated g/C Ratio	0.11	0.09	0.11	0.08	0.08	0.60	0.07	0.57
v/c Ratio	0.63	0.49	0.55	0.59	0.44	0.59	0.32	0.56
Control Delay	63.0	38.6	58.1	45.3	78.9	9.7	35.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	38.6	58.1	45.3	78.9	9.7	35.2	6.4
LOS	E	D	E	D	E	A	D	A
Approach Delay		52.4		51.7		12.5		7.3
Approach LOS		D		D		B		A
90th %ile Green (s)	14.5	12.5	13.5	11.5	10.5	54.0	8.0	51.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	14.5	10.7	15.3	11.5	10.5	54.0	8.0	51.5
70th %ile Term Code	Max	Gap	Hold	Max	Max	Coord	Max	Coord
50th %ile Green (s)	12.8	8.7	13.7	9.6	9.2	57.6	8.0	56.4
50th %ile Term Code	Gap	Gap	Hold	Gap	Gap	Coord	Hold	Coord
30th %ile Green (s)	10.6	6.8	11.3	7.5	7.7	75.9	0.0	62.2
30th %ile Term Code	Gap	Gap	Hold	Gap	Gap	Coord	Skip	Coord
10th %ile Green (s)	7.5	9.5	0.0	0.0	0.0	91.0	0.0	91.0
10th %ile Term Code	Gap	Hold	Skip	Skip	Skip	Coord	Skip	Coord
Stops (vph)	85	38	73	49	49	287	28	212
Fuel Used(gal)	2	1	2	1	2	26	1	23
CO Emissions (g/hr)	139	73	116	92	146	1819	72	1603
NOx Emissions (g/hr)	27	14	23	18	28	354	14	312
VOC Emissions (g/hr)	32	17	27	21	34	422	17	372
Dilemma Vehicles (#)	0	0	0	0	0	57	0	22
Queue Length 50th (ft)	72	31	63	39	41	97	21	68
Queue Length 95th (ft)	121	72	110	84	m79	119	m24	m78

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		440		408		2469		2680
Turn Bay Length (ft)	250		125		125		175	
Base Capacity (vph)	204	204	195	190	147	2151	112	1964
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.40	0.48	0.49	0.37	0.59	0.29	0.56

Intersection Summary

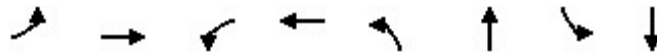
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 57 (52%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 15.7
 Intersection LOS: B
 Intersection Capacity Utilization 57.1%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	190	430	135	350	220	932	50	860
Future Volume (vph)	190	430	135	350	220	932	50	860
Lane Group Flow (vph)	207	565	147	423	239	1122	54	1174
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0
Total Split (s)	18.0	29.0	14.0	25.0	18.0	54.4	12.6	49.0
Total Split (%)	16.4%	26.4%	12.7%	22.7%	16.4%	49.5%	11.5%	44.5%
Maximum Green (s)	11.5	23.5	7.5	19.5	11.5	48.9	6.1	43.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	12.1	22.8	7.5	18.3	11.2	52.1	5.9	44.4
Actuated g/C Ratio	0.11	0.21	0.07	0.17	0.10	0.47	0.05	0.40
v/c Ratio	0.79	0.91	0.73	0.84	0.82	0.68	0.34	0.85
Control Delay	69.4	61.7	72.3	58.8	65.2	14.6	30.2	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6
Total Delay	69.4	61.7	72.3	58.8	65.2	14.7	30.2	11.1
LOS	E	E	E	E	E	B	C	B
Approach Delay		63.7		62.3		23.6		12.0
Approach LOS		E		E		C		B
90th %ile Green (s)	11.5	23.5	7.5	19.5	11.5	48.9	6.1	43.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.5	23.5	7.5	19.5	11.5	48.9	6.1	43.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.5	23.5	7.5	19.5	11.5	48.9	6.1	43.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.0	23.5	7.5	18.0	11.5	48.9	6.1	43.5
30th %ile Term Code	Max	Max	Max	Gap	Max	Coord	Max	Coord
10th %ile Green (s)	12.8	20.2	7.4	14.8	10.2	64.9	0.0	48.2
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	171	463	124	354	192	788	44	446
Fuel Used(gal)	5	12	3	8	9	30	1	9
CO Emissions (g/hr)	323	826	227	579	612	2067	54	598
NOx Emissions (g/hr)	63	161	44	113	119	402	11	116
VOC Emissions (g/hr)	75	191	53	134	142	479	13	139

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	10	0	45
Queue Length 50th (ft)	74	198	53	148	73	260	17	41
Queue Length 95th (ft)	#138	#298	#102	#218	#150	137	m21	m52
Internal Link Dist (ft)		593		473		2680		291
Turn Bay Length (ft)	225		200		125		125	
Base Capacity (vph)	263	636	200	538	299	1643	163	1382
Starvation Cap Reductn	0	0	0	0	0	0	0	45
Spillback Cap Reductn	0	0	0	0	0	53	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.89	0.73	0.79	0.80	0.71	0.33	0.88

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 74.1%

ICU Level of Service D

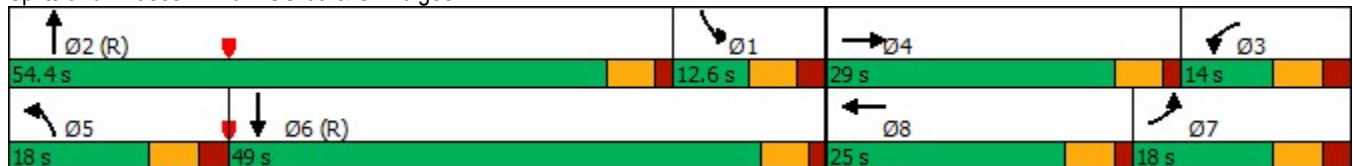
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

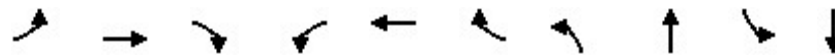
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

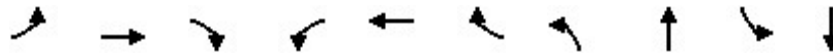
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Future Volume (vph)	180	280	40	115	340	45	55	1012	40	975
Lane Group Flow (vph)	212	329	47	135	400	53	60	1203	43	1294
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	15.6	34.6	13.0	14.0	33.0	13.0	13.0	48.4	13.0	48.4
Total Split (%)	14.2%	31.5%	11.8%	12.7%	30.0%	11.8%	11.8%	44.0%	11.8%	44.0%
Maximum Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.1	25.8	31.1	10.8	27.5	37.9	6.3	46.0	6.2	46.0
Actuated g/C Ratio	0.08	0.23	0.28	0.10	0.25	0.34	0.06	0.42	0.06	0.42
v/c Ratio	0.85	0.86	0.09	0.46	0.98	0.09	0.68	0.83	0.49	0.88
Control Delay	80.0	61.9	0.4	54.0	82.6	0.3	95.0	14.8	45.9	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.6
Total Delay	80.0	61.9	0.4	54.0	82.6	0.3	95.0	15.1	45.9	18.7
LOS	E	E	A	D	F	A	F	B	D	B
Approach Delay		63.5			68.6			18.9		19.6
Approach LOS		E			E			B		B
90th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.1	29.1	6.5	7.5	27.5	6.5	6.5	43.4	6.5	43.4
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.1	27.7	6.5	8.9	27.5	6.5	6.5	43.4	6.5	43.4
50th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	9.1	24.2	6.5	12.4	27.5	6.5	6.5	43.4	6.5	43.4
30th %ile Term Code	Max	Gap	Max	Hold	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	9.1	19.0	0.0	17.6	27.5	0.0	0.0	56.4	0.0	56.4
10th %ile Term Code	Max	Gap	Skip	Hold	Max	Skip	Skip	Coord	Skip	Coord
Stops (vph)	162	257	0	106	295	0	50	509	37	577
Fuel Used(gal)	5	7	0	3	10	0	2	10	2	43
CO Emissions (g/hr)	349	472	18	184	675	22	111	707	130	3035
NOx Emissions (g/hr)	68	92	4	36	131	4	22	138	25	591
VOC Emissions (g/hr)	81	109	4	43	156	5	26	164	30	703

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	56	0	59
Queue Length 50th (ft)	77	218	0	47	282	0	45	86	27	193
Queue Length 95th (ft)	#130	299	0	#77	#436	0	m64	#206	m45	#101
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	248	431	501	294	407	593	91	1441	91	1466
Starvation Cap Reductn	0	0	0	0	0	0	0	36	0	0
Spillback Cap Reductn	0	0	1	0	0	0	0	0	0	33
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.76	0.09	0.46	0.98	0.09	0.66	0.86	0.47	0.90

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 33.8

Intersection LOS: C

Intersection Capacity Utilization 78.1%

ICU Level of Service D

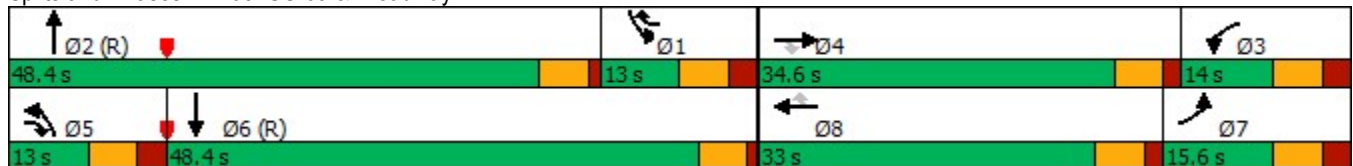
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

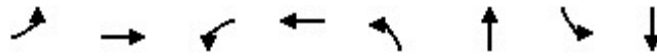
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

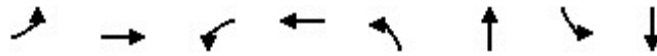
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	120	17	50	1137	26	1085
Future Volume (vph)	32	17	120	17	50	1137	26	1085
Lane Group Flow (vph)	38	96	141	51	54	1323	28	1191
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	23.0	23.0	15.0	56.0	13.0	54.0
Total Split (%)	16.4%	16.4%	20.9%	20.9%	13.6%	50.9%	11.8%	49.1%
Maximum Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	13.6	13.6	7.4	62.6	5.9	58.5
Actuated g/C Ratio	0.09	0.09	0.12	0.12	0.07	0.57	0.05	0.53
v/c Ratio	0.43	0.56	0.74	0.24	0.52	0.66	0.34	0.65
Control Delay	62.9	28.7	68.6	24.5	35.7	2.8	67.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	28.7	68.6	24.5	35.7	2.8	67.5	8.9
LOS	E	C	E	C	D	A	E	A
Approach Delay		38.4		56.9		4.1		10.2
Approach LOS		D		E		A		B
90th %ile Green (s)	11.0	11.0	16.0	16.0	8.0	50.5	6.0	48.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	10.9	10.9	16.1	16.1	8.0	50.5	6.0	48.5
70th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	8.9	8.9	14.8	14.8	8.0	52.9	6.9	51.8
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	12.3	12.3	8.0	70.2	0.0	55.2
30th %ile Term Code	Min	Min	Gap	Gap	Hold	Coord	Skip	Coord
10th %ile Green (s)	0.0	0.0	8.8	8.8	0.0	88.7	0.0	88.7
10th %ile Term Code	Skip	Skip	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	31	26	113	19	46	196	25	475
Fuel Used(gal)	1	1	3	1	2	37	1	13
CO Emissions (g/hr)	46	57	203	37	155	2568	56	939
NOx Emissions (g/hr)	9	11	39	7	30	500	11	183
VOC Emissions (g/hr)	11	13	47	9	36	595	13	218
Dilemma Vehicles (#)	0	0	0	0	0	33	0	47
Queue Length 50th (ft)	26	14	96	13	34	58	16	56
Queue Length 95th (ft)	58	59	153	44	m42	76	m25	m185

Timings
106: US-69 & Tahlequah/Military

09-28-2020

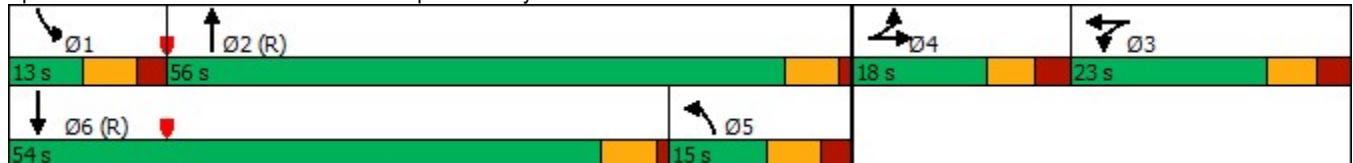


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	103	188	225	242	112	2007	87	1838
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.51	0.63	0.21	0.48	0.66	0.32	0.65

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 56 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 11.7
 Intersection LOS: B
 Intersection Capacity Utilization 62.5%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↕	↗	↖↗	↕	↗	↖	↕↕	↗	↖↗	↕↕↖
Traffic Volume (vph)	185	16	420	210	240	32	704	460	270	686
Future Volume (vph)	185	16	420	210	240	32	704	460	270	686
Lane Group Flow (vph)	312	19	457	228	261	35	765	500	293	876
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	19.4	19.4	26.4	26.4		17.3	44.7		19.5	46.9
Total Split (%)	17.6%	17.6%	24.0%	24.0%		15.7%	40.6%		17.7%	42.6%
Maximum Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	11.9	11.9	18.9	18.9	110.0	8.8	38.7	110.0	12.5	47.8
Actuated g/C Ratio	0.11	0.11	0.17	0.17	1.00	0.08	0.35	1.00	0.11	0.43
v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.43	0.97	0.40	0.91	0.60
Control Delay	86.9	0.2	83.8	68.3	0.3	43.7	39.4	1.4	80.6	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	0.2	83.8	68.3	0.3	43.7	39.4	1.4	80.6	26.6
LOS	F	A	F	E	A	D	D	A	F	C
Approach Delay	81.9			57.1			24.9			40.1
Approach LOS	F			E			C			D
90th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	11.9	11.9	18.9	18.9		10.3	38.7		12.5	40.9
50th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
30th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
30th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
10th %ile Green (s)	11.9	11.9	18.9	18.9		0.0	38.7		12.5	58.2
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	234	0	370	189	0	29	460	36	241	593
Fuel Used(gal)	9	0	14	7	3	1	15	3	17	39
CO Emissions (g/hr)	607	9	1002	457	177	56	1043	203	1168	2758
NOx Emissions (g/hr)	118	2	195	89	34	11	203	40	227	537
VOC Emissions (g/hr)	141	2	232	106	41	13	242	47	271	639
Dilemma Vehicles (#)	11	0	0	9	0	0	48	0	0	37
Queue Length 50th (ft)	116	0	167	157	0	20	159	0	107	183
Queue Length 95th (ft)	#186	0	#272	#286	0	m32	#398	19	#188	235

Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	330	366	465	277	1296	96	790	1260	322	1449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.05	0.98	0.82	0.20	0.36	0.97	0.40	0.91	0.60

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 70 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 42.8

Intersection LOS: D

Intersection Capacity Utilization 77.6%

ICU Level of Service D

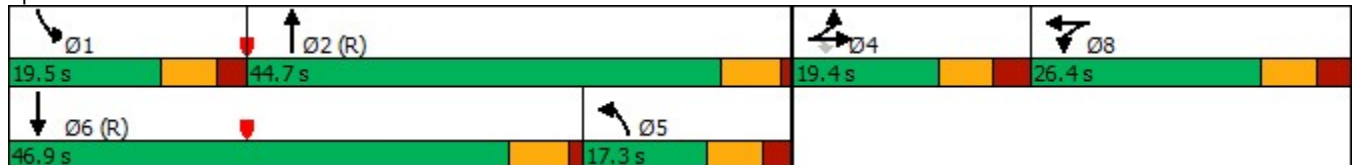
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

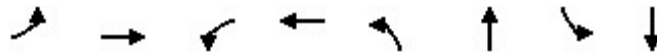
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

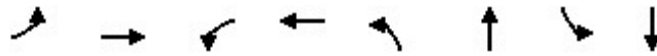
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	35	110	30	45	838	60	901
Future Volume (vph)	30	35	110	30	45	838	60	901
Lane Group Flow (vph)	0	133	0	244	49	1025	65	1006
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	40.5	40.5	40.5	40.5	30.5	57.0	30.5	52.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	23.8%	44.5%	23.8%	40.6%
Maximum Green (s)	33.5	33.5	33.5	33.5	23.0	51.0	23.0	46.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		25.2		25.2	8.9	52.3	10.7	53.9
Actuated g/C Ratio		0.24		0.24	0.08	0.50	0.10	0.51
v/c Ratio		0.40		0.82	0.38	0.88	0.49	0.83
Control Delay		29.8		56.9	58.1	37.1	60.5	32.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.8		56.9	58.1	37.1	60.5	32.5
LOS		C		E	E	D	E	C
Approach Delay		29.8		56.9		38.0		34.2
Approach LOS		C		E		D		C
90th %ile Green (s)	33.5	33.5	33.5	33.5	12.9	51.0	16.2	54.3
90th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
70th %ile Green (s)	32.7	32.7	32.7	32.7	10.6	51.0	13.0	53.4
70th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
50th %ile Green (s)	26.9	26.9	26.9	26.9	8.9	51.0	10.8	52.9
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
30th %ile Green (s)	21.8	21.8	21.8	21.8	7.4	51.0	8.8	52.4
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Max	Gap	Hold
10th %ile Green (s)	13.8	13.8	13.8	13.8	0.0	51.0	0.0	51.0
10th %ile Term Code	Gap	Gap	Gap	Gap	Skip	Max	Skip	Hold
Stops (vph)		69		180	41	717	53	718
Fuel Used(gal)		2		6	3	48	2	22
CO Emissions (g/hr)		154		441	181	3388	129	1538
NOx Emissions (g/hr)		30		86	35	659	25	299
VOC Emissions (g/hr)		36		102	42	785	30	357
Dilemma Vehicles (#)		0		0	0	42	0	34
Queue Length 50th (ft)		58		147	33	342	44	320
Queue Length 95th (ft)		120		#261	77	#585	93	#540

Timings
108: US-69 & Harris Rd

09-28-2020

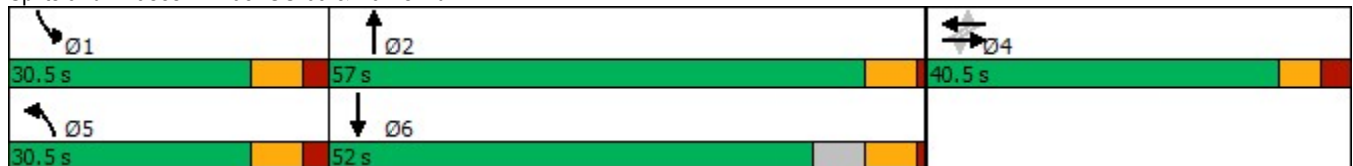


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		447		401	343	1169	295	1213
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.30		0.61	0.14	0.88	0.22	0.83

Intersection Summary

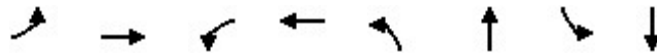
Cycle Length: 128	
Actuated Cycle Length: 105.5	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 121.2	
70th %ile Actuated Cycle: 117.2	
50th %ile Actuated Cycle: 109.2	
30th %ile Actuated Cycle: 102.1	
10th %ile Actuated Cycle: 77.8	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

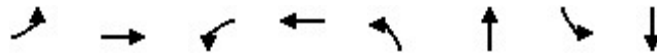
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	10	25	20	15	1001	145	1102
Future Volume (vph)	20	10	25	20	15	1001	145	1102
Lane Group Flow (vph)	22	28	29	124	16	1115	158	1225
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	12.0	12.0	12.0	12.0	14.0	31.0	17.0	34.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	23.3%	51.7%	28.3%	56.7%
Maximum Green (s)	5.0	5.0	5.0	5.0	6.0	24.5	9.0	27.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.0	5.0	5.0	5.0	5.4	26.6	8.4	41.6
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.09	0.45	0.14	0.71
v/c Ratio	0.16	0.20	0.21	0.59	0.12	0.69	0.73	0.48
Control Delay	28.6	20.3	29.8	23.0	26.9	16.9	46.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	20.3	29.8	23.0	26.9	16.9	46.7	7.2
LOS	C	C	C	C	C	B	D	A
Approach Delay		24.0		24.3		17.0		11.7
Approach LOS		C		C		B		B
90th %ile Green (s)	5.0	5.0	5.0	5.0	6.0	24.5	9.0	27.5
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	5.0	5.0	5.0	5.0	0.0	24.5	9.0	41.5
70th %ile Term Code	Max	Max	Max	Max	Skip	Max	Max	Hold
50th %ile Green (s)	5.0	5.0	5.0	5.0	0.0	24.5	9.0	41.5
50th %ile Term Code	Max	Max	Max	Max	Skip	Max	Max	Hold
30th %ile Green (s)	5.0	5.0	5.0	5.0	0.0	24.5	9.0	41.5
30th %ile Term Code	Hold	Hold	Max	Max	Skip	Max	Max	Hold
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	33.9	6.2	48.1
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Dwell	Gap	Dwell
Stops (vph)	23	18	26	33	18	788	124	517
Fuel Used(gal)	0	0	0	1	0	23	8	47
CO Emissions (g/hr)	25	24	31	91	29	1575	561	3281
NOx Emissions (g/hr)	5	5	6	18	6	306	109	638
VOC Emissions (g/hr)	6	6	7	21	7	365	130	760
Dilemma Vehicles (#)	0	0	0	0	0	87	0	81
Queue Length 50th (ft)	8	4	10	8	6	120	55	58
Queue Length 95th (ft)	26	25	30	#57	21	169	#134	172

Timings
101: US-69 & Hancock

09-28-2020

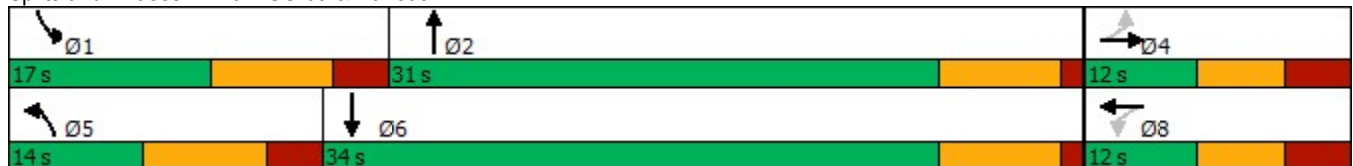


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	136	138	136	210	154	1610	232	2562
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.20	0.21	0.59	0.10	0.69	0.68	0.48

Intersection Summary

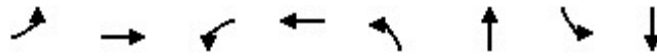
Cycle Length: 60	
Actuated Cycle Length: 58.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 60	
70th %ile Actuated Cycle: 60	
50th %ile Actuated Cycle: 60	
30th %ile Actuated Cycle: 60	
10th %ile Actuated Cycle: 54.6	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

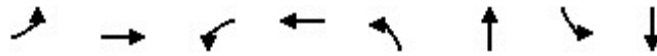
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	35	25	40	40	1056	105	1167
Future Volume (vph)	75	35	25	40	40	1056	105	1167
Lane Group Flow (vph)	83	139	29	118	43	1170	114	1409
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	16.0	16.0	16.0	16.0	13.0	34.0	15.0	36.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	20.0%	52.3%	23.1%	55.4%
Maximum Green (s)	9.0	9.0	9.0	9.0	6.5	29.0	8.5	31.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.3	8.3	8.3	8.3	6.2	36.3	8.0	40.5
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.10	0.56	0.12	0.62
v/c Ratio	0.59	0.51	0.21	0.47	0.29	0.58	0.60	0.61
Control Delay	45.6	17.3	29.0	19.4	32.8	14.4	33.7	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	17.3	29.0	19.4	32.8	14.4	33.7	9.0
LOS	D	B	C	B	C	B	C	A
Approach Delay		27.9		21.3		15.0		10.9
Approach LOS		C		C		B		B
90th %ile Green (s)	9.0	9.0	9.0	9.0	6.5	29.0	8.5	31.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.0	9.0	9.0	9.0	6.5	29.0	8.5	31.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.0	9.0	9.0	9.0	6.5	29.0	8.5	31.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	8.4	8.4	8.4	8.4	0.0	29.6	8.5	44.6
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Max	Coord
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	60.0	0.0	60.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
Stops (vph)	68	47	25	46	39	727	94	463
Fuel Used(gal)	1	1	0	1	2	50	3	30
CO Emissions (g/hr)	100	91	30	84	151	3473	235	2077
NOx Emissions (g/hr)	19	18	6	16	29	676	46	404
VOC Emissions (g/hr)	23	21	7	19	35	805	54	481
Dilemma Vehicles (#)	0	0	0	0	0	71	0	97
Queue Length 50th (ft)	31	14	10	17	16	131	44	118
Queue Length 95th (ft)	#85	60	30	55	44	180	m69	227

Timings
102: US-69 & Border

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	152	285	149	264	153	2009	200	2295
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.49	0.19	0.45	0.28	0.58	0.57	0.61

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 14.2

Intersection LOS: B

Intersection Capacity Utilization 68.6%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

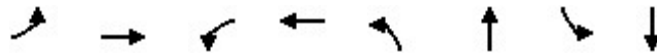
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

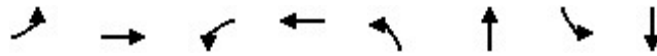
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	100	50	110	50	95	1016	60	1222
Future Volume (vph)	100	50	110	50	95	1016	60	1222
Lane Group Flow (vph)	118	130	129	94	103	1191	65	1431
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	13.5	21.0
Total Split (s)	25.0	20.0	24.0	19.0	21.0	68.0	18.0	65.0
Total Split (%)	19.2%	15.4%	18.5%	14.6%	16.2%	52.3%	13.8%	50.0%
Maximum Green (s)	18.5	15.5	17.5	14.5	15.0	63.0	12.0	60.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.0	12.4	14.8	11.3	12.8	72.3	10.9	68.0
Actuated g/C Ratio	0.12	0.10	0.11	0.09	0.10	0.56	0.08	0.52
v/c Ratio	0.62	0.73	0.73	0.63	0.68	0.60	0.50	0.74
Control Delay	68.0	63.4	78.8	64.0	68.6	16.4	45.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	63.4	78.8	64.0	68.6	16.4	45.3	11.8
LOS	E	E	E	E	E	B	D	B
Approach Delay		65.6		72.6		20.6		13.2
Approach LOS		E		E		C		B
90th %ile Green (s)	18.5	15.5	17.5	14.5	15.0	63.0	12.0	60.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	18.9	15.5	17.5	14.1	15.0	63.0	12.0	60.0
70th %ile Term Code	Hold	Max	Max	Gap	Max	Coord	Max	Coord
50th %ile Green (s)	17.7	13.5	16.0	11.8	13.9	66.5	12.0	64.6
50th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Coord	Hold	Coord
30th %ile Green (s)	14.8	10.8	13.5	9.5	11.6	71.7	12.0	72.1
30th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Coord	Hold	Coord
10th %ile Green (s)	10.1	6.8	9.7	6.4	8.3	97.5	0.0	83.2
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	92	75	105	61	94	586	54	758
Fuel Used(gal)	2	2	3	2	4	28	2	35
CO Emissions (g/hr)	161	159	193	118	264	1974	151	2454
NOx Emissions (g/hr)	31	31	38	23	51	384	29	477
VOC Emissions (g/hr)	37	37	45	27	61	458	35	569
Dilemma Vehicles (#)	0	0	0	0	0	57	0	16
Queue Length 50th (ft)	94	76	106	62	87	219	51	221
Queue Length 95th (ft)	149	134	163	111	155	269	m58	m394

Timings
103: US-69 & Arline

09-28-2020

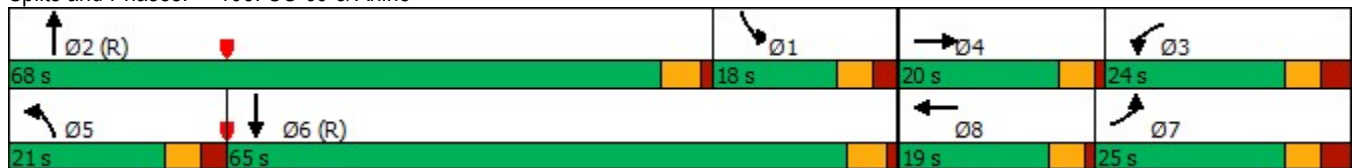


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		440		408		2469		2680
Turn Bay Length (ft)	250		125		125		175	
Base Capacity (vph)	221	211	208	187	178	1995	142	1933
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.62	0.62	0.50	0.58	0.60	0.46	0.74

Intersection Summary

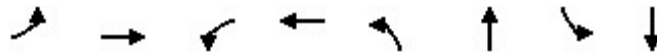
Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 60 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 24.2
 Intersection LOS: C
 Intersection Capacity Utilization 62.8%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

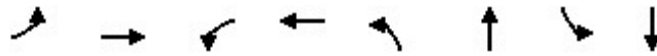
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	240	450	180	450	160	896	70	1027
Future Volume (vph)	240	450	180	450	160	896	70	1027
Lane Group Flow (vph)	261	696	196	560	174	1126	76	1333
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0
Total Split (s)	23.0	38.0	17.0	32.0	16.4	60.7	14.3	58.6
Total Split (%)	17.7%	29.2%	13.1%	24.6%	12.6%	46.7%	11.0%	45.1%
Maximum Green (s)	16.5	32.5	10.5	26.5	9.9	55.2	7.8	53.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.3	31.7	10.4	25.9	9.9	58.9	7.4	54.0
Actuated g/C Ratio	0.13	0.24	0.08	0.20	0.08	0.45	0.06	0.42
v/c Ratio	0.86	0.95	0.83	0.93	0.83	0.70	0.46	0.91
Control Delay	80.9	67.7	86.5	73.2	78.4	20.6	41.0	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5
Total Delay	80.9	67.7	86.5	73.2	78.4	20.6	41.0	21.2
LOS	F	E	F	E	E	C	D	C
Approach Delay		71.3		76.7		28.4		22.2
Approach LOS		E		E		C		C
90th %ile Green (s)	16.5	32.5	10.5	26.5	9.9	55.2	7.8	53.1
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	16.5	32.5	10.5	26.5	9.9	55.2	7.8	53.1
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	16.5	32.5	10.5	26.5	9.9	55.2	7.8	53.1
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	16.5	32.5	10.5	26.5	9.9	55.2	7.8	53.1
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Hold	Coord
10th %ile Green (s)	15.3	28.6	10.1	23.4	9.7	73.8	0.0	57.6
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	221	552	166	466	146	779	64	757
Fuel Used(gal)	6	15	5	12	7	31	1	13
CO Emissions (g/hr)	450	1065	340	872	478	2156	88	937
NOx Emissions (g/hr)	88	207	66	170	93	420	17	182
VOC Emissions (g/hr)	104	247	79	202	111	500	20	217

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	3	0	73
Queue Length 50th (ft)	112	284	85	240	78	240	29	138
Queue Length 95th (ft)	#186	#404	#150	#347	#136	323	m35	#351
Internal Link Dist (ft)		593		473		2680		291
Turn Bay Length (ft)	225		200		125		125	
Base Capacity (vph)	310	751	238	616	210	1615	176	1471
Starvation Cap Reductn	0	0	0	0	0	0	0	82
Spillback Cap Reductn	0	0	0	0	0	18	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.93	0.82	0.91	0.83	0.71	0.43	0.96

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 127 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 44.0

Intersection LOS: D

Intersection Capacity Utilization 81.2%

ICU Level of Service D

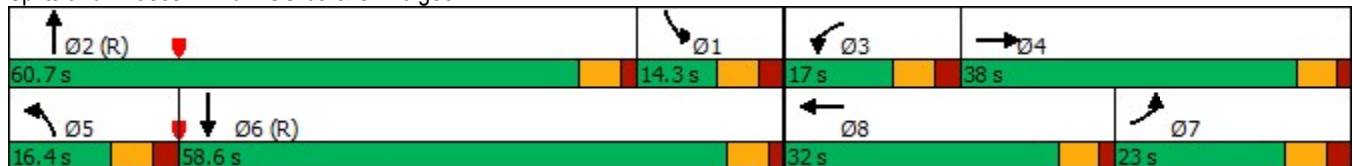
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

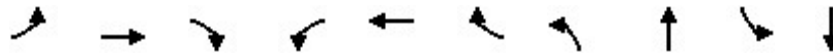
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Future Volume (vph)	215	340	65	120	280	40	50	1031	45	1112
Lane Group Flow (vph)	253	400	76	141	329	47	54	1251	49	1405
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	41.0	13.0	14.0	35.0	13.0	13.0	62.0	13.0	62.0
Total Split (%)	15.4%	31.5%	10.0%	10.8%	26.9%	10.0%	10.0%	47.7%	10.0%	47.7%
Maximum Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.4	34.1	39.5	7.7	28.4	38.9	6.4	60.8	6.3	58.3
Actuated g/C Ratio	0.10	0.26	0.30	0.06	0.22	0.30	0.05	0.47	0.05	0.45
v/c Ratio	0.82	0.94	0.14	0.79	0.92	0.09	0.71	0.75	0.65	0.87
Control Delay	77.9	77.0	0.5	89.5	81.4	0.3	108.7	8.1	64.3	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.4
Total Delay	77.9	77.0	0.5	89.5	81.4	0.3	108.7	8.5	64.3	16.6
LOS	E	E	A	F	F	A	F	A	E	B
Approach Delay		69.3			76.3			12.7		18.2
Approach LOS		E			E			B		B
90th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	35.5	6.5	7.5	29.5	6.5	6.5	57.0	6.5	57.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	35.0	6.5	8.0	29.5	6.5	6.5	57.0	6.5	57.0
30th %ile Term Code	Max	Gap	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.1	29.0	6.0	8.2	24.1	0.0	6.0	75.8	0.0	63.3
10th %ile Term Code	Hold	Gap	Gap	Gap	Gap	Skip	Gap	Coord	Skip	Coord
Stops (vph)	200	307	0	109	254	0	46	455	39	856
Fuel Used(gal)	6	9	0	4	8	0	2	8	2	48
CO Emissions (g/hr)	412	644	30	252	556	19	111	587	156	3385
NOx Emissions (g/hr)	80	125	6	49	108	4	22	114	30	659
VOC Emissions (g/hr)	96	149	7	58	129	4	26	136	36	784

Timings
105: US-69 & Broadway

09-28-2020

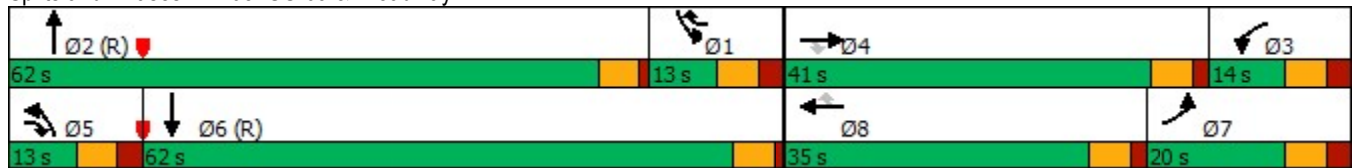


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	17	0	15
Queue Length 50th (ft)	109	326	0	61	270	0	48	106	38	278
Queue Length 95th (ft)	#158	#463	0	#108	#399	0	m65	m124	m58	223
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	312	445	541	178	370	549	77	1659	77	1623
Starvation Cap Reductn	0	0	0	0	0	0	0	109	0	0
Spillback Cap Reductn	0	0	5	0	0	0	0	0	0	119
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.90	0.14	0.79	0.89	0.09	0.70	0.81	0.64	0.93

Intersection Summary

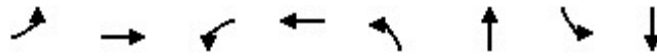
Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 122 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 33.2
 Intersection LOS: C
 Intersection Capacity Utilization 78.5%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

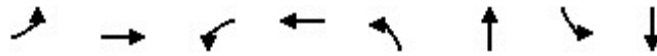
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	60	22	135	25	70	1156	35	1172
Future Volume (vph)	60	22	135	25	70	1156	35	1172
Lane Group Flow (vph)	71	108	159	69	76	1366	38	1292
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	23.0	23.0	27.0	27.0	18.0	67.0	13.0	62.0
Total Split (%)	17.7%	17.7%	20.8%	20.8%	13.8%	51.5%	10.0%	47.7%
Maximum Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	12.9	12.9	16.9	16.9	10.1	70.2	5.8	66.2
Actuated g/C Ratio	0.10	0.10	0.13	0.13	0.08	0.54	0.04	0.51
v/c Ratio	0.70	0.58	0.79	0.30	0.63	0.70	0.55	0.71
Control Delay	88.5	30.4	80.7	27.8	64.8	7.5	57.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	30.4	80.7	27.8	64.8	7.5	57.9	13.7
LOS	F	C	F	C	E	A	E	B
Approach Delay		53.4		64.7		10.5		15.0
Approach LOS		D		E		B		B
90th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	16.0	16.0	20.0	20.0	11.0	61.5	6.0	56.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.8	13.8	18.2	18.2	11.0	65.5	6.0	60.5
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Max	Coord
30th %ile Green (s)	10.9	10.9	15.3	15.3	11.0	71.3	6.0	66.3
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	11.2	11.2	0.0	91.3	0.0	91.3
10th %ile Term Code	Min	Min	Gap	Gap	Skip	Coord	Skip	Coord
Stops (vph)	58	29	128	26	69	679	34	475
Fuel Used(gal)	2	1	4	1	4	44	1	15
CO Emissions (g/hr)	108	66	252	54	249	3065	71	1066
NOx Emissions (g/hr)	21	13	49	11	48	596	14	207
VOC Emissions (g/hr)	25	15	58	13	58	710	16	247
Dilemma Vehicles (#)	0	0	0	0	0	7	0	74
Queue Length 50th (ft)	58	20	130	22	68	91	34	64
Queue Length 95th (ft)	104	72	193	61	m89	271	m42	m284

Timings
106: US-69 & Tahlequah/Military

09-28-2020

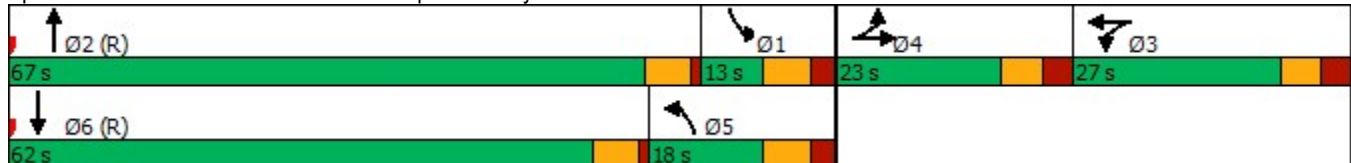


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	127	210	238	262	131	1952	71	1831
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.51	0.67	0.26	0.58	0.70	0.54	0.71

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 50 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 18.7
 Intersection LOS: B
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↕	↗	↖↗	↕	↗	↖	↕↕	↗	↖↗	↕↕↖
Traffic Volume (vph)	290	18	480	200	340	52	735	450	310	728
Future Volume (vph)	290	18	480	200	340	52	735	450	310	728
Lane Group Flow (vph)	453	21	522	217	370	57	799	489	337	894
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	26.0	26.0	31.0	31.0		18.4	51.0		22.0	54.6
Total Split (%)	20.0%	20.0%	23.8%	23.8%		14.2%	39.2%		16.9%	42.0%
Maximum Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	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	3.0		3.0	3.0
Recall Mode	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	18.5	18.5	23.5	23.5	130.0	10.5	45.0	130.0	15.0	52.3
Actuated g/C Ratio	0.14	0.14	0.18	0.18	1.00	0.08	0.35	1.00	0.12	0.40
v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.69	0.98	0.39	1.04	0.65
Control Delay	107.8	0.4	104.5	68.4	0.6	76.5	42.6	1.0	115.9	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.8	0.4	104.5	68.4	0.6	76.5	42.6	1.0	115.9	34.4
LOS	F	A	F	E	A	E	D	A	F	C
Approach Delay	103.0			62.7			28.9			56.7
Approach LOS	F			E			C			E
90th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	18.5	18.5	23.5	23.5		11.4	45.0		15.0	48.6
30th %ile Term Code	Max	Max	Max	Max		Hold	Coord		Max	Coord
10th %ile Green (s)	18.5	18.5	23.5	23.5		0.0	45.0		15.0	67.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	337	0	420	182	0	49	617	6	268	644
Fuel Used(gal)	14	0	18	6	4	2	18	2	21	42
CO Emissions (g/hr)	994	11	1285	436	251	118	1242	171	1490	2939
NOx Emissions (g/hr)	193	2	250	85	49	23	242	33	290	572
VOC Emissions (g/hr)	230	2	298	101	58	27	288	40	345	681
Dilemma Vehicles (#)	13	0	0	8	0	0	25	0	0	32
Queue Length 50th (ft)	~216	0	~245	176	0	52	334	0	~157	227
Queue Length 95th (ft)	#297	0	#359	#294	0	m75	#479	4	#256	280

Timings

107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	435	323	498	286	1296	90	812	1249	324	1381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.07	1.05	0.76	0.29	0.63	0.98	0.39	1.04	0.65

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 69 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 54.6

Intersection LOS: D

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

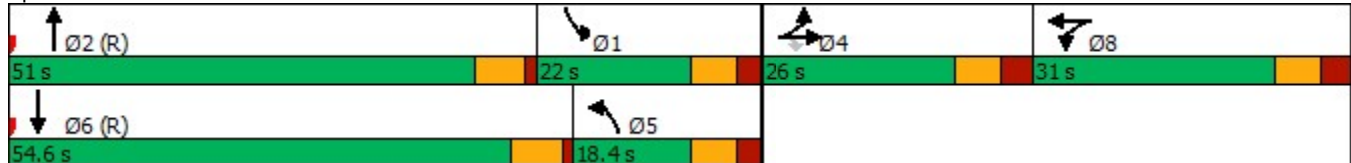
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

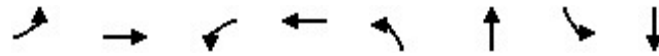
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

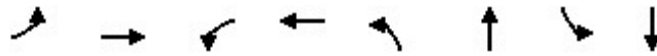
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	30	45	115	45	70	995	75	943
Future Volume (vph)	30	45	115	45	70	995	75	943
Lane Group Flow (vph)	0	155	0	256	76	1223	82	1063
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	42.0	42.0	42.0	42.0	27.5	91.0	27.5	91.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	17.1%	56.7%	17.1%	56.7%
Maximum Green (s)	35.0	35.0	35.0	35.0	20.0	85.0	20.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		35.4		35.4	12.7	76.6	14.4	78.3
Actuated g/C Ratio		0.24		0.24	0.09	0.52	0.10	0.53
v/c Ratio		0.46		0.94	0.58	0.94	0.66	0.82
Control Delay		48.0		94.4	84.1	47.6	90.3	34.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		48.0		94.4	84.1	47.6	90.3	34.6
LOS		D		F	F	D	F	C
Approach Delay		48.0		94.4		49.7		38.6
Approach LOS		D		F		D		D
90th %ile Green (s)	35.0	35.0	35.0	35.0	18.7	85.0	20.0	86.3
90th %ile Term Code	Max	Max	Max	Max	Gap	Max	Max	Hold
70th %ile Green (s)	35.0	35.0	35.0	35.0	15.4	85.0	18.2	87.8
70th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
50th %ile Green (s)	35.0	35.0	35.0	35.0	13.0	85.0	15.2	87.2
50th %ile Term Code	Max	Max	Max	Max	Gap	Max	Gap	Hold
30th %ile Green (s)	35.0	35.0	35.0	35.0	10.5	72.4	12.1	74.0
30th %ile Term Code	Max	Max	Max	Max	Gap	Gap	Gap	Hold
10th %ile Green (s)	35.0	35.0	35.0	35.0	7.3	57.4	8.1	58.2
10th %ile Term Code	Max	Max	Max	Max	Gap	Gap	Gap	Hold
Stops (vph)		98		181	64	975	70	778
Fuel Used(gal)		3		8	4	62	3	24
CO Emissions (g/hr)		223		581	308	4314	197	1671
NOx Emissions (g/hr)		43		113	60	839	38	325
VOC Emissions (g/hr)		52		135	71	1000	46	387
Dilemma Vehicles (#)		0		0	0	34	0	26
Queue Length 50th (ft)		116		~253	76	564	82	428
Queue Length 95th (ft)		201		#467	134	#781	145	571

Timings
108: US-69 & Harris Rd

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		336		272	211	1455	176	1449
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.46		0.94	0.36	0.84	0.47	0.73

Intersection Summary

Cycle Length: 160.5	
Actuated Cycle Length: 147.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 49.2	Intersection LOS: D
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	
90th %ile Actuated Cycle: 160.5	
70th %ile Actuated Cycle: 158.7	
50th %ile Actuated Cycle: 155.7	
30th %ile Actuated Cycle: 140	
10th %ile Actuated Cycle: 121	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 108: US-69 & Harris Rd

Ø1 27.5 s	Ø2 91 s	Ø4 42 s
Ø5 27.5 s	Ø6 91 s	

Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	23.9	52.6	0.33	22.6	C
Border	II	48	75.2	38.1	113.3	1.00	31.8	B
Arline	II	35	49.7	17.7	67.4	0.48	25.8	C
Okmulgee	II	35	53.8	49.4	103.2	0.52	18.2	D
Broadway	II	35	8.8	116.1	124.9	0.07	2.0	F
Tahlequah/Military	II	40	71.2	9.1	80.3	0.78	35.1	A
Shawnee St	II	45	16.1	186.9	203.0	0.15	2.6	F
Harris Rd	II	45	80.3	165.5	245.8	1.00	14.7	E
Total	II		383.8	606.7	990.5	4.34	15.8	E

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	126.0	149.9	0.22	5.3	F
Shawnee St	II	45	80.3	16.6	96.9	1.00	37.3	A
Tahlequah/Military	II	45	16.1	15.4	31.5	0.15	16.9	E
Broadway	II	40	71.2	133.9	205.1	0.78	13.7	E
Okmulgee	II	35	8.8	92.3	101.1	0.07	2.5	F
Arline	II	35	53.8	4.2	58.0	0.52	32.4	B
Border	II	35	49.7	20.9	70.6	0.48	24.6	C
Hancock	II	48	75.2	11.5	86.7	1.00	41.5	A
Total	II		379.0	420.8	799.8	4.23	19.0	D

Arterial Level of Service: NB US-69

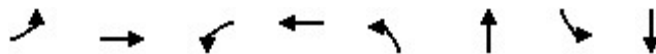
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	36	35.7	36.7	72.4	0.33	16.4	E
Border	II	48	75.2	37.2	112.4	1.00	32.0	B
Arline	II	35	49.7	25.8	75.5	0.48	23.0	C
Okmulgee	II	35	53.8	57.8	111.6	0.52	16.9	E
Broadway	II	35	8.8	91.8	100.6	0.07	2.5	F
Tahlequah/Military	II	40	71.2	30.6	101.8	0.78	27.7	C
Shawnee St	II	45	16.1	246.2	262.3	0.15	2.0	F
Harris Rd	II	45	80.3	240.5	320.8	1.00	11.3	F
Total	II		390.8	766.6	1157.4	4.34	13.5	E

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	176.4	200.3	0.22	3.9	F
Shawnee St	II	45	80.3	31.5	111.8	1.00	32.3	B
Tahlequah/Military	II	45	16.1	46.7	62.8	0.15	8.5	F
Broadway	II	40	71.2	137.9	209.1	0.78	13.5	E
Okmulgee	II	35	8.8	158.9	167.7	0.07	1.5	F
Arline	II	35	53.8	57.5	111.3	0.52	16.9	E
Border	II	35	49.7	14.7	64.4	0.48	27.0	C
Hancock	II	48	75.2	15.7	90.9	1.00	39.6	A
Total	II		379.0	639.3	1018.3	4.23	14.9	E

Timings
101: US-69 & Hancock

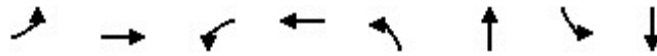
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	35	25	35	15	22	1634	125	1519
Future Volume (vph)	35	25	35	15	22	1634	125	1519
Lane Group Flow (vph)	39	52	41	236	24	1801	136	1684
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	16.0	16.0	16.0	16.0	14.0	57.0	17.0	60.0
Total Split (%)	17.8%	17.8%	17.8%	17.8%	15.6%	63.3%	18.9%	66.7%
Maximum Green (s)	9.0	9.0	9.0	9.0	6.0	50.5	9.0	53.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	8.3	8.3	8.3	8.3	5.6	50.5	9.0	62.0
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.06	0.57	0.10	0.69
v/c Ratio	0.55	0.33	0.38	0.76	0.26	0.89	0.89	0.69
Control Delay	68.0	29.7	48.9	26.1	46.9	23.9	91.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	29.7	48.9	26.1	46.9	23.9	91.6	11.5
LOS	E	C	D	C	D	C	F	B
Approach Delay		46.2		29.5		24.2		17.5
Approach LOS		D		C		C		B
90th %ile Green (s)	9.0	9.0	9.0	9.0	6.0	50.5	9.0	53.5
90th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR
70th %ile Green (s)	9.0	9.0	9.0	9.0	6.0	50.5	9.0	53.5
70th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR
50th %ile Green (s)	9.0	9.0	9.0	9.0	0.0	50.5	9.0	67.5
50th %ile Term Code	Max	Max	Hold	Hold	Skip	MaxR	Max	Hold
30th %ile Green (s)	8.2	8.2	8.2	8.2	0.0	50.5	9.0	67.5
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	MaxR	Max	Hold
10th %ile Green (s)	6.2	6.2	6.2	6.2	0.0	50.5	9.0	67.5
10th %ile Term Code	Hold	Hold	Gap	Gap	Skip	MaxR	Max	Hold
Stops (vph)	33	28	34	43	22	1334	103	890
Fuel Used(gal)	1	1	1	3	1	51	8	68
CO Emissions (g/hr)	61	50	52	176	60	3574	559	4781
NOx Emissions (g/hr)	12	10	10	34	12	695	109	930
VOC Emissions (g/hr)	14	12	12	41	14	828	130	1108
Dilemma Vehicles (#)	0	0	0	0	0	91	0	87
Queue Length 50th (ft)	21	15	22	18	13	307	78	134
Queue Length 95th (ft)	#66	50	52	#99	39	#393	#185	317

Timings
101: US-69 & Hancock

09-28-2020

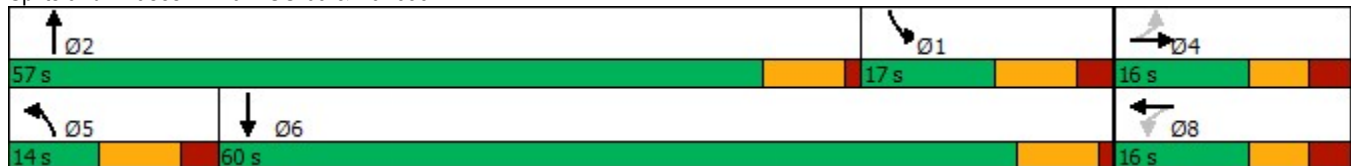


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	77	171	116	320	102	2033	152	2455
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.30	0.35	0.74	0.24	0.89	0.89	0.69

Intersection Summary

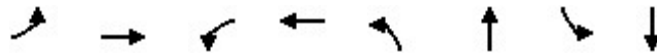
Cycle Length: 90	
Actuated Cycle Length: 89.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 22.0	Intersection LOS: C
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	
90th %ile Actuated Cycle: 90	
70th %ile Actuated Cycle: 90	
50th %ile Actuated Cycle: 90	
30th %ile Actuated Cycle: 89.2	
10th %ile Actuated Cycle: 87.2	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

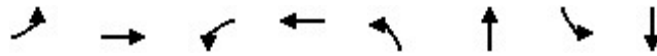
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	160	44	22	45	80	1757	70	1592
Future Volume (vph)	160	44	22	45	80	1757	70	1592
Lane Group Flow (vph)	178	138	26	206	87	1950	76	1850
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	45.0	45.0	45.0	45.0	16.0	90.0	15.0	89.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	10.7%	60.0%	10.0%	59.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.1	35.1	35.1	35.1	9.5	87.1	9.3	86.9
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.06	0.58	0.06	0.58
v/c Ratio	0.97	0.36	0.11	0.51	0.90	0.93	0.81	0.89
Control Delay	114.0	29.2	44.8	30.6	134.6	38.1	103.3	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.0	29.2	44.8	30.6	134.6	38.1	103.3	20.9
LOS	F	C	D	C	F	D	F	C
Approach Delay		77.0		32.2		42.2		24.2
Approach LOS		E		C		D		C
90th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	35.3	35.3	35.3	35.3	9.5	85.0	11.2	86.7
30th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	26.4	26.4	26.4	26.4	9.5	95.3	9.8	95.6
10th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Gap	Coord
Stops (vph)	141	59	18	83	68	1527	59	1458
Fuel Used(gal)	5	2	0	3	6	96	3	50
CO Emissions (g/hr)	367	116	29	176	409	6707	224	3462
NOx Emissions (g/hr)	71	22	6	34	80	1305	44	674
VOC Emissions (g/hr)	85	27	7	41	95	1554	52	802
Dilemma Vehicles (#)	0	0	0	0	0	59	0	13
Queue Length 50th (ft)	169	62	20	93	86	632	73	658
Queue Length 95th (ft)	#319	128	44	160	#198	#747	m#92	715

Timings
102: US-69 & Border

09-28-2020

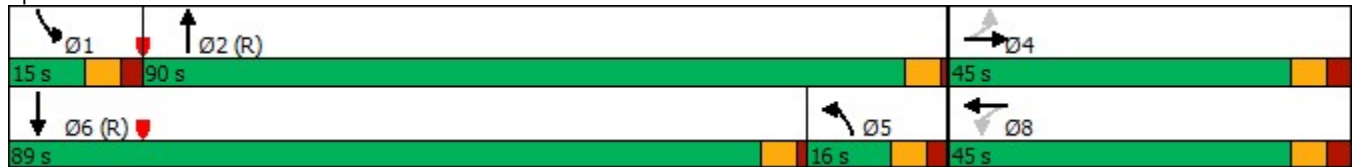


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	199	412	253	433	97	2103	94	2073
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.33	0.10	0.48	0.90	0.93	0.81	0.89

Intersection Summary

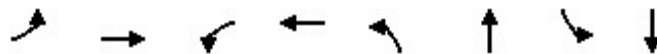
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 142 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 36.4
 Intersection LOS: D
 Intersection Capacity Utilization 88.7%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

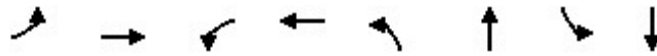
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	120	47	105	53	68	1897	40	1628
Future Volume (vph)	120	47	105	53	68	1897	40	1628
Lane Group Flow (vph)	141	110	124	124	74	2190	43	1871
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	13.5	21.0
Total Split (s)	22.0	17.0	21.0	16.0	17.0	98.2	13.8	95.0
Total Split (%)	14.7%	11.3%	14.0%	10.7%	11.3%	65.5%	9.2%	63.3%
Maximum Green (s)	15.5	12.5	14.5	11.5	11.0	93.2	7.8	90.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	6.0	5.0
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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	15.2	12.6	14.0	11.4	10.3	96.3	7.4	91.1
Actuated g/C Ratio	0.10	0.08	0.09	0.08	0.07	0.64	0.05	0.61
v/c Ratio	0.90	0.73	0.86	0.90	0.70	0.92	0.57	0.85
Control Delay	114.6	78.2	111.1	106.4	105.0	17.7	90.9	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.6	78.2	111.1	106.4	105.0	17.7	90.9	4.2
LOS	F	E	F	F	F	B	F	A
Approach Delay		98.6		108.8		20.5		6.2
Approach LOS		F		F		C		A
90th %ile Green (s)	15.5	12.5	14.5	11.5	11.0	93.2	7.8	90.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	15.5	12.5	14.5	11.5	11.0	93.2	7.8	90.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	15.5	12.5	14.5	11.5	11.0	93.2	7.8	90.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	15.5	12.5	14.5	11.5	10.8	93.2	7.8	90.2
30th %ile Term Code	Max	Hold	Max	Max	Gap	Coord	Max	Coord
10th %ile Green (s)	14.1	12.9	12.2	11.0	7.7	108.9	0.0	95.2
10th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	106	66	95	70	62	1753	39	437
Fuel Used(gal)	4	2	3	3	3	58	2	39
CO Emissions (g/hr)	271	157	231	214	222	4020	128	2730
NOx Emissions (g/hr)	53	30	45	42	43	782	25	531
VOC Emissions (g/hr)	63	36	53	50	51	932	30	633
Dilemma Vehicles (#)	0	0	0	0	0	41	0	17
Queue Length 50th (ft)	138	82	121	97	73	783	45	50
Queue Length 95th (ft)	#245	#161	#217	#204	m83	#860	m38	m42

Timings
103: US-69 & Arline

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		440		408		2469		2680
Turn Bay Length (ft)	250		125		125		175	
Base Capacity (vph)	160	150	149	139	113	2370	80	2190
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.73	0.83	0.89	0.65	0.92	0.54	0.85

Intersection Summary

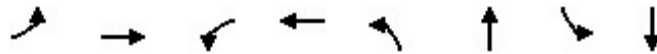
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 53 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 23.5
 Intersection LOS: C
 Intersection Capacity Utilization 78.1%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline

Ø1 13.8 s	Ø2 (R) 98.2 s	Ø3 21 s	Ø4 17 s
Ø5 17 s	Ø6 (R) 95 s	Ø7 22 s	Ø8 16 s

Timings
104: US-69 & Okmulgee

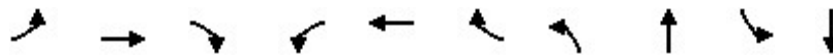
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	250	560	180	460	290	1680	68	1511
Future Volume (vph)	250	560	180	460	290	1680	68	1511
Lane Group Flow (vph)	272	739	196	560	315	1978	74	1957
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0
Total Split (s)	21.0	37.0	16.0	32.0	21.0	84.4	12.6	76.0
Total Split (%)	14.0%	24.7%	10.7%	21.3%	14.0%	56.3%	8.4%	50.7%
Maximum Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
Actuated g/C Ratio	0.10	0.21	0.06	0.18	0.10	0.53	0.04	0.47
v/c Ratio	1.15	1.20	1.05	1.05	1.16	1.03	0.62	1.18
Control Delay	163.2	152.5	145.7	110.2	144.9	49.4	42.4	92.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.3
Total Delay	163.2	152.5	145.7	110.2	144.9	76.7	42.4	92.6
LOS	F	F	F	F	F	E	D	F
Approach Delay		155.4		119.4		86.0		90.8
Approach LOS		F		F		F		F
90th %ile Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	14.5	31.5	9.5	26.5	14.5	78.9	6.1	70.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	206	553	152	449	237	1662	63	1061
Fuel Used(gal)	11	28	7	16	16	67	1	47
CO Emissions (g/hr)	752	1939	486	1137	1126	4687	87	3259
NOx Emissions (g/hr)	146	377	95	221	219	912	17	634
VOC Emissions (g/hr)	174	449	113	263	261	1086	20	755

Timings
105: US-69 & Broadway

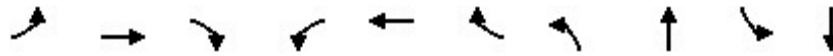
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Future Volume (vph)	230	369	53	150	440	60	72	1788	53	1666
Lane Group Flow (vph)	271	434	62	176	518	71	78	2079	58	2115
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	18.0	45.1	13.0	15.9	43.0	13.0	13.0	76.0	13.0	76.0
Total Split (%)	12.0%	30.1%	8.7%	10.6%	28.7%	8.7%	8.7%	50.7%	8.7%	50.7%
Maximum Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.5	39.6	51.6	9.4	37.5	49.5	6.5	71.0	6.5	71.0
Actuated g/C Ratio	0.08	0.26	0.34	0.06	0.25	0.33	0.04	0.47	0.04	0.47
v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.22	0.87	1.24
Control Delay	173.0	99.7	7.9	119.4	185.4	10.6	137.4	116.1	90.3	133.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.6
Total Delay	173.0	99.7	7.9	119.4	185.4	10.6	137.4	116.3	90.3	134.4
LOS	F	F	A	F	F	B	F	F	F	F
Approach Delay		118.2			154.0			117.1		133.3
Approach LOS		F			F			F		F
90th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.5	39.6	6.5	9.4	37.5	6.5	6.5	71.0	6.5	71.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	188	325	9	133	348	12	54	1468	43	1482
Fuel Used(gal)	11	12	0	5	22	1	3	61	3	122
CO Emissions (g/hr)	743	816	33	378	1504	42	183	4292	202	8539
NOx Emissions (g/hr)	144	159	6	73	293	8	36	835	39	1661
VOC Emissions (g/hr)	172	189	8	88	349	10	42	995	47	1979

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	37	0	64
Queue Length 50th (ft)	~162	~434	0	90	~637	6	~92	~900	58	~927
Queue Length 95th (ft)	#238	#602	29	#153	#795	38	m#86	m#828	m61	#1019
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	230	430	517	188	407	498	67	1709	67	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	96	0	0
Spillback Cap Reductn	0	0	4	0	0	0	0	0	0	277
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	1.01	0.12	0.94	1.27	0.14	1.16	1.29	0.87	1.49

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 146 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 128.0

Intersection LOS: F

Intersection Capacity Utilization 103.6%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

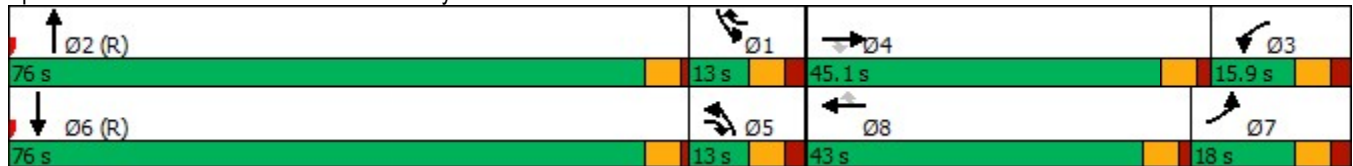
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

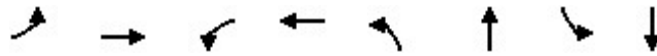
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

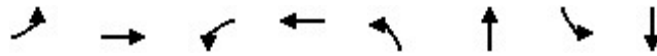
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	22	158	22	68	1935	34	1786
Future Volume (vph)	32	22	158	22	68	1935	34	1786
Lane Group Flow (vph)	38	126	186	66	74	2217	37	1957
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	16.2	16.2	26.0	26.0	15.7	95.0	12.8	92.1
Total Split (%)	10.8%	10.8%	17.3%	17.3%	10.5%	63.3%	8.5%	61.4%
Maximum Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.8	8.8	19.1	19.1	8.6	92.3	5.7	86.9
Actuated g/C Ratio	0.06	0.06	0.13	0.13	0.06	0.62	0.04	0.58
v/c Ratio	0.62	0.76	0.94	0.30	0.84	0.98	0.64	0.94
Control Delay	109.1	47.6	114.9	31.3	96.8	9.1	60.8	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	109.1	47.6	114.9	31.3	96.8	9.1	60.8	15.6
LOS	F	D	F	C	F	A	E	B
Approach Delay		61.8		93.0		12.0		16.4
Approach LOS		E		F		B		B
90th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	9.2	9.2	19.0	19.0	8.7	89.5	5.8	86.6
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	8.6	8.6	19.6	19.6	8.7	89.5	5.8	86.6
30th %ile Term Code	Gap	Gap	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	8.0	8.0	18.9	18.9	8.4	103.6	0.0	88.2
10th %ile Term Code	Min	Min	Gap	Gap	Gap	Coord	Skip	Coord
Stops (vph)	28	27	137	24	59	343	30	1314
Fuel Used(gal)	1	1	5	1	4	64	1	31
CO Emissions (g/hr)	66	100	367	54	267	4499	68	2173
NOx Emissions (g/hr)	13	19	71	10	52	875	13	423
VOC Emissions (g/hr)	15	23	85	12	62	1043	16	504
Dilemma Vehicles (#)	0	0	0	0	0	9	0	69
Queue Length 50th (ft)	37	27	184	23	72	~855	36	373
Queue Length 95th (ft)	#88	#107	#312	65	m61	m41	m36	m376

Timings
106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	63	168	197	223	89	2252	59	2082
Starvation Cap Reductn	0	0	0	0	0	0	0	8
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.75	0.94	0.30	0.83	0.98	0.63	0.94

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 70 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 19.9
 Intersection LOS: B
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↕	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Future Volume (vph)	245	22	560	277	317	32	1317	600	360	1253
Lane Group Flow (vph)	412	26	609	301	345	35	1432	652	391	1534
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	23.0	23.0	32.0	32.0		15.4	71.0		24.0	79.6
Total Split (%)	15.3%	15.3%	21.3%	21.3%		10.3%	47.3%		16.0%	53.1%
Maximum Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	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	3.0		3.0	3.0
Recall Mode	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	15.5	15.5	24.5	24.5	150.0	7.9	65.0	150.0	17.0	76.7
Actuated g/C Ratio	0.10	0.10	0.16	0.16	1.00	0.05	0.43	1.00	0.11	0.51
v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.65	1.37	0.52	1.22	0.86
Control Delay	209.6	0.6	223.8	154.2	0.5	75.8	186.9	0.9	143.3	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total Delay	209.6	0.6	223.8	154.2	0.5	75.8	186.9	0.9	143.3	17.2
LOS	F	A	F	F	A	E	F	A	F	B
Approach Delay	197.2			145.7			127.8			42.8
Approach LOS	F			F			F			D
90th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	15.5	15.5	24.5	24.5		8.4	65.0		17.0	73.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	15.5	15.5	24.5	24.5		0.0	65.0		17.0	89.0
10th %ile Term Code	Max	Max	Max	Max		Skip	Coord		Max	Coord
Stops (vph)	274	0	431	229	0	29	917	15	296	927
Fuel Used(gal)	20	0	35	13	3	1	68	3	27	65
CO Emissions (g/hr)	1394	13	2419	931	234	71	4766	233	1857	4531
NOx Emissions (g/hr)	271	3	471	181	46	14	927	45	361	881
VOC Emissions (g/hr)	323	3	561	216	54	16	1105	54	430	1050
Dilemma Vehicles (#)	8	0	0	8	0	0	49	0	0	58
Queue Length 50th (ft)	~271	0	~403	~343	0	36	~962	0	~248	339
Queue Length 95th (ft)	#354	0	#526	#538	0	m37	m#990	m0	m#183	m106

Timings
107: US-69 & Shawnee St

09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1085			510			700			500
Turn Bay Length (ft)		100	275		400	325			200	
Base Capacity (vph)	315	296	446	263	1296	57	1049	1260	321	1787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	3	0	0	0	0	0	0	0	63
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.09	1.37	1.14	0.27	0.61	1.37	0.52	1.22	0.89

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 84 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 108.5

Intersection LOS: F

Intersection Capacity Utilization 107.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

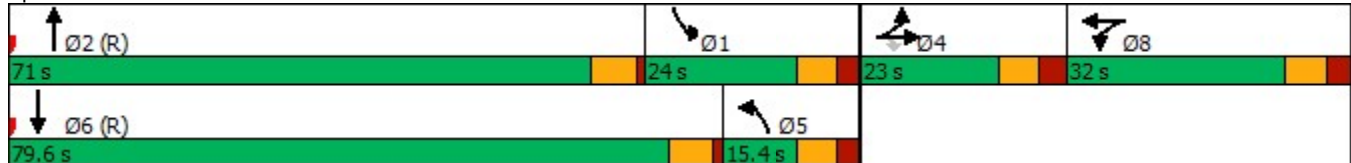
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

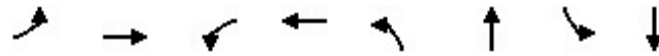
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

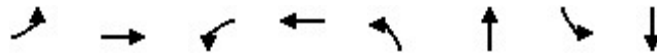
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	44	51	162	45	67	1559	89	1517
Future Volume (vph)	44	51	162	45	67	1559	89	1517
Lane Group Flow (vph)	0	197	0	361	73	1863	97	1689
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	44.0	44.0	44.0	44.0	14.0	90.0	16.0	92.0
Total Split (%)	29.3%	29.3%	29.3%	29.3%	9.3%	60.0%	10.7%	61.3%
Maximum Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		37.0		37.0	6.5	84.0	8.5	86.0
Actuated g/C Ratio		0.25		0.25	0.04	0.56	0.06	0.57
v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20
Control Delay		52.0		227.5	119.3	165.5	229.5	126.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		52.0		227.5	119.3	165.5	229.5	126.0
LOS		D		F	F	F	F	F
Approach Delay		52.0		227.5		163.7		131.6
Approach LOS		D		F		F		F
90th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	37.0	37.0	37.0	37.0	6.5	84.0	8.5	86.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		136		233	50	365	67	1284
Fuel Used(gal)		4		20	5	121	6	68
CO Emissions (g/hr)		296		1428	318	8474	396	4718
NOx Emissions (g/hr)		58		278	62	1649	77	918
VOC Emissions (g/hr)		69		331	74	1964	92	1094
Dilemma Vehicles (#)		0		0	0	8	0	43
Queue Length 50th (ft)		149		~453	~82	~1268	~117	~1052
Queue Length 95th (ft)		240		#662	m#73	m#861	#240	#1192

Timings
108: US-69 & Harris Rd

09-28-2020

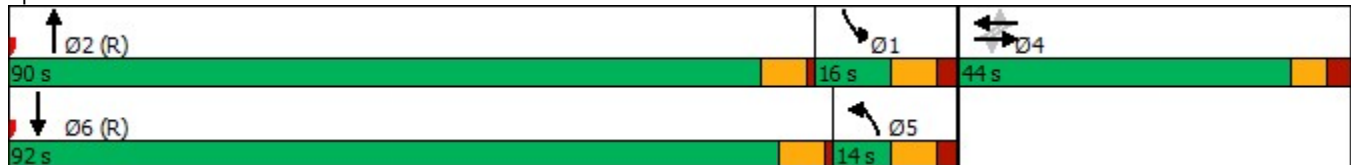


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		324		264	66	1399	79	1412
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.61		1.37	1.11	1.33	1.23	1.20

Intersection Summary

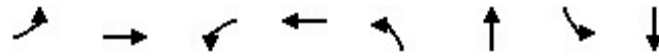
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.37
 Intersection Signal Delay: 150.6
 Intersection LOS: F
 Intersection Capacity Utilization 118.0%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 108: US-69 & Harris Rd



Timings
101: US-69 & Hancock

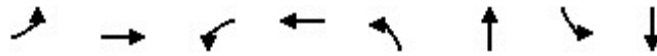
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	15	35	25	23	1682	210	1814
Future Volume (vph)	30	15	35	25	23	1682	210	1814
Lane Group Flow (vph)	33	44	41	235	25	1866	228	2010
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	25.0	25.0	25.0	25.0	15.0	90.0	35.0	110.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	10.0%	60.0%	23.3%	73.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	7.0	83.5	27.0	103.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	16.4	16.4	16.4	16.4	6.3	83.7	24.3	107.3
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.04	0.57	0.17	0.74
v/c Ratio	0.77	0.24	0.32	0.72	0.38	0.91	0.90	0.76
Control Delay	142.6	33.2	67.3	26.8	86.6	36.7	95.7	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	142.6	33.2	67.3	26.8	86.6	36.7	95.7	15.7
LOS	F	C	E	C	F	D	F	B
Approach Delay		80.1		32.8		37.4		23.8
Approach LOS		F		C		D		C
90th %ile Green (s)	18.0	18.0	18.0	18.0	7.0	83.5	27.0	103.5
90th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR
70th %ile Green (s)	18.0	18.0	18.0	18.0	7.0	83.5	27.0	103.5
70th %ile Term Code	Max	Max	Hold	Hold	Max	MaxR	Max	MaxR
50th %ile Green (s)	18.0	18.0	18.0	18.0	6.9	83.5	27.0	103.6
50th %ile Term Code	Max	Max	Hold	Hold	Gap	MaxR	Max	Hold
30th %ile Green (s)	17.8	17.8	17.8	17.8	0.0	83.5	23.9	115.4
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	MaxR	Gap	Hold
10th %ile Green (s)	10.5	10.5	10.5	10.5	0.0	83.5	17.4	108.9
10th %ile Term Code	Hold	Hold	Hold	Hold	Skip	MaxR	Gap	Hold
Stops (vph)	25	18	31	47	23	1446	193	1096
Fuel Used(gal)	1	1	1	3	1	46	14	84
CO Emissions (g/hr)	83	42	60	178	61	3192	972	5851
NOx Emissions (g/hr)	16	8	12	35	12	621	189	1138
VOC Emissions (g/hr)	19	10	14	41	14	740	225	1356
Dilemma Vehicles (#)	0	0	0	0	0	58	0	63
Queue Length 50th (ft)	32	15	37	37	24	601	218	468
Queue Length 95th (ft)	#97	55	74	114	58	#701	#362	541

Timings
101: US-69 & Hancock

09-28-2020

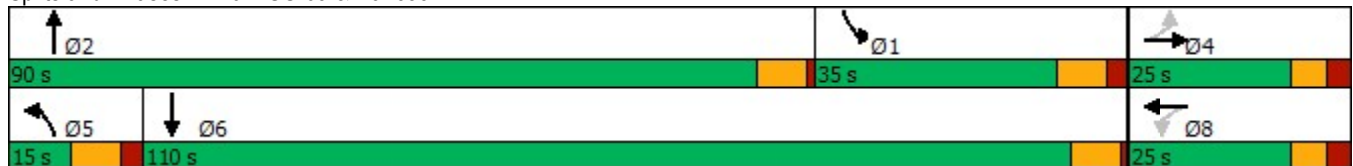


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	47	203	143	341	72	2045	281	2642
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.22	0.29	0.69	0.35	0.91	0.81	0.76

Intersection Summary

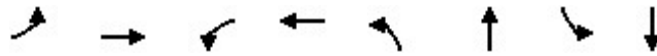
Cycle Length: 150	
Actuated Cycle Length: 145.9	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 94.3%	ICU Level of Service F
Analysis Period (min) 15	
90th %ile Actuated Cycle: 150	
70th %ile Actuated Cycle: 150	
50th %ile Actuated Cycle: 150	
30th %ile Actuated Cycle: 146.7	
10th %ile Actuated Cycle: 132.9	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

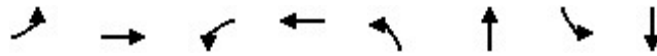
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	52	35	60	125	1752	150	1894
Future Volume (vph)	110	52	35	60	125	1752	150	1894
Lane Group Flow (vph)	122	202	41	177	136	1937	163	2266
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	32.0	32.0	32.0	32.0	20.0	91.0	27.0	98.0
Total Split (%)	21.3%	21.3%	21.3%	21.3%	13.3%	60.7%	18.0%	65.3%
Maximum Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	25.0	25.0	25.0	25.0	13.5	87.6	18.9	93.0
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.09	0.58	0.13	0.62
v/c Ratio	0.96	0.67	0.37	0.63	0.99	0.92	0.84	1.00
Control Delay	130.9	49.4	66.7	54.8	139.3	37.2	84.0	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.9	49.4	66.7	54.8	139.3	37.2	84.0	14.7
LOS	F	D	E	D	F	D	F	B
Approach Delay		80.1		57.0		43.9		19.4
Approach LOS		F		E		D		B
90th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	87.7	18.8	93.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Gap	Coord
10th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	92.2	14.3	93.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Gap	Coord
Stops (vph)	93	113	31	108	107	1516	133	1189
Fuel Used(gal)	4	3	1	3	9	95	6	54
CO Emissions (g/hr)	277	232	59	217	648	6639	442	3744
NOx Emissions (g/hr)	54	45	11	42	126	1292	86	729
VOC Emissions (g/hr)	64	54	14	50	150	1539	102	868
Dilemma Vehicles (#)	0	0	0	0	0	59	0	7
Queue Length 50th (ft)	120	122	36	124	135	619	146	~859
Queue Length 95th (ft)	#256	216	74	194	#280	#717	m137	m70

Timings
102: US-69 & Border

09-28-2020

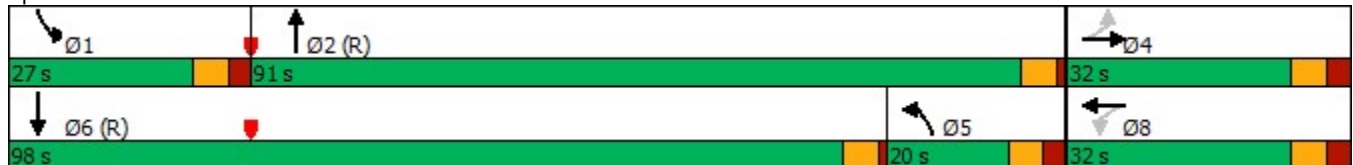


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	127	300	110	280	138	2098	209	2257
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.67	0.37	0.63	0.99	0.92	0.78	1.00

Intersection Summary

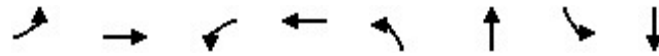
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 137 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 35.0
 Intersection LOS: C
 Intersection Capacity Utilization 94.4%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

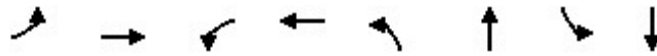
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	140	68	132	68	120	1729	78	2004
Future Volume (vph)	140	68	132	68	120	1729	78	2004
Lane Group Flow (vph)	165	127	155	174	130	1994	85	2314
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0
Minimum Split (s)	13.0	12.0	13.0	12.0	13.5	22.0	13.5	21.0
Total Split (s)	22.0	18.0	22.0	18.0	19.0	94.3	15.7	91.0
Total Split (%)	14.7%	12.0%	14.7%	12.0%	12.7%	62.9%	10.5%	60.7%
Maximum Green (s)	15.5	13.5	15.5	13.5	13.0	89.3	9.7	86.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
All-Red Time (s)	3.0	1.0	3.0	1.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	6.5	4.5	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lead	Lag	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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	15.5	13.0	16.0	13.5	13.0	89.3	9.7	86.0
Actuated g/C Ratio	0.10	0.09	0.11	0.09	0.09	0.60	0.06	0.57
v/c Ratio	1.03	0.86	0.94	1.07	0.97	0.94	0.85	1.09
Control Delay	143.2	103.9	121.0	140.4	119.7	25.8	92.3	57.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	143.2	103.9	121.0	140.4	119.7	25.8	92.3	57.5
LOS	F	F	F	F	F	C	F	E
Approach Delay		126.1		131.3		31.5		58.7
Approach LOS		F		F		C		E
90th %ile Green (s)	15.5	13.5	15.5	13.5	13.0	89.3	9.7	86.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	15.5	13.5	15.5	13.5	13.0	89.3	9.7	86.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	15.5	13.5	15.5	13.5	13.0	89.3	9.7	86.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	15.5	13.5	15.5	13.5	13.0	89.3	9.7	86.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	15.5	11.0	18.0	13.5	13.0	89.3	9.7	86.0
10th %ile Term Code	Max	Gap	Max	Max	Max	Coord	Max	Coord
Stops (vph)	117	87	112	98	100	1725	68	1680
Fuel Used(gal)	5	3	4	5	6	56	4	80
CO Emissions (g/hr)	370	224	306	373	411	3939	247	5591
NOx Emissions (g/hr)	72	44	59	73	80	766	48	1088
VOC Emissions (g/hr)	86	52	71	86	95	913	57	1296
Dilemma Vehicles (#)	0	0	0	0	0	17	0	36
Queue Length 50th (ft)	~172	110	154	~158	124	709	89	~921
Queue Length 95th (ft)	#302	#208	#278	#290	m#153	m770	m68	m166

Timings
103: US-69 & Arline

09-28-2020

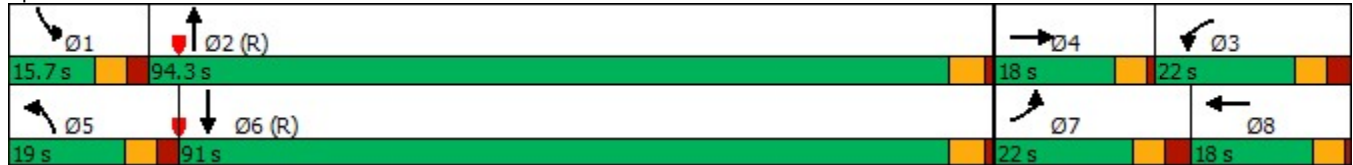


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		440		408		2469		2680
Turn Bay Length (ft)	250		125		125		175	
Base Capacity (vph)	160	152	165	163	134	2130	100	2116
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.84	0.94	1.07	0.97	0.94	0.85	1.09

Intersection Summary

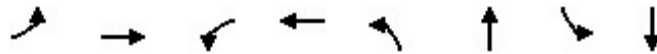
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 64 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 56.0
 Intersection LOS: E
 Intersection Capacity Utilization 91.7%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

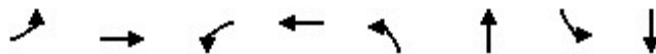
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	317	590	235	590	212	1554	87	1752
Future Volume (vph)	317	590	235	590	212	1554	87	1752
Lane Group Flow (vph)	345	913	255	734	230	1890	95	2192
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	12.5	15.5	12.5	15.5	12.5	17.0	12.5	17.0
Total Split (s)	23.0	40.0	17.0	34.0	17.0	80.5	12.5	76.0
Total Split (%)	15.3%	26.7%	11.3%	22.7%	11.3%	53.7%	8.3%	50.7%
Maximum Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
Actuated g/C Ratio	0.11	0.23	0.07	0.19	0.07	0.50	0.04	0.47
v/c Ratio	1.26	1.33	1.24	1.28	1.20	1.06	0.81	1.31
Control Delay	196.0	201.4	195.8	186.1	164.7	57.8	54.6	158.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.6
Total Delay	196.0	201.4	195.8	186.1	164.7	75.6	54.6	159.6
LOS	F	F	F	F	F	E	D	F
Approach Delay		199.9		188.6		85.3		155.2
Approach LOS		F		F		F		F
90th %ile Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	16.5	34.5	10.5	28.5	10.5	75.0	6.0	70.5
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	251	627	186	535	166	1562	79	1610
Fuel Used(gal)	16	42	11	31	13	67	2	83
CO Emissions (g/hr)	1097	2958	798	2198	879	4675	125	5786
NOx Emissions (g/hr)	214	576	155	428	171	910	24	1126
VOC Emissions (g/hr)	254	686	185	509	204	1083	29	1341

Timings
104: US-69 & Okmulgee

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	37	0	4
Queue Length 50th (ft)	~218	~594	~158	~475	~139	~743	50	~1026
Queue Length 95th (ft)	#323	#733	#254	#608	m#152	m#820	m42	m#705
Internal Link Dist (ft)		593		473		2680		291
Turn Bay Length (ft)	225		200		125		125	
Base Capacity (vph)	273	685	206	573	191	1784	117	1677
Starvation Cap Reductn	0	0	0	0	0	0	0	294
Spillback Cap Reductn	0	0	0	0	0	475	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.26	1.33	1.24	1.28	1.20	1.44	0.81	1.58

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 10 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay: 146.4

Intersection LOS: F

Intersection Capacity Utilization 109.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

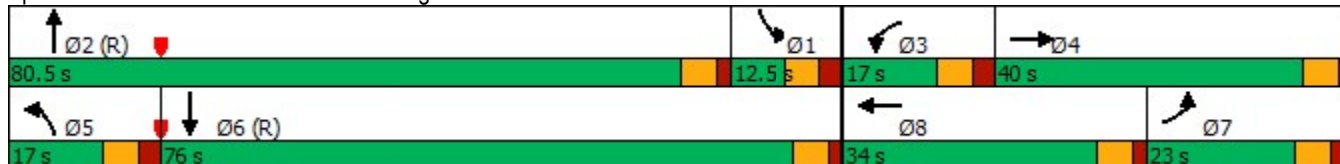
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

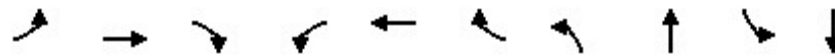
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

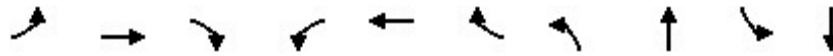
09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Future Volume (vph)	280	440	85	158	360	53	66	1733	60	1861
Lane Group Flow (vph)	329	518	100	186	424	62	72	2056	65	2284
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	8.0	5.0	5.0	8.0	5.0	5.0	12.0	5.0	12.0
Minimum Split (s)	12.5	14.0	13.0	12.5	14.0	13.0	13.0	18.5	13.0	18.5
Total Split (s)	20.0	42.0	13.0	15.0	37.0	13.0	13.0	80.0	13.0	80.0
Total Split (%)	13.3%	28.0%	8.7%	10.0%	24.7%	8.7%	8.7%	53.3%	8.7%	53.3%
Maximum Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
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)	2.5	1.5	2.5	2.5	1.5	2.5	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	5.5	6.5	6.5	5.5	6.5	6.5	5.0	6.5	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	13.5	36.5	48.5	8.5	31.5	37.0	6.5	75.0	6.5	75.0
Actuated g/C Ratio	0.09	0.24	0.32	0.06	0.21	0.25	0.04	0.50	0.04	0.50
v/c Ratio	1.22	1.31	0.19	1.09	1.24	0.15	1.07	1.16	0.97	1.27
Control Delay	181.5	199.7	5.9	159.0	178.1	0.9	101.8	91.8	108.0	137.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.5
Total Delay	181.5	199.7	5.9	159.0	178.1	0.9	101.8	92.1	108.0	139.4
LOS	F	F	A	F	F	A	F	F	F	F
Approach Delay		172.9			156.5			92.5		138.5
Approach LOS		F			F			F		F
90th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	13.5	36.5	6.5	8.5	31.5	6.5	6.5	75.0	6.5	75.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	226	343	9	129	289	0	49	1572	47	1502
Fuel Used(gal)	13	23	1	7	17	0	2	52	3	133
CO Emissions (g/hr)	937	1581	49	482	1195	26	134	3653	242	9272
NOx Emissions (g/hr)	182	308	10	94	233	5	26	711	47	1804
VOC Emissions (g/hr)	217	366	11	112	277	6	31	847	56	2149

Timings
105: US-69 & Broadway

09-28-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Dilemma Vehicles (#)	0	0	0	0	0	0	0	2	0	38
Queue Length 50th (ft)	~202	~648	0	~105	~513	0	~78	~874	63	~1016
Queue Length 95th (ft)	#280	#806	31	#174	#671	0	m64	m#737	m58	m#922
Internal Link Dist (ft)		747			792			291		1894
Turn Bay Length (ft)	75		75	100		100	75		125	
Base Capacity (vph)	270	396	521	170	342	423	67	1768	67	1802
Starvation Cap Reductn	0	0	0	0	0	0	0	163	0	0
Spillback Cap Reductn	0	0	18	0	0	0	0	0	0	631
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.31	0.20	1.09	1.24	0.15	1.07	1.28	0.97	1.95

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 129.8

Intersection LOS: F

Intersection Capacity Utilization 104.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

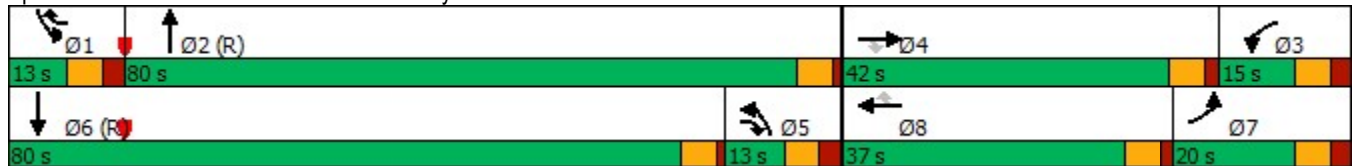
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

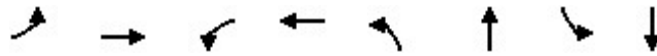
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

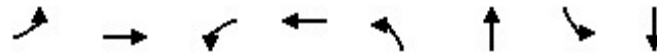
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	58	29	170	33	92	1879	46	1937
Future Volume (vph)	58	29	170	33	92	1879	46	1937
Lane Group Flow (vph)	68	142	200	92	100	2189	50	2130
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	3	3	5	2	1	6
Permitted Phases								
Detector Phase	4	4	3	3	5	2	1	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	12.5	22.0	12.5	22.0
Total Split (s)	18.0	18.0	26.2	26.2	17.2	93.0	12.8	88.6
Total Split (%)	12.0%	12.0%	17.5%	17.5%	11.5%	62.0%	8.5%	59.1%
Maximum Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.5	7.0	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
Actuated g/C Ratio	0.07	0.07	0.13	0.13	0.07	0.58	0.04	0.55
v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07
Control Delay	147.4	73.7	129.9	42.4	71.2	30.6	77.0	46.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	147.4	73.7	129.9	42.4	71.2	30.6	77.0	46.7
LOS	F	E	F	D	E	C	E	D
Approach Delay		97.6		102.3		32.4		47.4
Approach LOS		F		F		C		D
90th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	11.0	11.0	19.2	19.2	10.2	87.5	5.8	83.1
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)	49	45	146	44	78	506	38	1573
Fuel Used(gal)	2	2	6	1	5	74	1	48
CO Emissions (g/hr)	150	164	430	91	327	5173	100	3363
NOx Emissions (g/hr)	29	32	84	18	64	1007	19	654
VOC Emissions (g/hr)	35	38	100	21	76	1199	23	779
Dilemma Vehicles (#)	0	0	0	0	0	57	0	37
Queue Length 50th (ft)	67	59	~201	50	105	~834	52	~835
Queue Length 95th (ft)	#154	#167	#341	101	m92	m119	m46	m398

Timings
106: US-69 & Tahlequah/Military

09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		217		563		2079		700
Turn Bay Length (ft)	75		100		100		225	
Base Capacity (vph)	75	162	198	223	105	2090	59	1990
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.88	1.01	0.41	0.95	1.05	0.85	1.07

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 60 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 45.8
 Intersection LOS: D
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military

Ø2 (R)	Ø1	Ø4	Ø3
93 s	12.8 s	18 s	26.2 s
Ø6 (R)	Ø5		
88.6 s	17.2 s		

Timings
107: US-69 & Shawnee St

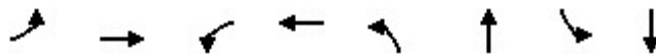
09-28-2020



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↗	↖↖	↖	↗	↖	↕↕	↗	↖↖	↕↕↕
Traffic Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Future Volume (vph)	380	25	635	265	450	54	1317	600	410	1348
Lane Group Flow (vph)	594	29	690	288	489	59	1432	652	446	1601
Turn Type	NA	Perm	Split	NA	Free	Prot	NA	Free	Prot	NA
Protected Phases	4		8	8		5	2		1	6
Permitted Phases		4			Free			Free		
Detector Phase	4	4	8	8		5	2		1	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0		6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0		19.5	19.0
Total Split (s)	27.0	27.0	32.0	32.0		16.4	66.0		25.0	74.6
Total Split (%)	18.0%	18.0%	21.3%	21.3%		10.9%	44.0%		16.7%	49.7%
Maximum Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0		2.5	1.0		2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5		7.0	6.0		7.0	6.0
Lead/Lag						Lag	Lag		Lead	Lead
Lead-Lag Optimize?						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	None	None	None	None		None	C-Max		None	C-Max
Act Effct Green (s)	19.5	19.5	24.5	24.5	150.0	9.4	60.0	150.0	18.0	68.6
Actuated g/C Ratio	0.13	0.13	0.16	0.16	1.00	0.06	0.40	1.00	0.12	0.46
v/c Ratio	1.49	0.09	1.56	1.10	0.37	0.92	1.49	0.53	1.30	1.00
Control Delay	277.1	0.5	302.9	142.2	0.8	71.8	246.2	0.9	193.3	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2
Total Delay	277.1	0.5	302.9	142.2	0.8	71.8	246.2	0.9	193.3	67.7
LOS	F	A	F	F	A	E	F	A	F	E
Approach Delay	264.2			170.6			166.8			95.0
Approach LOS	F			F			F			F
90th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
70th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
70th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
50th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
50th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
30th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
30th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
10th %ile Green (s)	19.5	19.5	24.5	24.5		9.4	60.0		18.0	68.6
10th %ile Term Code	Max	Max	Max	Max		Max	Coord		Max	Coord
Stops (vph)	367	0	450	221	0	40	895	25	313	1161
Fuel Used(gal)	35	0	49	12	5	2	84	3	34	75
CO Emissions (g/hr)	2481	15	3438	846	334	109	5858	242	2386	5210
NOx Emissions (g/hr)	483	3	669	165	65	21	1140	47	464	1014
VOC Emissions (g/hr)	575	3	797	196	77	25	1358	56	553	1207
Dilemma Vehicles (#)	11	0	0	8	0	0	47	0	0	73
Queue Length 50th (ft)	~421	0	~490	~319	0	57	~1010	0	~286	~484
Queue Length 95th (ft)	#504	0	#618	#512	0	m55	m#952	m0	m#176	m233

Timings
108: US-69 & Harris Rd

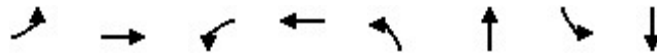
09-28-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	45	67	170	67	104	1586	170	1607
Future Volume (vph)	45	67	170	67	104	1586	170	1607
Lane Group Flow (vph)	0	231	0	390	113	1933	185	1804
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		4	5	2	1	6
Permitted Phases	4		4					
Detector Phase	4	4	4	4	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	12.5	19.0
Total Split (s)	45.0	45.0	45.0	45.0	16.0	84.0	21.0	89.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	10.7%	56.0%	14.0%	59.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		7.0	7.5	6.0	7.5	6.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)		38.0		38.0	8.5	78.0	13.5	83.0
Actuated g/C Ratio		0.25		0.25	0.06	0.52	0.09	0.55
v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31
Control Delay		55.9		288.1	186.0	240.5	288.4	176.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		55.9		288.1	186.0	240.5	288.4	176.4
LOS		E		F	F	F	F	F
Approach Delay		55.9		288.1		237.5		186.8
Approach LOS		E		F		F		F
90th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	38.0	38.0	38.0	38.0	8.5	78.0	13.5	83.0
10th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
Stops (vph)		167		242	74	390	122	1283
Fuel Used(gal)		5		26	8	153	13	88
CO Emissions (g/hr)		363		1842	590	10700	893	6154
NOx Emissions (g/hr)		71		358	115	2082	174	1197
VOC Emissions (g/hr)		84		427	137	2480	207	1426
Dilemma Vehicles (#)		0		0	0	13	0	42
Queue Length 50th (ft)		182		~521	~140	~1373	~246	~1197
Queue Length 95th (ft)		285		#735	m#113	m#881	#410	#1335

Timings
108: US-69 & Harris Rd

09-28-2020



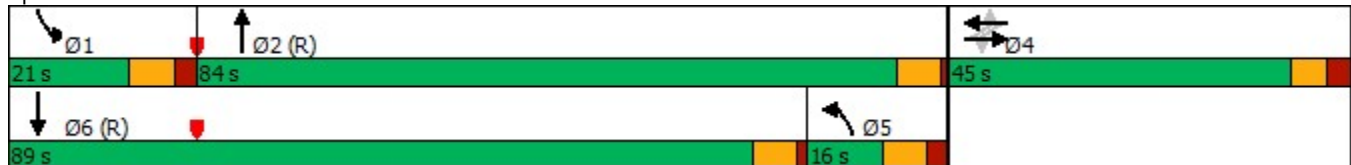
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638		1077
Turn Bay Length (ft)					175		175	
Base Capacity (vph)		337		257	86	1294	127	1374
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.69		1.52	1.31	1.49	1.46	1.31

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.52
 Intersection Signal Delay: 211.1
 Intersection LOS: F
 Intersection Capacity Utilization 129.1%
 ICU Level of Service H
 Analysis Period (min) 15

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

Splits and Phases: 108: US-69 & Harris Rd



Arterial Level of Service: NB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	55	28.7	26.9	55.6	0.33	21.4	D
Border	II	48	75.2	15.0	90.2	1.00	39.9	A
Arline	II	35	49.7	14.9	64.6	0.48	26.9	C
Quadrant Road West	II	30	58.1	0.4	58.5	0.46	28.1	B
Okmulgee	II	35	8.2	12.7	20.9	0.07	11.3	F
Broadway	II	35	8.8	17.0	25.8	0.07	9.8	F
Tahlequah/Military	II	40	71.2	17.5	88.7	0.78	31.8	B
	II	30	17.6	12.7	30.3	0.12	14.9	E
Shawnee St	II	45	2.5	9.9	12.4	0.02	6.6	F
Harris Rd	II	45	80.3	8.5	88.8	1.00	40.7	A
Total	II		400.3	135.5	535.8	4.34	29.2	B

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	29.7	53.6	0.22	14.7	E
Shawnee St	II	45	80.3	9.4	89.7	1.00	40.3	A
	II	30	3.5	2.7	6.2	0.02	13.2	E
Tahlequah/Military	II	45	13.6	20.0	33.6	0.12	13.4	E
Broadway	II	40	71.2	6.7	77.9	0.78	36.2	A
Okmulgee	II	35	8.8	3.1	11.9	0.07	21.3	D
Quadrant Road West	II	30	10.2	10.3	20.5	0.07	11.5	F
Arline	II	35	47.5	13.8	61.3	0.46	26.9	C
Border	II	35	49.7	23.7	73.4	0.48	23.7	C
Hancock	II	48	75.2	1.2	76.4	1.00	47.1	A
Total	II		383.9	120.6	504.5	4.23	30.2	B

Arterial Level of Service: NB US-69

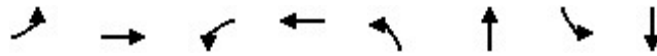
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hancock	II	36	35.7	35.7	71.4	0.33	16.6	E
Border	II	48	75.2	37.2	112.4	1.00	32.0	B
Arline	II	35	49.7	16.9	66.6	0.48	26.1	C
Quadrant Road West	II	35	47.5	0.3	47.8	0.46	34.4	B
Okmulgee	II	35	8.2	14.2	22.4	0.07	10.5	F
Broadway	II	35	8.8	27.4	36.2	0.07	7.0	F
Tahlequah/Military	II	40	71.2	32.4	103.6	0.78	27.2	C
	II	45	13.6	20.0	33.6	0.12	13.4	E
Shawnee St	II	45	2.5	19.6	22.1	0.02	3.7	F
Harris Rd	II	45	80.3	67.1	147.4	1.00	24.5	C
Total	II		392.7	270.8	663.5	4.34	23.5	C

Arterial Level of Service: SB US-69

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harris Rd	II	45	23.9	38.6	62.5	0.22	12.6	F
Shawnee St	II	45	80.3	53.4	133.7	1.00	27.0	C
	II	45	2.5	3.1	5.6	0.02	14.6	E
Tahlequah/Military	II	45	13.6	30.1	43.7	0.12	10.3	F
Broadway	II	40	71.2	9.5	80.7	0.78	34.9	B
Okmulgee	II	35	8.8	19.2	28.0	0.07	9.0	F
Quadrant Road West	II	35	8.2	31.3	39.5	0.07	6.0	F
Arline	II	35	47.5	42.6	90.1	0.46	18.3	D
Border	II	35	49.7	20.0	69.7	0.48	24.9	C
Hancock	II	48	75.2	15.6	90.8	1.00	39.6	A
Total	II		380.9	263.4	644.3	4.23	23.6	C

Timings
101: US-69 & Hancock

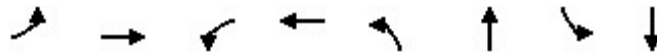
09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	35	25	35	15	22	1634	125	1519
Future Volume (vph)	35	25	35	15	22	1634	125	1519
Lane Group Flow (vph)	39	52	41	236	24	1801	136	1684
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	30.0	30.0	30.0	30.0	15.0	93.0	27.0	105.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	10.0%	62.0%	18.0%	70.0%
Maximum Green (s)	23.0	23.0	23.0	23.0	7.0	86.5	19.0	98.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.7	16.7	16.7	16.7	6.3	92.8	19.0	110.8
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.04	0.62	0.13	0.74
v/c Ratio	0.91	0.28	0.32	0.68	0.38	0.81	0.70	0.64
Control Delay	176.2	38.0	64.8	19.6	86.4	26.9	54.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	176.2	38.0	64.8	19.6	86.4	26.9	54.0	1.2
LOS	F	D	E	B	F	C	D	A
Approach Delay		97.2		26.3		27.6		5.1
Approach LOS		F		C		C		A
90th %ile Green (s)	23.0	23.0	23.0	23.0	7.0	86.5	19.0	98.5
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	23.0	23.0	23.0	23.0	7.0	86.5	19.0	98.5
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	18.4	18.4	18.4	18.4	6.8	91.1	19.0	103.3
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Coord	Hold	Coord
30th %ile Green (s)	13.3	13.3	13.3	13.3	0.0	96.2	19.0	123.2
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	Coord	Hold	Coord
10th %ile Green (s)	6.0	6.0	6.0	6.0	0.0	103.5	19.0	130.5
10th %ile Term Code	Hold	Hold	Hold	Hold	Skip	Coord	Hold	Coord
Stops (vph)	31	25	31	33	23	1256	119	29
Fuel Used(gal)	2	1	1	2	1	51	7	53
CO Emissions (g/hr)	114	54	59	153	74	3543	508	3703
NOx Emissions (g/hr)	22	11	11	30	14	689	99	720
VOC Emissions (g/hr)	26	13	14	36	17	821	118	858
Dilemma Vehicles (#)	0	0	0	0	0	55	0	13
Queue Length 50th (ft)	38	25	37	16	23	485	136	9
Queue Length 95th (ft)	#102	66	71	83	56	609	m158	19

Timings
101: US-69 & Hancock

09-30-2020

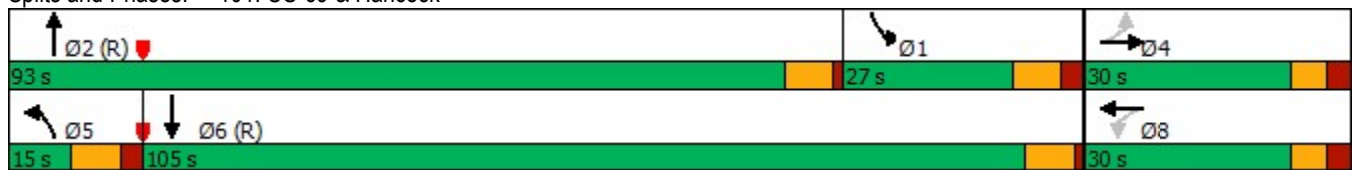


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	59	250	179	397	71	2222	194	2613
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.21	0.23	0.59	0.34	0.81	0.70	0.64

Intersection Summary

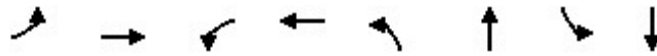
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 147 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 18.9
 Intersection LOS: B
 Intersection Capacity Utilization 87.6%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

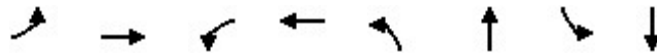
09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	160	44	22	45	80	1757	70	1592
Future Volume (vph)	160	44	22	45	80	1757	70	1592
Lane Group Flow (vph)	178	138	26	206	87	1950	76	1850
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	45.0	45.0	45.0	45.0	16.0	90.0	15.0	89.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	10.7%	60.0%	10.0%	59.3%
Maximum Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.1	35.1	35.1	35.1	10.3	87.9	8.5	86.1
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.07	0.59	0.06	0.57
v/c Ratio	0.97	0.36	0.11	0.51	0.83	0.92	0.88	0.90
Control Delay	114.0	29.2	44.8	30.6	117.0	15.0	111.2	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.0	29.2	44.8	30.6	117.0	15.0	111.2	23.7
LOS	F	C	D	C	F	B	F	C
Approach Delay		77.0		32.2		19.3		27.1
Approach LOS		E		C		B		C
90th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
90th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
70th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	38.0	38.0	38.0	38.0	9.5	85.0	8.5	84.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	35.3	35.3	35.3	35.3	12.2	87.7	8.5	84.0
30th %ile Term Code	Gap	Gap	Hold	Hold	Max	Coord	Max	Coord
10th %ile Green (s)	26.4	26.4	26.4	26.4	10.7	96.6	8.5	94.4
10th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Coord	Max	Coord
Stops (vph)	141	59	18	83	65	1364	60	669
Fuel Used(gal)	5	2	0	3	6	85	3	45
CO Emissions (g/hr)	367	116	29	176	386	5957	232	3115
NOx Emissions (g/hr)	71	22	6	34	75	1159	45	606
VOC Emissions (g/hr)	85	27	7	41	89	1381	54	722
Dilemma Vehicles (#)	0	0	0	0	0	37	0	35
Queue Length 50th (ft)	169	62	20	93	82	640	75	266
Queue Length 95th (ft)	#319	128	44	160	m#129	#424	m#117	247

Timings
102: US-69 & Border

09-30-2020

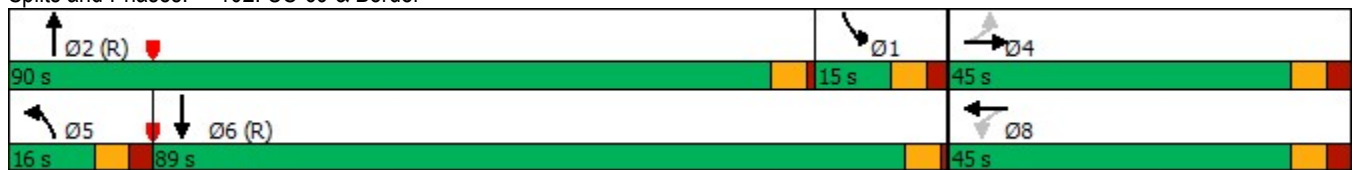


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	199	412	253	433	105	2122	86	2054
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.33	0.10	0.48	0.83	0.92	0.88	0.90

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 74 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 27.4
 Intersection LOS: C
 Intersection Capacity Utilization 88.7%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	120	47	105	53	68	1897	40	1628	93
Future Volume (vph)	120	47	105	53	68	1897	40	1628	93
Lane Group Flow (vph)	141	110	124	124	74	2190	43	1770	101
Turn Type	D.Pm	NA	D.Pm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	8		4						6
Detector Phase	8	4	4	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	13.5	22.0	13.5	21.0	21.0
Total Split (s)	33.0	33.0	33.0	33.0	17.1	103.0	14.0	99.9	99.9
Total Split (%)	22.0%	22.0%	22.0%	22.0%	11.4%	68.7%	9.3%	66.6%	66.6%
Maximum Green (s)	28.5	28.5	28.5	28.5	11.1	98.0	8.0	94.9	94.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.5	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	6.0	5.0	6.0	5.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.7	25.7	25.7	25.7	11.1	103.6	7.6	97.7	97.7
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.07	0.69	0.05	0.65	0.65
v/c Ratio	0.92	0.39	0.76	0.44	0.65	0.86	0.56	0.76	0.11
Control Delay	114.3	43.1	86.7	46.2	71.0	14.9	91.8	13.8	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.3	43.1	86.7	46.2	71.0	14.9	91.8	13.8	2.6
LOS	F	D	F	D	E	B	F	B	A
Approach Delay		83.1		66.5		16.7		14.9	
Approach LOS		F		E		B		B	
90th %ile Green (s)	28.5	28.5	28.5	28.5	11.1	98.0	8.0	94.9	94.9
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	28.5	28.5	28.5	28.5	11.1	98.0	8.0	94.9	94.9
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	28.5	28.5	28.5	28.5	11.1	98.0	8.0	94.9	94.9
50th %ile Term Code	Max	Hold	Hold	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	25.1	25.1	25.1	25.1	11.1	101.4	8.0	98.3	98.3
30th %ile Term Code	Gap	Hold	Hold	Gap	Hold	Coord	Gap	Coord	Coord
10th %ile Green (s)	18.1	18.1	18.1	18.1	11.1	122.4	0.0	105.3	105.3
10th %ile Term Code	Gap	Hold	Hold	Gap	Hold	Coord	Skip	Coord	Coord
Stops (vph)	107	59	97	70	62	693	37	1013	17
Fuel Used(gal)	4	2	3	2	3	48	2	41	2
CO Emissions (g/hr)	270	107	195	124	189	3382	120	2834	126
NOx Emissions (g/hr)	53	21	38	24	37	658	23	551	24
VOC Emissions (g/hr)	63	25	45	29	44	784	28	657	29
Dilemma Vehicles (#)	0	0	0	0	0	98	0	29	0
Queue Length 50th (ft)	134	68	114	81	68	303	40	387	8
Queue Length 95th (ft)	#235	121	#182	137	m80	357	m58	453	m14

Timings
103: US-69 & Arline

09-30-2020

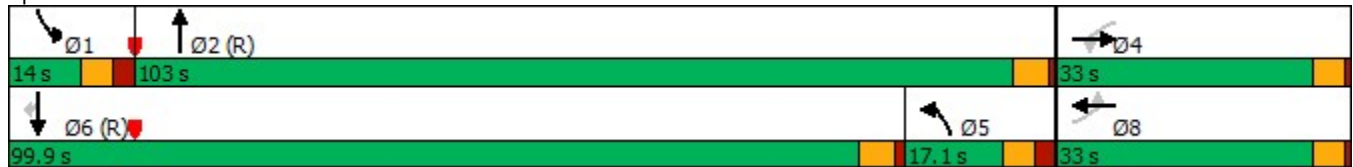


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Internal Link Dist (ft)		440		408		2469		2334	
Turn Bay Length (ft)	250		125		125		175		100
Base Capacity (vph)	170	308	181	308	113	2546	81	2337	912
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.36	0.69	0.40	0.65	0.86	0.53	0.76	0.11

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 68 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 78.1%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: US-69 & Arline



Timings
104: US-69 & Okmulgee

09-30-2020



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↗	↑↑↑	↗	↑↑↑	↗
Traffic Volume (vph)	931	930	285	1898	140	1632	261
Future Volume (vph)	931	930	285	1898	140	1632	261
Lane Group Flow (vph)	1012	1011	310	2063	152	1774	284
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		2		6	
Permitted Phases			8		2		6
Detector Phase	4	8	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	15.5	15.5	17.0	17.0	17.0	17.0
Total Split (s)	49.0	49.0	49.0	101.0	101.0	101.0	101.0
Total Split (%)	32.7%	32.7%	32.7%	67.3%	67.3%	67.3%	67.3%
Maximum Green (s)	43.5	43.5	43.5	95.5	95.5	95.5	95.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	40.0	40.0	40.0	99.0	99.0	99.0	99.0
Actuated g/C Ratio	0.27	0.27	0.27	0.66	0.66	0.66	0.66
v/c Ratio	0.90	0.87	0.82	0.85	0.17	0.74	0.34
Control Delay	65.0	61.4	66.2	12.7	3.5	3.1	1.6
Queue Delay	18.9	15.9	8.3	1.5	0.8	0.3	0.9
Total Delay	83.8	77.2	74.5	14.2	4.2	3.5	2.5
LOS	F	E	E	B	A	A	A
Approach Delay	83.8	76.6		13.5		3.3	
Approach LOS	F	E		B		A	
90th %ile Green (s)	43.5	43.5	43.5	95.5	95.5	95.5	95.5
90th %ile Term Code	Max	Max	Max	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.4	43.4	43.4	95.6	95.6	95.6	95.6
70th %ile Term Code	Gap	Hold	Hold	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.8	40.8	40.8	98.2	98.2	98.2	98.2
50th %ile Term Code	Gap	Hold	Hold	Coord	Coord	Coord	Coord
30th %ile Green (s)	38.1	38.1	38.1	100.9	100.9	100.9	100.9
30th %ile Term Code	Gap	Hold	Hold	Coord	Coord	Coord	Coord
10th %ile Green (s)	34.0	34.0	34.0	105.0	105.0	105.0	105.0
10th %ile Term Code	Gap	Hold	Hold	Coord	Coord	Coord	Coord
Stops (vph)	881	867	249	1115	25	175	6
Fuel Used(gal)	20	19	6	18	1	7	1
CO Emissions (g/hr)	1395	1343	425	1261	45	470	58
NOx Emissions (g/hr)	271	261	83	245	9	92	11
VOC Emissions (g/hr)	323	311	98	292	10	109	13

Timings
104: US-69 & Okmulgee

09-30-2020



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Dilemma Vehicles (#)	0	0	0	31	0	6	0
Queue Length 50th (ft)	349	345	269	337	9	29	7
Queue Length 95th (ft)	400	394	385	480	15	35	m11
Internal Link Dist (ft)	303	307		266		291	
Turn Bay Length (ft)			225		225		225
Base Capacity (vph)	1218	1265	410	2429	912	2390	830
Starvation Cap Reductn	226	262	69	139	520	183	307
Spillback Cap Reductn	0	0	0	197	0	111	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	1.01	0.91	0.92	0.39	0.80	0.54

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 137 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.7

Intersection LOS: C

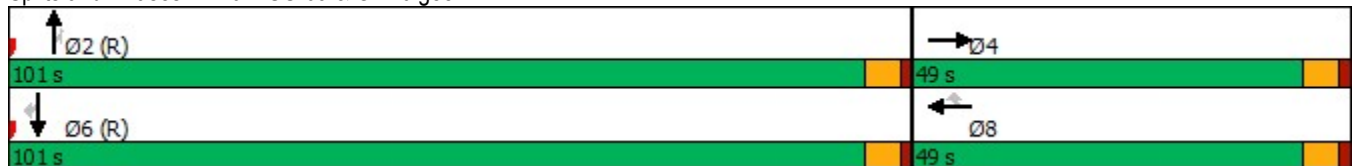
Intersection Capacity Utilization 72.8%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

09-30-2020



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑↑	↑	↑↑↑	↑
Traffic Volume (vph)	599	53	512	310	2018	487	1719	280
Future Volume (vph)	599	53	512	310	2018	487	1719	280
Lane Group Flow (vph)	705	62	675	292	2193	529	1868	304
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2		6	
Permitted Phases		4		8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.0	14.0	14.0	14.0	18.5	18.5	18.5	18.5
Total Split (s)	49.0	49.0	49.0	49.0	101.0	101.0	101.0	101.0
Total Split (%)	32.7%	32.7%	32.7%	32.7%	67.3%	67.3%	67.3%	67.3%
Maximum Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	41.8	41.8	41.8	41.8	97.7	97.7	97.7	97.7
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.65	0.65	0.65	0.65
v/c Ratio	0.83	0.16	0.85	0.95	0.91	0.60	0.81	0.33
Control Delay	59.7	28.1	59.4	82.9	17.0	9.3	6.7	1.6
Queue Delay	0.0	0.0	50.5	18.7	5.5	2.4	0.0	0.0
Total Delay	59.7	28.1	109.8	101.6	22.5	11.7	6.7	1.6
LOS	E	C	F	F	C	B	A	A
Approach Delay	57.2		107.4		20.4		6.0	
Approach LOS	E		F		C		A	
90th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
70th %ile Term Code	Hold	Hold	Max	Max	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
50th %ile Term Code	Hold	Hold	Max	Max	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
30th %ile Term Code	Hold	Hold	Max	Max	Coord	Coord	Coord	Coord
10th %ile Green (s)	34.9	34.9	34.9	34.9	104.6	104.6	104.6	104.6
10th %ile Term Code	Hold	Hold	Gap	Gap	Coord	Coord	Coord	Coord
Stops (vph)	551	27	535	214	1197	110	917	25
Fuel Used(gal)	14	1	12	6	21	3	60	8
CO Emissions (g/hr)	992	56	808	426	1494	214	4163	572
NOx Emissions (g/hr)	193	11	157	83	291	42	810	111
VOC Emissions (g/hr)	230	13	187	99	346	49	965	133

Timings
105: US-69 & Broadway

09-30-2020



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	79	0	3	0
Queue Length 50th (ft)	336	30	338	294	434	110	228	14
Queue Length 95th (ft)	384	63	389	m#401	528	m164	252	m17
Internal Link Dist (ft)	747		293		291		1894	
Turn Bay Length (ft)		75		100		200		200
Base Capacity (vph)	889	413	828	318	2397	882	2320	918
Starvation Cap Reductn	0	0	221	30	174	226	0	0
Spillback Cap Reductn	0	0	0	0	0	0	3	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.15	1.11	1.01	0.99	0.81	0.81	0.33

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 130 (87%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 74.5%

ICU Level of Service D

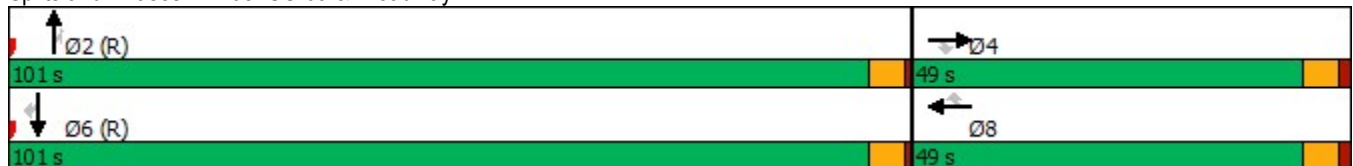
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

09-30-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	32	22	85	158	22	68	1935	105	34	1786	15
Future Volume (vph)	32	22	85	158	22	68	1935	105	34	1786	15
Lane Group Flow (vph)	32	32	100	128	124	74	2103	114	37	1941	16
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	4	4	4	3	3	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	15.5	12.5	22.0	22.0	12.5	22.0	22.0
Total Split (s)	15.6	15.6	15.6	23.0	23.0	16.0	98.4	98.4	13.0	95.4	95.4
Total Split (%)	10.4%	10.4%	10.4%	15.3%	15.3%	10.7%	65.6%	65.6%	8.7%	63.6%	63.6%
Maximum Green (s)	8.6	8.6	8.6	16.0	16.0	9.0	92.9	92.9	6.0	89.9	89.9
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	7.0	5.5	5.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.4	8.4	8.4	15.4	15.4	8.8	96.4	96.4	5.9	90.9	90.9
Actuated g/C Ratio	0.06	0.06	0.06	0.10	0.10	0.06	0.64	0.64	0.04	0.61	0.61
v/c Ratio	0.59	0.42	0.56	0.86	0.79	0.82	0.90	0.12	0.62	0.89	0.02
Control Delay	108.1	84.9	19.1	109.2	90.4	92.1	17.5	0.2	87.7	20.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	108.1	84.9	19.1	109.2	90.4	92.1	17.5	0.2	87.7	20.3	0.0
LOS	F	F	B	F	F	F	B	A	F	C	A
Approach Delay		49.3			100.0		19.0			21.4	
Approach LOS		D			F		B			C	
90th %ile Green (s)	8.6	8.6	8.6	16.0	16.0	9.0	92.9	92.9	6.0	89.9	89.9
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	8.6	8.6	8.6	16.0	16.0	9.0	92.9	92.9	6.0	89.9	89.9
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	8.6	8.6	8.6	16.0	16.0	9.0	92.9	92.9	6.0	89.9	89.9
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	8.0	8.0	8.0	16.6	16.6	9.0	92.9	92.9	6.0	89.9	89.9
30th %ile Term Code	Min	Min	Min	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	8.0	8.0	8.0	12.3	12.3	8.2	110.2	110.2	0.0	95.0	95.0
10th %ile Term Code	Min	Min	Min	Gap	Gap	Gap	Coord	Coord	Skip	Coord	Coord
Stops (vph)	24	26	9	99	86	61	1721	1	30	1047	0
Fuel Used(gal)	1	1	1	4	3	4	78	3	1	28	0
CO Emissions (g/hr)	55	47	40	246	205	264	5456	207	79	1954	4
NOx Emissions (g/hr)	11	9	8	48	40	51	1062	40	15	380	1
VOC Emissions (g/hr)	13	11	9	57	48	61	1264	48	18	453	1
Dilemma Vehicles (#)	0	0	0	0	0	0	19	0	0	65	0
Queue Length 50th (ft)	32	32	0	131	112	74	691	0	36	362	0
Queue Length 95th (ft)	#81	68	33	#231	#201	m82	691	m0	m51	490	m0

Timings
106: US-69 & Tahlequah/Military

09-30-2020

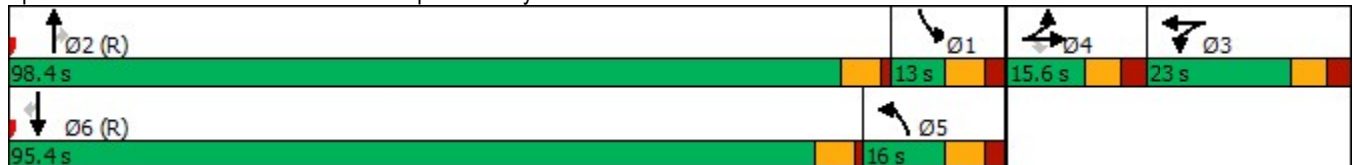


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		217			563		2079			580	
Turn Bay Length (ft)	75		150	100		100		200	225		200
Base Capacity (vph)	56	79	179	156	164	92	2344	929	61	2176	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	31	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.41	0.56	0.82	0.76	0.80	0.90	0.12	0.61	0.90	0.02

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 58 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 77.6%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-30-2020



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	105	245	22	277	317	32	1317	360	1253
Future Volume (vph)	105	245	22	277	317	32	1317	360	1253
Lane Group Flow (vph)	124	288	26	301	345	35	1432	391	1534
Turn Type	D.Pm	NA	Over	NA	Free	Prot	NA	Prot	NA
Protected Phases		4	5	8		5	2	1	6
Permitted Phases	8				Free				
Detector Phase	8	4	5	8		5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0		6.0	12.0	6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5		13.5	19.0	19.5	19.0
Total Split (s)	46.0	46.0	15.4	46.0		15.4	74.0	30.0	88.6
Total Split (%)	30.7%	30.7%	10.3%	30.7%		10.3%	49.3%	20.0%	59.1%
Maximum Green (s)	38.5	38.5	8.4	38.5		8.4	68.0	23.0	82.6
Yellow Time (s)	4.5	4.5	4.5	4.5		4.5	5.0	4.5	5.0
All-Red Time (s)	3.0	3.0	2.5	3.0		2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.0	7.5		7.0	6.0	7.0	6.0
Lead/Lag			Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			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	None	None	None	None		None	C-Max	None	C-Max
Act Effct Green (s)	36.6	36.6	7.9	36.6	150.0	7.9	70.3	22.6	87.6
Actuated g/C Ratio	0.24	0.24	0.05	0.24	1.00	0.05	0.47	0.15	0.58
v/c Ratio	0.94	0.73	0.14	0.76	0.27	0.65	0.88	0.92	0.75
Control Delay	118.0	63.8	1.5	66.1	0.5	96.4	9.9	76.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	116.5	0.0	0.0	0.0
Total Delay	118.0	63.8	1.5	66.1	0.5	212.9	9.9	76.4	9.4
LOS	F	E	A	E	A	F	A	E	A
Approach Delay		75.4		31.1			14.8		23.0
Approach LOS		E		C			B		C
90th %ile Green (s)	38.5	38.5	8.4	38.5		8.4	68.0	23.0	82.6
90th %ile Term Code	Max	Max	Max	Max		Max	Coord	Max	Coord
70th %ile Green (s)	38.5	38.5	8.4	38.5		8.4	68.0	23.0	82.6
70th %ile Term Code	Max	Hold	Max	Max		Max	Coord	Max	Coord
50th %ile Green (s)	38.5	38.5	8.4	38.5		8.4	68.0	23.0	82.6
50th %ile Term Code	Max	Hold	Max	Max		Max	Coord	Max	Coord
30th %ile Green (s)	36.6	36.6	8.4	36.6		8.4	69.9	23.0	84.5
30th %ile Term Code	Gap	Hold	Max	Gap		Max	Coord	Max	Coord
10th %ile Green (s)	31.0	31.0	0.0	31.0		0.0	77.6	20.9	105.5
10th %ile Term Code	Gap	Hold	Skip	Gap		Skip	Coord	Gap	Coord
Stops (vph)	89	223	0	256	0	30	337	345	803
Fuel Used(gal)	4	7	0	7	1	1	8	22	61
CO Emissions (g/hr)	285	484	13	478	97	72	551	1557	4279
NOx Emissions (g/hr)	55	94	3	93	19	14	107	303	833
VOC Emissions (g/hr)	66	112	3	111	22	17	128	361	992
Dilemma Vehicles (#)	0	8	0	9	0	0	43	0	21
Queue Length 50th (ft)	118	257	0	271	0	37	62	209	205
Queue Length 95th (ft)	#228	341	0	386	0	m51	75	m#284	175

Timings

107: US-69 & Shawnee St

09-30-2020



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1085		510			40		500
Turn Bay Length (ft)	200		100		400			200	
Base Capacity (vph)	139	414	190	414	1296	57	1630	434	2039
Starvation Cap Reductn	0	0	0	0	0	33	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.70	0.14	0.73	0.27	1.46	0.88	0.90	0.75

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 88 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 26.6

Intersection LOS: C

Intersection Capacity Utilization 88.7%

ICU Level of Service E

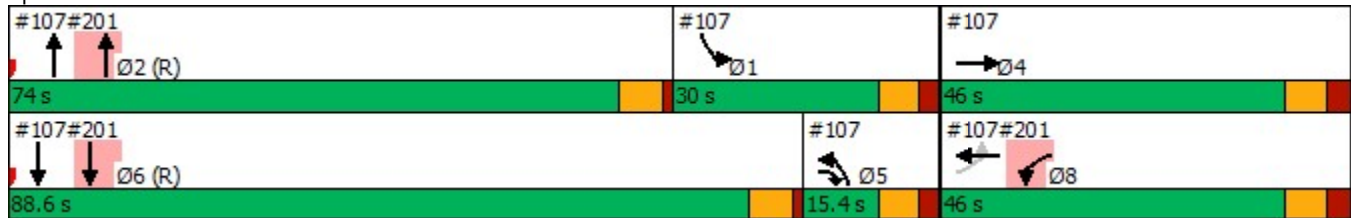
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	44	51	162	45	67	1559	155	89	1517
Future Volume (vph)	44	51	162	45	67	1559	155	89	1517
Lane Group Flow (vph)	49	148	180	181	73	1695	168	97	1689
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		4	5	2		1	6
Permitted Phases	4		4				2		
Detector Phase	4	4	4	4	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	19.0	12.5	19.0
Total Split (s)	43.0	43.0	43.0	43.0	18.2	84.5	84.5	22.5	88.8
Total Split (%)	28.7%	28.7%	28.7%	28.7%	12.1%	56.3%	56.3%	15.0%	59.2%
Maximum Green (s)	36.0	36.0	36.0	36.0	10.7	78.5	78.5	15.0	82.8
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	7.5	6.0	6.0	7.5	6.0
Lead/Lag					Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	31.3	31.3	31.3	31.3	10.1	83.8	83.8	14.4	88.1
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.07	0.56	0.56	0.10	0.59
v/c Ratio	0.28	0.43	0.91	0.49	0.71	0.84	0.24	0.73	0.81
Control Delay	52.5	36.4	101.5	31.4	81.6	8.5	0.5	94.9	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	36.4	101.5	31.4	81.6	8.5	0.5	94.9	29.7
LOS	D	D	F	C	F	A	A	F	C
Approach Delay		40.4		66.4		10.5			33.2
Approach LOS		D		E		B			C
90th %ile Green (s)	36.0	36.0	36.0	36.0	10.7	78.5	78.5	15.0	82.8
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	36.0	36.0	36.0	36.0	10.7	78.5	78.5	15.0	82.8
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	34.7	34.7	34.7	34.7	10.7	79.8	79.8	15.0	84.1
50th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	28.7	28.7	28.7	28.7	10.7	85.8	85.8	15.0	90.1
30th %ile Term Code	Gap	Gap	Gap	Gap	Max	Coord	Coord	Hold	Coord
10th %ile Green (s)	21.3	21.3	21.3	21.3	7.7	96.2	96.2	12.0	100.5
10th %ile Term Code	Gap	Gap	Gap	Gap	Gap	Coord	Coord	Hold	Coord
Stops (vph)	37	75	149	77	64	368	0	82	1216
Fuel Used(gal)	1	3	6	4	4	61	5	3	36
CO Emissions (g/hr)	75	183	434	246	295	4256	374	238	2529
NOx Emissions (g/hr)	15	36	84	48	57	828	73	46	492
VOC Emissions (g/hr)	17	42	101	57	68	986	87	55	586
Dilemma Vehicles (#)	0	0	0	0	0	30	0	0	52
Queue Length 50th (ft)	40	80	169	81	75	105	0	93	491
Queue Length 95th (ft)	80	149	#295	158	m94	116	m0	#179	581

Timings
201: US-69

09-30-2020



Lane Group	WBL	NBT	NBR	SBT	Ø1	Ø4	Ø5
Lane Configurations							
Traffic Volume (vph)	560	1349	600	1275			
Future Volume (vph)	560	1349	600	1275			
Lane Group Flow (vph)	609	1466	652	1386			
Turn Type	Prot	NA	Free	NA			
Protected Phases	8	2		6	1	4	5
Permitted Phases			Free				
Detector Phase	8	2		6			
Switch Phase							
Minimum Initial (s)	6.0	12.0		12.0	6.0	6.0	6.0
Minimum Split (s)	13.5	19.0		19.0	19.5	13.5	13.5
Total Split (s)	46.0	74.0		88.6	30.0	46.0	15.4
Total Split (%)	30.7%	49.3%		59.1%	20%	31%	10%
Maximum Green (s)	38.5	68.0		82.6	23.0	38.5	8.4
Yellow Time (s)	4.5	5.0		5.0	4.5	4.5	4.5
All-Red Time (s)	3.0	1.0		1.0	2.5	3.0	2.5
Lost Time Adjust (s)	0.0	0.0		0.0			
Total Lost Time (s)	7.5	6.0		6.0			
Lead/Lag		Lead		Lead	Lag		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	None	None	None
Act Effct Green (s)	36.6	70.3	150.0	87.6			
Actuated g/C Ratio	0.24	0.47	1.00	0.58			
v/c Ratio	0.91	0.71	0.52	0.68			
Control Delay	74.0	12.7	0.7	2.7			
Queue Delay	0.0	0.7	0.0	0.3			
Total Delay	74.0	13.3	0.7	3.1			
LOS	E	B	A	A			
Approach Delay		9.5		3.1			
Approach LOS		A		A			
90th %ile Green (s)	38.5	68.0		82.6	23.0	38.5	8.4
90th %ile Term Code	Max	Coord		Coord	Max	Max	Max
70th %ile Green (s)	38.5	68.0		82.6	23.0	38.5	8.4
70th %ile Term Code	Max	Coord		Coord	Max	Hold	Max
50th %ile Green (s)	38.5	68.0		82.6	23.0	38.5	8.4
50th %ile Term Code	Max	Coord		Coord	Max	Hold	Max
30th %ile Green (s)	36.6	69.9		84.5	23.0	36.6	8.4
30th %ile Term Code	Gap	Coord		Coord	Max	Hold	Max
10th %ile Green (s)	31.0	77.6		105.5	20.9	31.0	0.0
10th %ile Term Code	Gap	Coord		Coord	Gap	Hold	Skip
Stops (vph)	521	714	4	39			
Fuel Used(gal)	14	14	3	2			
CO Emissions (g/hr)	988	1005	224	148			
NOx Emissions (g/hr)	192	195	44	29			
VOC Emissions (g/hr)	229	233	52	34			
Dilemma Vehicles (#)	0	0	0	0			
Queue Length 50th (ft)	295	175	0	15			
Queue Length 95th (ft)	#393	258	m0	23			

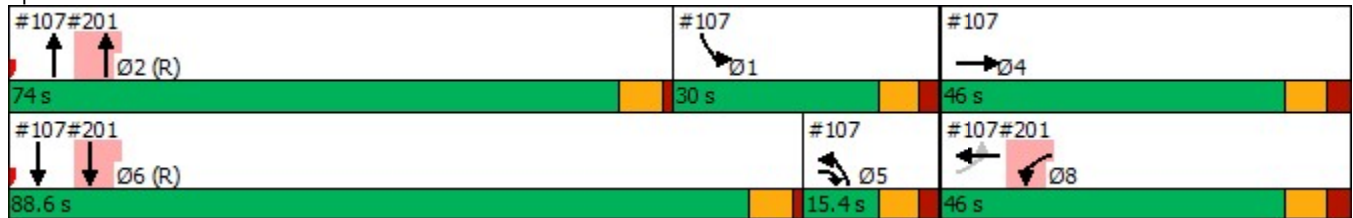


Lane Group	WBL	NBT	NBR	SBT	Ø1	Ø4	Ø5
Internal Link Dist (ft)		580		40			
Turn Bay Length (ft)			500				
Base Capacity (vph)	701	2053	1260	2030			
Starvation Cap Reductn	0	0	0	191			
Spillback Cap Reductn	0	255	0	58			
Storage Cap Reductn	0	0	0	0			
Reduced v/c Ratio	0.87	0.82	0.52	0.75			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 88 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 16.9
 Intersection LOS: B
 Intersection Capacity Utilization 55.6%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 201: US-69



Timings
202: Shawnee St

09-30-2020



Lane Group	EBT	WBL	WBT	NBR
Lane Configurations	↑↑	↘↘	↑	↗↗
Traffic Volume (vph)	605	560	594	600
Future Volume (vph)	605	560	594	600
Lane Group Flow (vph)	658	609	646	652
Turn Type	NA	Prot	NA	Over
Protected Phases	4	3	Free	3
Permitted Phases				
Detector Phase	4	3		3
Switch Phase				
Minimum Initial (s)	6.0	5.0		5.0
Minimum Split (s)	13.5	9.5		9.5
Total Split (s)	27.0	23.0		23.0
Total Split (%)	54.0%	46.0%		46.0%
Maximum Green (s)	19.5	18.5		18.5
Yellow Time (s)	4.5	3.5		3.5
All-Red Time (s)	3.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	7.5	4.5		4.5
Lead/Lag	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0
Recall Mode	C-Max	None		None
Act Effct Green (s)	21.3	16.7	50.0	16.7
Actuated g/C Ratio	0.43	0.33	1.00	0.33
v/c Ratio	0.52	0.67	0.41	0.74
Control Delay	13.0	18.0	0.8	15.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.0	18.0	0.8	15.5
LOS	B	B	A	B
Approach Delay	13.0		9.1	
Approach LOS	B		A	
90th %ile Green (s)	19.5	18.5		18.5
90th %ile Term Code	Coord	Max		Max
70th %ile Green (s)	19.5	18.5		18.5
70th %ile Term Code	Coord	Max		Max
50th %ile Green (s)	19.7	18.3		18.3
50th %ile Term Code	Coord	Gap		Gap
30th %ile Green (s)	22.2	15.8		15.8
30th %ile Term Code	Coord	Gap		Gap
10th %ile Green (s)	25.7	12.3		12.3
10th %ile Term Code	Coord	Gap		Gap
Stops (vph)	425	443	0	353
Fuel Used(gal)	7	9	4	7
CO Emissions (g/hr)	516	619	264	479
NOx Emissions (g/hr)	100	120	51	93
VOC Emissions (g/hr)	119	143	61	111
Dilemma Vehicles (#)	61	56	0	0
Queue Length 50th (ft)	74	72	0	57
Queue Length 95th (ft)	117	114	0	111

Timings
202: Shawnee St

09-30-2020

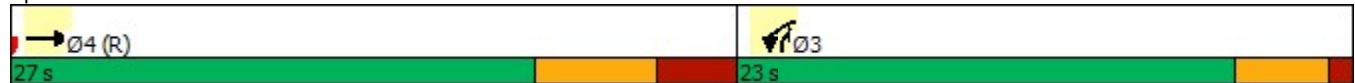


Lane Group	EBT	WBL	WBT	NBR
Internal Link Dist (ft)	510		778	
Turn Bay Length (ft)		500		
Base Capacity (vph)	1270	1011	1568	950
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.60	0.41	0.69

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 50	
Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 11.7	Intersection LOS: B
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 202: Shawnee St



Timings

301: Quadrant Road West & Okmulgee

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↔	↑↑	↑
Traffic Volume (vph)	810	120	330	1040	121
Future Volume (vph)	810	120	330	1040	121
Lane Group Flow (vph)	880	130	359	1130	132
Turn Type	NA	Perm	Prot	NA	Over
Protected Phases	4		3	Free	3
Permitted Phases		4			
Detector Phase	4	4	3		3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	9.5		9.5
Total Split (s)	32.0	32.0	18.0		18.0
Total Split (%)	64.0%	64.0%	36.0%		36.0%
Maximum Green (s)	27.5	27.5	13.5		13.5
Yellow Time (s)	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5
Lead/Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0
Recall Mode	C-Max	C-Max	None		None
Walk Time (s)	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0			
Pedestrian Calls (#/hr)	0	0			
Act Effct Green (s)	30.0	30.0	11.0	50.0	11.0
Actuated g/C Ratio	0.60	0.60	0.22	1.00	0.22
v/c Ratio	0.51	0.17	0.55	0.39	0.32
Control Delay	7.5	2.0	20.3	0.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	2.0	20.3	0.4	6.0
LOS	A	A	C	A	A
Approach Delay	6.8			5.2	
Approach LOS	A			A	
90th %ile Green (s)	27.5	27.5	13.5		13.5
90th %ile Term Code	Coord	Coord	Max		Max
70th %ile Green (s)	28.5	28.5	12.5		12.5
70th %ile Term Code	Coord	Coord	Gap		Gap
50th %ile Green (s)	29.8	29.8	11.2		11.2
50th %ile Term Code	Coord	Coord	Gap		Gap
30th %ile Green (s)	31.2	31.2	9.8		9.8
30th %ile Term Code	Coord	Coord	Gap		Gap
10th %ile Green (s)	33.1	33.1	7.9		7.9
10th %ile Term Code	Coord	Coord	Gap		Gap
Stops (vph)	431	14	272	0	24
Fuel Used(gal)	5	0	4	3	1
CO Emissions (g/hr)	381	28	269	223	68
NOx Emissions (g/hr)	74	5	52	43	13
VOC Emissions (g/hr)	88	6	62	52	16

Timings

301: Quadrant Road West & Okmulgee

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBR
Dilemma Vehicles (#)	0	0	0	0	0
Queue Length 50th (ft)	65	0	47	0	0
Queue Length 95th (ft)	117	17	75	0	31
Internal Link Dist (ft)	210			303	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1738	763	803	2869	473
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.17	0.45	0.39	0.28

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 5.8

Intersection LOS: A

Intersection Capacity Utilization 44.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 301: Quadrant Road West & Okmulgee



Timings

302: US-69 & Quadrant Road West

09-30-2020



Lane Group	EBR	NBT	SBT	SBR
Lane Configurations	↙↙	↑↑↑	↑↑↑	↘
Traffic Volume (vph)	450	2110	1511	121
Future Volume (vph)	450	2110	1511	121
Lane Group Flow (vph)	489	2293	1642	132
Turn Type	Prot	NA	NA	Perm
Protected Phases	5	Free	6	
Permitted Phases				6
Detector Phase	5		6	6
Switch Phase				
Minimum Initial (s)	5.0		5.0	5.0
Minimum Split (s)	22.5		22.5	22.5
Total Split (s)	25.0		50.0	50.0
Total Split (%)	33.3%		66.7%	66.7%
Maximum Green (s)	20.5		45.5	45.5
Yellow Time (s)	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0
Recall Mode	None		C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0	0
Act Effct Green (s)	18.1	75.0	47.9	47.9
Actuated g/C Ratio	0.24	1.00	0.64	0.64
v/c Ratio	0.81	0.61	0.72	0.14
Control Delay	35.2	0.4	10.3	2.2
Queue Delay	0.0	0.1	1.4	0.0
Total Delay	35.2	0.5	11.6	2.2
LOS	D	A	B	A
Approach Delay		0.5	10.9	
Approach LOS		A	B	
90th %ile Green (s)	20.5		45.5	45.5
90th %ile Term Code	Max		Coord	Coord
70th %ile Green (s)	20.5		45.5	45.5
70th %ile Term Code	Max		Coord	Coord
50th %ile Green (s)	19.4		46.6	46.6
50th %ile Term Code	Gap		Coord	Coord
30th %ile Green (s)	16.9		49.1	49.1
30th %ile Term Code	Gap		Coord	Coord
10th %ile Green (s)	13.3		52.7	52.7
10th %ile Term Code	Gap		Coord	Coord
Stops (vph)	371	1	626	15
Fuel Used(gal)	8	40	11	0
CO Emissions (g/hr)	550	2788	747	32
NOx Emissions (g/hr)	107	542	145	6
VOC Emissions (g/hr)	127	646	173	8

Timings

302: US-69 & Quadrant Road West

09-30-2020



Lane Group	EBR	NBT	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0
Queue Length 50th (ft)	107	0	257	11
Queue Length 95th (ft)	163	0	319	m27
Internal Link Dist (ft)		2334	266	
Turn Bay Length (ft)				225
Base Capacity (vph)	676	3742	2273	924
Starvation Cap Reductn	0	0	400	0
Spillback Cap Reductn	0	253	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.66	0.88	0.14

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 70 (93%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 8.3

Intersection LOS: A

Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 302: US-69 & Quadrant Road West



Timings

303: Okmulgee & Quadrant Road East

09-30-2020



Lane Group	EBL	EBT	WBT	SBR
Lane Configurations				
Traffic Volume (vph)	375	768	640	670
Future Volume (vph)	375	768	640	670
Lane Group Flow (vph)	408	835	696	728
Turn Type	Prot	NA	NA	Over
Protected Phases	7	Free	8	7
Permitted Phases				
Detector Phase	7		8	7
Switch Phase				
Minimum Initial (s)	5.0		5.0	5.0
Minimum Split (s)	9.5		22.5	9.5
Total Split (s)	26.2		23.8	26.2
Total Split (%)	52.4%		47.6%	52.4%
Maximum Green (s)	21.7		19.3	21.7
Yellow Time (s)	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0
Recall Mode	None		C-Max	None
Walk Time (s)			7.0	
Flash Dont Walk (s)			11.0	
Pedestrian Calls (#/hr)			0	
Act Effct Green (s)	17.9	50.0	23.1	17.9
Actuated g/C Ratio	0.36	1.00	0.46	0.36
v/c Ratio	0.44	0.27	0.49	0.76
Control Delay	12.9	0.2	12.0	15.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	0.2	12.0	15.6
LOS	B	A	B	B
Approach Delay		4.4	12.0	
Approach LOS		A	B	
90th %ile Green (s)	21.7		19.3	21.7
90th %ile Term Code	Max		Coord	Max
70th %ile Green (s)	21.7		19.3	21.7
70th %ile Term Code	Max		Coord	Max
50th %ile Green (s)	19.1		21.9	19.1
50th %ile Term Code	Gap		Coord	Gap
30th %ile Green (s)	15.9		25.1	15.9
30th %ile Term Code	Gap		Coord	Gap
10th %ile Green (s)	11.2		29.8	11.2
10th %ile Term Code	Gap		Coord	Gap
Stops (vph)	253	0	434	417
Fuel Used(gal)	4	2	6	6
CO Emissions (g/hr)	246	164	393	445
NOx Emissions (g/hr)	48	32	76	87
VOC Emissions (g/hr)	57	38	91	103

Timings

303: Okmulgee & Quadrant Road East

09-30-2020



Lane Group	EBL	EBT	WBT	SBR
Dilemma Vehicles (#)	0	0	0	0
Queue Length 50th (ft)	43	0	72	72
Queue Length 95th (ft)	64	0	125	117
Internal Link Dist (ft)		307	252	
Turn Bay Length (ft)	250			
Base Capacity (vph)	1134	3068	1416	1127
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.27	0.49	0.65

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 8:WBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 9.4

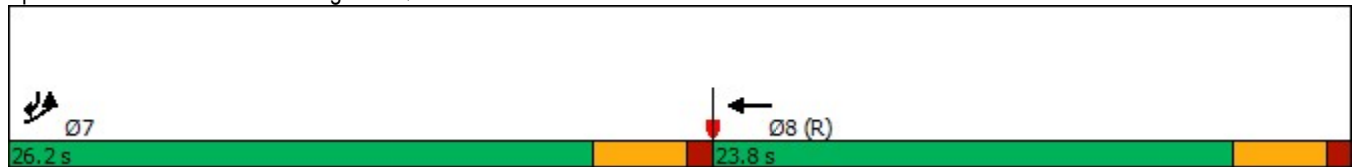
Intersection LOS: A

Intersection Capacity Utilization 55.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 303: Okmulgee & Quadrant Road East



Timings

304: Quadrant Road East & Broadway

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Configurations					
Traffic Volume (vph)	369	520	150	500	322
Future Volume (vph)	369	520	150	500	322
Lane Group Flow (vph)	514	452	0	706	408
Turn Type	NA	Perm	D.P+P	NA	Prot
Protected Phases	4		3	8	2
Permitted Phases		4	4		
Detector Phase	4	4	3	8	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5
Total Split (s)	43.0	43.0	9.5	52.5	22.5
Total Split (%)	57.3%	57.3%	12.7%	70.0%	30.0%
Maximum Green (s)	38.5	38.5	5.0	48.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5
Lead/Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	None
Walk Time (s)	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0
Act Effct Green (s)	50.4	50.4		50.4	15.6
Actuated g/C Ratio	0.67	0.67		0.67	0.21
v/c Ratio	0.51	0.45		0.89	0.74
Control Delay	4.9	1.4		28.0	34.4
Queue Delay	0.4	0.2		45.1	0.8
Total Delay	5.4	1.6		73.0	35.2
LOS	A	A		E	D
Approach Delay	3.6			73.0	35.2
Approach LOS	A			E	D
90th %ile Green (s)	48.0	48.0	0.0	48.0	18.0
90th %ile Term Code	Coord	Coord	Skip	Coord	Max
70th %ile Green (s)	48.0	48.0	0.0	48.0	18.0
70th %ile Term Code	Coord	Coord	Skip	Coord	Max
50th %ile Green (s)	49.6	49.6	0.0	49.6	16.4
50th %ile Term Code	Coord	Coord	Skip	Coord	Gap
30th %ile Green (s)	51.7	51.7	0.0	51.7	14.3
30th %ile Term Code	Coord	Coord	Skip	Coord	Gap
10th %ile Green (s)	54.7	54.7	0.0	54.7	11.3
10th %ile Term Code	Coord	Coord	Skip	Coord	Gap
Stops (vph)	138	13		447	319
Fuel Used(gal)	3	1		9	5
CO Emissions (g/hr)	183	98		608	382
NOx Emissions (g/hr)	36	19		118	74
VOC Emissions (g/hr)	42	23		141	89

Timings

304: Quadrant Road East & Broadway

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBL
Dilemma Vehicles (#)	0	0		0	0
Queue Length 50th (ft)	56	1		237	85
Queue Length 95th (ft)	150	18		#523	128
Internal Link Dist (ft)	293			419	290
Turn Bay Length (ft)					
Base Capacity (vph)	999	998		794	635
Starvation Cap Reductn	160	120		0	0
Spillback Cap Reductn	0	0		148	63
Storage Cap Reductn	0	0		0	0
Reduced v/c Ratio	0.61	0.51		1.09	0.71

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 1 (1%), Referenced to phase 4:EBWB and 8:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 33.4

Intersection LOS: C

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

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

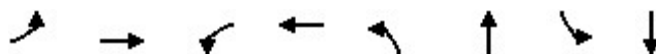
Queue shown is maximum after two cycles.

Splits and Phases: 304: Quadrant Road East & Broadway



Timings
101: US-69 & Hancock

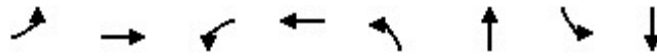
09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	15	35	25	23	1682	210	1814
Future Volume (vph)	30	15	35	25	23	1682	210	1814
Lane Group Flow (vph)	33	44	41	235	25	1866	228	2010
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	14.0	22.5	14.0	22.5
Total Split (s)	25.0	25.0	25.0	25.0	15.0	91.0	34.0	110.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	10.0%	60.7%	22.7%	73.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	7.0	84.5	26.0	103.5
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	8.0	6.5	8.0	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0
Recall Mode	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	16.4	16.4	16.4	16.4	6.3	84.6	24.0	107.9
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.04	0.58	0.16	0.74
v/c Ratio	0.75	0.24	0.31	0.71	0.38	0.91	0.91	0.76
Control Delay	139.9	33.2	67.2	26.6	86.3	35.7	98.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.9	33.2	67.2	26.6	86.3	35.7	98.1	15.6
LOS	F	C	E	C	F	D	F	B
Approach Delay		78.9		32.6		36.4		24.0
Approach LOS		E		C		D		C
90th %ile Green (s)	18.0	18.0	18.0	18.0	7.0	84.5	26.0	103.5
90th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR
70th %ile Green (s)	18.0	18.0	18.0	18.0	7.0	84.5	26.0	103.5
70th %ile Term Code	Max	Max	Hold	Hold	Max	MaxR	Max	MaxR
50th %ile Green (s)	18.0	18.0	18.0	18.0	6.9	84.5	26.0	103.6
50th %ile Term Code	Max	Max	Hold	Hold	Gap	MaxR	Max	Hold
30th %ile Green (s)	17.8	17.8	17.8	17.8	0.0	84.5	24.4	116.9
30th %ile Term Code	Gap	Gap	Hold	Hold	Skip	MaxR	Gap	Hold
10th %ile Green (s)	10.5	10.5	10.5	10.5	0.0	84.5	17.9	110.4
10th %ile Term Code	Hold	Hold	Hold	Hold	Skip	MaxR	Gap	Hold
Stops (vph)	25	18	31	47	23	1440	193	1095
Fuel Used(gal)	1	1	1	3	1	45	14	84
CO Emissions (g/hr)	82	42	60	178	61	3163	979	5849
NOx Emissions (g/hr)	16	8	12	35	12	615	190	1138
VOC Emissions (g/hr)	19	10	14	41	14	733	227	1356
Dilemma Vehicles (#)	0	0	0	0	0	58	0	63
Queue Length 50th (ft)	32	15	37	37	24	591	220	467
Queue Length 95th (ft)	#96	55	74	114	58	683	#369	540

Timings
101: US-69 & Hancock

09-30-2020

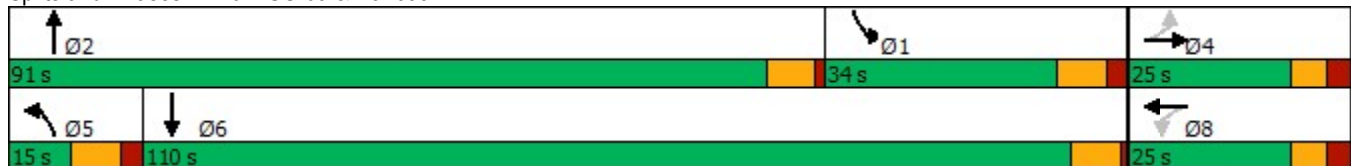


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		664		691		533		3348
Turn Bay Length (ft)	200		200		200		325	
Base Capacity (vph)	48	203	144	342	73	2060	272	2646
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.22	0.28	0.69	0.34	0.91	0.84	0.76

Intersection Summary

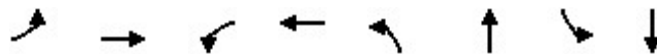
Cycle Length: 150	
Actuated Cycle Length: 146.5	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 30.7	Intersection LOS: C
Intersection Capacity Utilization 94.3%	ICU Level of Service F
Analysis Period (min) 15	
90th %ile Actuated Cycle: 150	
70th %ile Actuated Cycle: 150	
50th %ile Actuated Cycle: 150	
30th %ile Actuated Cycle: 148.2	
10th %ile Actuated Cycle: 134.4	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 101: US-69 & Hancock



Timings
102: US-69 & Border

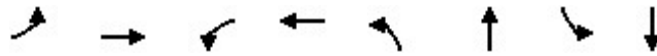
09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	110	52	35	60	125	1752	150	1894
Future Volume (vph)	110	52	35	60	125	1752	150	1894
Lane Group Flow (vph)	122	202	41	177	136	1937	163	2266
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.0	19.0	13.0	19.0
Total Split (s)	32.0	32.0	32.0	32.0	20.0	91.0	27.0	98.0
Total Split (%)	21.3%	21.3%	21.3%	21.3%	13.3%	60.7%	18.0%	65.3%
Maximum Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	2.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.5	5.0	6.5	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	25.0	25.0	25.0	25.0	13.5	87.6	18.9	93.0
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.09	0.58	0.13	0.62
v/c Ratio	0.96	0.67	0.37	0.63	0.99	0.92	0.84	1.00
Control Delay	130.9	49.4	66.7	54.8	139.3	37.2	95.2	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.9	49.4	66.7	54.8	139.3	37.2	95.2	20.0
LOS	F	D	E	D	F	D	F	C
Approach Delay		80.1		57.0		43.9		25.1
Approach LOS		F		E		D		C
90th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
70th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	86.0	20.5	93.0
50th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	87.7	18.8	93.0
30th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Gap	Coord
10th %ile Green (s)	25.0	25.0	25.0	25.0	13.5	92.2	14.3	93.0
10th %ile Term Code	Max	Max	Hold	Hold	Max	Coord	Gap	Coord
Stops (vph)	93	113	31	108	107	1516	134	742
Fuel Used(gal)	4	3	1	3	9	95	7	52
CO Emissions (g/hr)	277	232	59	217	648	6639	467	3667
NOx Emissions (g/hr)	54	45	11	42	126	1292	91	713
VOC Emissions (g/hr)	64	54	14	50	150	1539	108	850
Dilemma Vehicles (#)	0	0	0	0	0	59	0	72
Queue Length 50th (ft)	120	122	36	124	135	619	147	~100
Queue Length 95th (ft)	#256	216	74	194	#280	#717	m155	m#112

Timings
102: US-69 & Border

09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		531		629		998		2469
Turn Bay Length (ft)	200		200		200		225	
Base Capacity (vph)	127	300	110	280	138	2098	209	2257
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.67	0.37	0.63	0.99	0.92	0.78	1.00

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 20 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 37.7
 Intersection LOS: D
 Intersection Capacity Utilization 94.4%
 ICU Level of Service F
 Analysis Period (min) 15

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

Splits and Phases: 102: US-69 & Border



Timings
103: US-69 & Arline

09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	140	68	132	68	120	1729	78	2004	125
Future Volume (vph)	140	68	132	68	120	1729	78	2004	125
Lane Group Flow (vph)	165	127	155	174	130	1994	85	2178	136
Turn Type	D.Pm	NA	D.Pm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	8		4						6
Detector Phase	8	4	4	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	15.0	6.0	15.0	15.0
Minimum Split (s)	12.0	12.0	12.0	12.0	13.5	22.0	13.5	21.0	21.0
Total Split (s)	36.0	36.0	36.0	36.0	19.8	96.2	17.8	94.2	94.2
Total Split (%)	24.0%	24.0%	24.0%	24.0%	13.2%	64.1%	11.9%	62.8%	62.8%
Maximum Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.5	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	6.0	5.0	6.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.09	0.61	0.08	0.59	0.59
v/c Ratio	1.02	0.38	0.79	0.51	0.92	0.92	0.71	1.00	0.16
Control Delay	132.8	47.3	83.8	47.2	107.5	16.9	81.0	42.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.8	47.3	83.8	47.2	107.5	16.9	81.0	42.6	8.0
LOS	F	D	F	D	F	B	F	D	A
Approach Delay		95.6		64.4		22.5		42.0	
Approach LOS		F		E		C		D	
90th %ile Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord	Coord
50th %ile Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
50th %ile Term Code	Max	Hold	Hold	Max	Max	Coord	Max	Coord	Coord
30th %ile Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
30th %ile Term Code	Max	Hold	Hold	Max	Max	Coord	Max	Coord	Coord
10th %ile Green (s)	31.5	31.5	31.5	31.5	13.8	91.2	11.8	89.2	89.2
10th %ile Term Code	Max	Hold	Hold	Max	Max	Coord	Hold	Coord	Coord
Stops (vph)	119	79	118	105	100	1657	71	1788	64
Fuel Used(gal)	5	2	3	3	6	53	3	66	3
CO Emissions (g/hr)	350	134	238	179	390	3672	222	4597	200
NOx Emissions (g/hr)	68	26	46	35	76	714	43	894	39
VOC Emissions (g/hr)	81	31	55	42	90	851	52	1065	46
Dilemma Vehicles (#)	0	0	0	0	0	35	0	61	0
Queue Length 50th (ft)	~167	92	145	120	123	694	80	669	18
Queue Length 95th (ft)	#300	148	#241	186	m#142	m769	m88	m#885	m26

Timings
104: US-69 & Okmulgee

09-30-2020



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↗	↑↑↑	↗	↑↑↑	↗
Traffic Volume (vph)	1054	1037	366	1700	185	1899	232
Future Volume (vph)	1054	1037	366	1700	185	1899	232
Lane Group Flow (vph)	1146	1127	398	1848	201	2064	252
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		2		6	
Permitted Phases			8		2		6
Detector Phase	4	8	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	15.5	15.5	17.0	17.0	17.0	17.0
Total Split (s)	54.0	54.0	54.0	96.0	96.0	96.0	96.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%
Maximum Green (s)	48.5	48.5	48.5	90.5	90.5	90.5	90.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	45.7	45.7	45.7	93.3	93.3	93.3	93.3
Actuated g/C Ratio	0.30	0.30	0.30	0.62	0.62	0.62	0.62
v/c Ratio	0.90	0.85	0.93	0.83	0.23	0.91	0.33
Control Delay	52.0	52.9	70.6	14.2	4.1	19.2	11.2
Queue Delay	4.4	9.7	20.1	21.0	0.9	46.3	1.0
Total Delay	56.3	62.6	90.7	35.2	5.0	65.5	12.2
LOS	E	E	F	D	A	E	B
Approach Delay	56.3	69.9		32.3		59.7	
Approach LOS	E	E		C		E	
90th %ile Green (s)	48.5	48.5	48.5	90.5	90.5	90.5	90.5
90th %ile Term Code	Max	Max	Max	Coord	Coord	Coord	Coord
70th %ile Green (s)	48.5	48.5	48.5	90.5	90.5	90.5	90.5
70th %ile Term Code	Hold	Max	Max	Coord	Coord	Coord	Coord
50th %ile Green (s)	48.5	48.5	48.5	90.5	90.5	90.5	90.5
50th %ile Term Code	Hold	Max	Max	Coord	Coord	Coord	Coord
30th %ile Green (s)	44.2	44.2	44.2	94.8	94.8	94.8	94.8
30th %ile Term Code	Hold	Gap	Gap	Coord	Coord	Coord	Coord
10th %ile Green (s)	38.6	38.6	38.6	100.4	100.4	100.4	100.4
10th %ile Term Code	Gap	Hold	Hold	Coord	Coord	Coord	Coord
Stops (vph)	993	951	327	1340	46	984	70
Fuel Used(gal)	20	20	8	19	1	20	2
CO Emissions (g/hr)	1383	1366	571	1345	67	1392	117
NOx Emissions (g/hr)	269	266	111	262	13	271	23
VOC Emissions (g/hr)	321	317	132	312	16	323	27

Timings
104: US-69 & Okmulgee

09-30-2020



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Dilemma Vehicles (#)	0	0	0	1	0	89	0
Queue Length 50th (ft)	387	366	375	549	18	283	59
Queue Length 95th (ft)	452	382	#541	525	43	392	m69
Internal Link Dist (ft)	303	307		266		291	
Turn Bay Length (ft)			225		225		225
Base Capacity (vph)	1358	1411	456	2216	861	2271	763
Starvation Cap Reductn	150	265	62	149	426	126	300
Spillback Cap Reductn	0	0	2	431	0	730	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.98	1.01	1.04	0.46	1.34	0.54

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 142 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 53.4

Intersection LOS: D

Intersection Capacity Utilization 75.6%

ICU Level of Service D

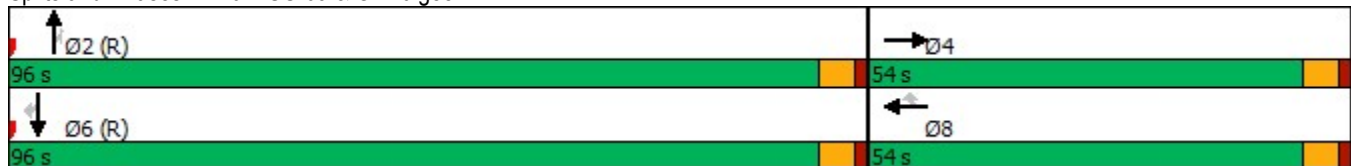
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 104: US-69 & Okmulgee



Timings
105: US-69 & Broadway

09-30-2020



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑↑	↑	↑↑↑	↑
Traffic Volume (vph)	720	85	426	370	2013	436	1921	240
Future Volume (vph)	720	85	426	370	2013	436	1921	240
Lane Group Flow (vph)	847	100	649	287	2188	474	2088	261
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2		6	
Permitted Phases		4		8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.0	14.0	14.0	14.0	18.5	18.5	18.5	18.5
Total Split (s)	49.0	49.0	49.0	49.0	101.0	101.0	101.0	101.0
Total Split (%)	32.7%	32.7%	32.7%	32.7%	67.3%	67.3%	67.3%	67.3%
Maximum Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Time Before Reduce (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Time To Reduce (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	42.9	42.9	42.9	42.9	96.6	96.6	96.6	96.6
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.64	0.64	0.64	0.64
v/c Ratio	0.96	0.25	0.82	0.91	0.94	0.55	0.90	0.28
Control Delay	75.4	36.5	52.0	67.6	27.4	10.3	9.5	1.9
Queue Delay	1.8	0.0	23.5	5.0	25.8	3.3	4.1	0.0
Total Delay	77.3	36.5	75.5	72.6	53.2	13.6	13.6	1.9
LOS	E	D	E	E	D	B	B	A
Approach Delay	73.0		74.6		46.1		12.3	
Approach LOS	E		E		D		B	
90th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
70th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
50th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.5	43.5	43.5	43.5	96.0	96.0	96.0	96.0
30th %ile Term Code	Max	Max	Hold	Hold	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.7	40.7	40.7	40.7	98.8	98.8	98.8	98.8
10th %ile Term Code	Gap	Gap	Hold	Hold	Coord	Coord	Coord	Coord
Stops (vph)	660	55	487	222	1929	173	464	18
Fuel Used(gal)	19	1	10	5	31	3	62	7
CO Emissions (g/hr)	1352	104	709	370	2176	236	4343	489
NOx Emissions (g/hr)	263	20	138	72	423	46	845	95
VOC Emissions (g/hr)	313	24	164	86	504	55	1007	113

Timings
105: US-69 & Broadway

09-30-2020



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Dilemma Vehicles (#)	0	0	0	0	38	0	96	0
Queue Length 50th (ft)	430	63	303	264	820	140	154	10
Queue Length 95th (ft)	#507	109	m353	m#367	871	m194	m164	m12
Internal Link Dist (ft)	747		293		291		1894	
Turn Bay Length (ft)		75		100		200		200
Base Capacity (vph)	889	408	799	320	2330	857	2311	923
Starvation Cap Reductn	0	0	166	14	256	280	0	0
Spillback Cap Reductn	13	0	0	0	0	53	168	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.25	1.03	0.94	1.05	0.82	0.97	0.28

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 42.2

Intersection LOS: D

Intersection Capacity Utilization 77.2%

ICU Level of Service D

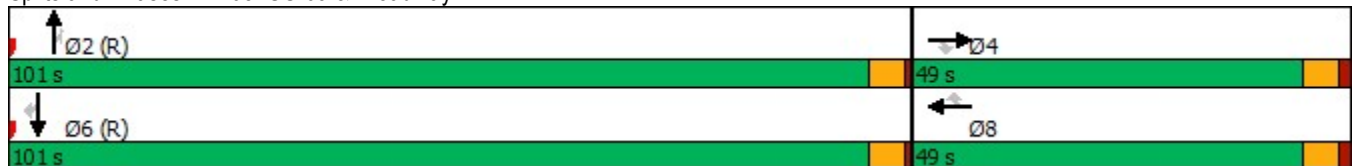
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 105: US-69 & Broadway



Timings
106: US-69 & Tahlequah/Military

09-30-2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	58	29	92	170	33	92	1879	135	46	1937	23
Future Volume (vph)	58	29	92	170	33	92	1879	135	46	1937	23
Lane Group Flow (vph)	50	52	108	148	144	100	2042	147	50	2105	25
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	4	4	4	3	3	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.5	15.5	15.5	15.5	15.5	12.5	22.0	22.0	12.5	22.0	22.0
Total Split (s)	15.6	15.6	15.6	22.6	22.6	17.4	99.0	99.0	12.8	94.4	94.4
Total Split (%)	10.4%	10.4%	10.4%	15.1%	15.1%	11.6%	66.0%	66.0%	8.5%	62.9%	62.9%
Maximum Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	7.0	5.5	5.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
Actuated g/C Ratio	0.06	0.06	0.06	0.10	0.10	0.07	0.62	0.62	0.04	0.59	0.59
v/c Ratio	0.89	0.70	0.49	0.98	0.89	0.94	0.92	0.16	0.85	0.99	0.03
Control Delay	160.2	112.5	7.7	133.7	104.4	110.8	32.4	2.8	124.4	30.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	2.7	0.0
Total Delay	160.2	112.5	7.7	133.7	104.4	110.8	32.8	2.8	124.4	32.9	0.0
LOS	F	F	A	F	F	F	C	A	F	C	A
Approach Delay		69.9			119.2		34.3			34.6	
Approach LOS		E			F		C			C	
90th %ile Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	8.6	8.6	8.6	15.6	15.6	10.4	93.5	93.5	5.8	88.9	88.9
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
Stops (vph)	34	40	0	108	96	77	1724	18	39	1261	0
Fuel Used(gal)	2	1	0	5	4	5	82	4	2	36	0
CO Emissions (g/hr)	116	93	25	326	261	378	5732	282	129	2507	7
NOx Emissions (g/hr)	23	18	5	63	51	74	1115	55	25	488	1
VOC Emissions (g/hr)	27	22	6	75	60	88	1328	65	30	581	2
Dilemma Vehicles (#)	0	0	0	0	0	0	24	0	0	91	0
Queue Length 50th (ft)	52	53	0	154	132	101	708	17	49	409	0
Queue Length 95th (ft)	#134	#122	0	#284	#249	m#113	788	m18	m#61	#859	m0

Timings
106: US-69 & Tahlequah/Military

09-30-2020

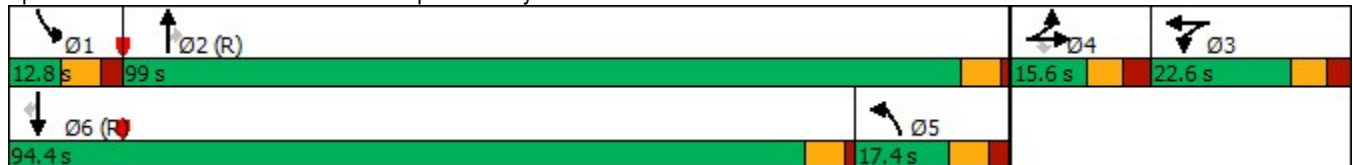


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		217			563		2079			580	
Turn Bay Length (ft)	75		150	100		100		200	225		200
Base Capacity (vph)	56	74	222	151	162	106	2220	905	59	2128	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	27	0
Spillback Cap Reductn	0	0	0	0	0	0	27	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.70	0.49	0.98	0.89	0.94	0.93	0.16	0.85	1.00	0.03

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 109 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 40.9
 Intersection LOS: D
 Intersection Capacity Utilization 80.5%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 106: US-69 & Tahlequah/Military



Timings
107: US-69 & Shawnee St

09-30-2020



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	125	380	25	265	450	54	1317	410	1348
Future Volume (vph)	125	380	25	265	450	54	1317	410	1348
Lane Group Flow (vph)	147	447	29	288	489	59	1432	446	1601
Turn Type	Perm	NA	Over	NA	Perm	Prot	NA	Prot	NA
Protected Phases		4	5	8		5	2	1	6
Permitted Phases	4				8				
Detector Phase	4	4	5	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	12.0	6.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	13.5	13.5	19.0	19.5	19.0
Total Split (s)	50.0	50.0	16.8	50.0	50.0	16.8	69.8	30.2	83.2
Total Split (%)	33.3%	33.3%	11.2%	33.3%	33.3%	11.2%	46.5%	20.1%	55.5%
Maximum Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
All-Red Time (s)	3.0	3.0	2.5	3.0	3.0	2.5	1.0	2.5	1.0
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)	7.5	7.5	7.0	7.5	7.5	7.0	6.0	7.0	6.0
Lead/Lag			Lag			Lag	Lag	Lead	Lead
Lead-Lag Optimize?			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	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
Actuated g/C Ratio	0.28	0.28	0.07	0.28	0.28	0.07	0.43	0.15	0.51
v/c Ratio	0.79	0.98	0.14	0.64	0.80	0.88	0.98	1.01	0.89
Control Delay	79.6	89.8	1.4	53.7	26.3	89.6	19.6	78.0	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	79.6	0.0	0.0	0.1
Total Delay	79.6	89.8	1.4	53.7	26.3	169.1	19.6	78.0	53.4
LOS	E	F	A	D	C	F	B	E	D
Approach Delay		83.3		36.4			25.5		58.8
Approach LOS		F		D			C		E
90th %ile Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
50th %ile Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
30th %ile Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Max	Coord
10th %ile Green (s)	42.5	42.5	9.8	42.5	42.5	9.8	63.8	23.2	77.2
10th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Coord	Max	Coord
Stops (vph)	109	336	0	229	166	45	249	374	1405
Fuel Used(gal)	4	13	0	6	6	2	9	25	84
CO Emissions (g/hr)	272	885	15	402	389	111	655	1766	5881
NOx Emissions (g/hr)	53	172	3	78	76	22	127	344	1144
VOC Emissions (g/hr)	63	205	4	93	90	26	152	409	1363
Dilemma Vehicles (#)	0	12	0	9	0	0	13	0	7
Queue Length 50th (ft)	134	436	0	248	163	60	112	~241	574
Queue Length 95th (ft)	#234	#599	0	355	329	m#79	#608	m#287	m630

Timings

107: US-69 & Shawnee St

09-30-2020



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Internal Link Dist (ft)		1085		510			40		500
Turn Bay Length (ft)	200		100		400			200	
Base Capacity (vph)	185	457	208	453	609	67	1468	442	1797
Starvation Cap Reductn	0	0	0	0	0	34	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	6
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.98	0.14	0.64	0.80	1.79	0.98	1.01	0.89

Intersection Summary

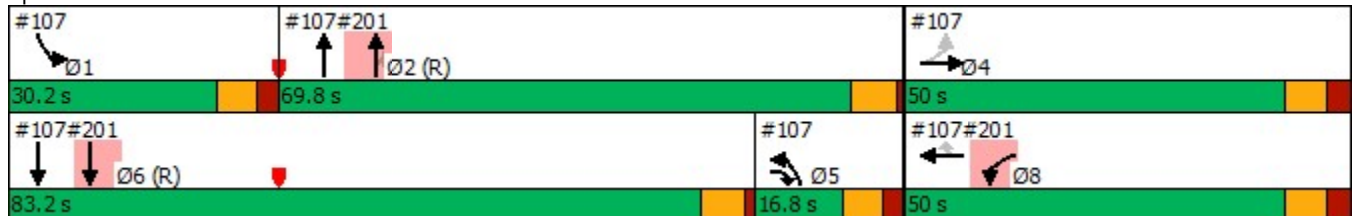
Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 48.3
 Intersection LOS: D
 Intersection Capacity Utilization 90.9%
 ICU Level of Service E
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

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

Splits and Phases: 107: US-69 & Shawnee St



Timings
108: US-69 & Harris Rd

09-30-2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	45	67	170	67	104	1586	192	170	1607
Future Volume (vph)	45	67	170	67	104	1586	192	170	1607
Lane Group Flow (vph)	50	181	189	201	113	1724	209	185	1804
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		4	5	2		1	6
Permitted Phases	4		4				2		
Detector Phase	4	4	4	4	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	12.0	12.0	5.0	12.0
Minimum Split (s)	13.5	13.5	13.5	13.5	12.5	19.0	19.0	12.5	19.0
Total Split (s)	41.0	41.0	41.0	41.0	20.0	80.8	80.8	28.2	89.0
Total Split (%)	27.3%	27.3%	27.3%	27.3%	13.3%	53.9%	53.9%	18.8%	59.3%
Maximum Green (s)	34.0	34.0	34.0	34.0	12.5	74.8	74.8	20.7	83.0
Yellow Time (s)	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	1.0	1.0	2.5	1.0
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)	7.0	7.0	7.0	7.0	7.5	6.0	6.0	7.5	6.0
Lead/Lag					Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?					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	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	34.0	34.0	34.0	34.0	12.5	74.9	74.9	20.6	83.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.08	0.50	0.50	0.14	0.55
v/c Ratio	0.28	0.49	0.97	0.54	0.89	0.95	0.33	0.95	0.91
Control Delay	52.9	42.7	115.1	43.2	116.2	67.1	24.1	115.0	38.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	42.7	115.1	43.2	116.2	67.1	24.1	115.0	38.6
LOS	D	D	F	D	F	E	C	F	D
Approach Delay		44.9		78.0		65.4			45.7
Approach LOS		D		E		E			D
90th %ile Green (s)	34.0	34.0	34.0	34.0	12.5	74.8	74.8	20.7	83.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	34.0	34.0	34.0	34.0	12.5	74.8	74.8	20.7	83.0
70th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	34.0	34.0	34.0	34.0	12.5	74.8	74.8	20.7	83.0
50th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	34.0	34.0	34.0	34.0	12.5	74.8	74.8	20.7	83.0
30th %ile Term Code	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	34.0	34.0	34.0	34.0	12.5	75.1	75.1	20.4	83.0
10th %ile Term Code	Max	Max	Max	Max	Hold	Coord	Coord	Gap	Coord
Stops (vph)	37	106	146	118	92	1536	119	148	1425
Fuel Used(gal)	1	3	7	5	7	95	9	7	43
CO Emissions (g/hr)	77	244	484	316	502	6662	631	496	3021
NOx Emissions (g/hr)	15	47	94	62	98	1296	123	97	588
VOC Emissions (g/hr)	18	57	112	73	116	1544	146	115	700
Dilemma Vehicles (#)	0	0	0	0	0	8	0	0	55
Queue Length 50th (ft)	41	116	185	129	117	651	107	182	565
Queue Length 95th (ft)	83	197	#351	216	m127	m681	m121	#341	652

Timings
108: US-69 & Harris Rd

09-30-2020

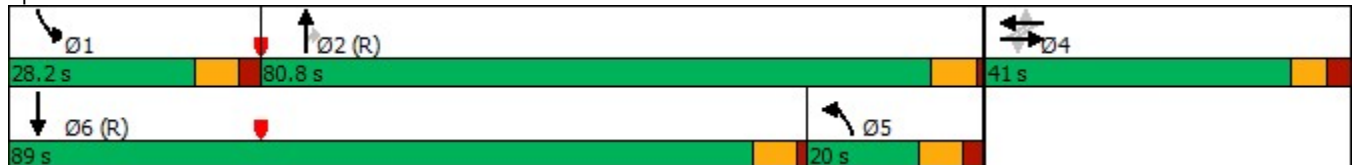


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		1091		1535		4638			1077
Turn Bay Length (ft)	200		200		175		200	175	
Base Capacity (vph)	179	368	194	372	127	1806	628	196	1975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.49	0.97	0.54	0.89	0.95	0.33	0.94	0.91

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 57.0
 Intersection LOS: E
 Intersection Capacity Utilization 91.5%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 108: US-69 & Harris Rd



Timings
201: US-69

09-30-2020



Lane Group	WBL	NBT	NBR	SBT	Ø1	Ø4	Ø5
Lane Configurations							
Traffic Volume (vph)	635	1371	600	1373			
Future Volume (vph)	635	1371	600	1373			
Lane Group Flow (vph)	690	1490	652	1492			
Turn Type	Prot	NA	Perm	NA			
Protected Phases	8	2		6	1	4	5
Permitted Phases			2				
Detector Phase	8	2	2	6			
Switch Phase							
Minimum Initial (s)	6.0	12.0	12.0	12.0	6.0	6.0	6.0
Minimum Split (s)	13.5	19.0	19.0	19.0	19.5	13.5	13.5
Total Split (s)	50.0	69.8	69.8	83.2	30.2	50.0	16.8
Total Split (%)	33.3%	46.5%	46.5%	55.5%	20%	33%	11%
Maximum Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
Yellow Time (s)	4.5	5.0	5.0	5.0	4.5	4.5	4.5
All-Red Time (s)	3.0	1.0	1.0	1.0	2.5	3.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			
Total Lost Time (s)	7.5	6.0	6.0	6.0			
Lead/Lag		Lag	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	42.5	63.8	63.8	77.2			
Actuated g/C Ratio	0.28	0.43	0.43	0.51			
v/c Ratio	0.90	0.81	0.73	0.82			
Control Delay	68.8	20.0	10.8	3.1			
Queue Delay	0.0	3.9	6.0	1.4			
Total Delay	68.8	23.8	16.8	4.5			
LOS	E	C	B	A			
Approach Delay		21.7		4.5			
Approach LOS		C		A			
90th %ile Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
90th %ile Term Code	Max	Coord	Coord	Coord	Max	Max	Max
70th %ile Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
70th %ile Term Code	Max	Coord	Coord	Coord	Max	Max	Max
50th %ile Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
50th %ile Term Code	Max	Coord	Coord	Coord	Max	Max	Max
30th %ile Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
30th %ile Term Code	Max	Coord	Coord	Coord	Max	Max	Max
10th %ile Green (s)	42.5	63.8	63.8	77.2	23.2	42.5	9.8
10th %ile Term Code	Hold	Coord	Coord	Coord	Max	Max	Max
Stops (vph)	622	1171	398	35			
Fuel Used(gal)	16	26	9	2			
CO Emissions (g/hr)	1085	1818	618	166			
NOx Emissions (g/hr)	211	354	120	32			
VOC Emissions (g/hr)	252	421	143	38			
Dilemma Vehicles (#)	0	4	0	24			
Queue Length 50th (ft)	370	343	396	9			
Queue Length 95th (ft)	#460	m348	m415	21			

Timings
202: Shawnee St

09-30-2020



Lane Group	EBT	WBL	WBT	NBR
Lane Configurations	↑↑	↘↘	↑	↗↗
Traffic Volume (vph)	790	635	715	600
Future Volume (vph)	790	635	715	600
Lane Group Flow (vph)	859	690	777	652
Turn Type	NA	Prot	NA	Over
Protected Phases	4	3	Free	3
Permitted Phases				
Detector Phase	4	3		3
Switch Phase				
Minimum Initial (s)	6.0	5.0		5.0
Minimum Split (s)	13.5	12.0		12.0
Total Split (s)	39.0	36.0		36.0
Total Split (%)	52.0%	48.0%		48.0%
Maximum Green (s)	33.5	29.0		29.0
Yellow Time (s)	4.5	5.0		5.0
All-Red Time (s)	1.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.5	7.0		7.0
Lead/Lag	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0
Recall Mode	C-Max	None		None
Act Effct Green (s)	37.2	25.3	75.0	25.3
Actuated g/C Ratio	0.50	0.34	1.00	0.34
v/c Ratio	0.58	0.75	0.49	0.79
Control Delay	16.3	27.5	1.1	33.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.3	27.5	1.1	33.0
LOS	B	C	A	C
Approach Delay	16.3		13.5	
Approach LOS	B		B	
90th %ile Green (s)	33.5	29.0		29.0
90th %ile Term Code	Coord	Max		Max
70th %ile Green (s)	33.5	29.0		29.0
70th %ile Term Code	Coord	Max		Max
50th %ile Green (s)	36.1	26.4		26.4
50th %ile Term Code	Coord	Gap		Gap
30th %ile Green (s)	39.2	23.3		23.3
30th %ile Term Code	Coord	Gap		Gap
10th %ile Green (s)	43.6	18.9		18.9
10th %ile Term Code	Coord	Gap		Gap
Stops (vph)	461	534	1	676
Fuel Used(gal)	9	12	5	11
CO Emissions (g/hr)	661	804	321	754
NOx Emissions (g/hr)	129	156	62	147
VOC Emissions (g/hr)	153	186	74	175
Dilemma Vehicles (#)	40	0	0	0
Queue Length 50th (ft)	282	141	0	301
Queue Length 95th (ft)	m290	190	0	268

Timings
202: Shawnee St

09-30-2020

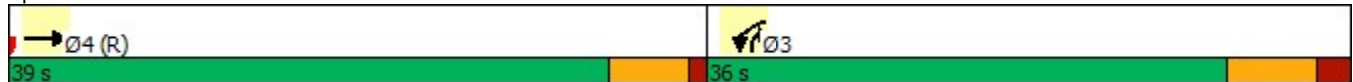


Lane Group	EBT	WBL	WBT	NBR
Internal Link Dist (ft)	510		778	
Turn Bay Length (ft)		500		
Base Capacity (vph)	1491	1047	1583	926
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.58	0.66	0.49	0.70

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 6 (8%), Referenced to phase 4:EBT, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 18.6
 Intersection LOS: B
 Intersection Capacity Utilization 60.3%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 202: Shawnee St



Timings

301: Quadrant Road West & Okmulgee

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↙↘	↑↑	↑
Traffic Volume (vph)	907	250	393	1067	147
Future Volume (vph)	907	250	393	1067	147
Lane Group Flow (vph)	986	272	427	1160	160
Turn Type	NA	Perm	Prot	NA	Over
Protected Phases	4		3	Free	3
Permitted Phases		4			
Detector Phase	4	4	3		3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	9.5		9.5
Total Split (s)	49.0	49.0	26.0		26.0
Total Split (%)	65.3%	65.3%	34.7%		34.7%
Maximum Green (s)	44.5	44.5	21.5		21.5
Yellow Time (s)	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5
Lead/Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0
Recall Mode	C-Max	C-Max	None		None
Walk Time (s)	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0			
Pedestrian Calls (#/hr)	0	0			
Act Effct Green (s)	49.9	49.9	16.1	75.0	16.1
Actuated g/C Ratio	0.67	0.67	0.21	1.00	0.21
v/c Ratio	0.51	0.30	0.67	0.40	0.41
Control Delay	8.1	3.7	34.2	2.8	13.2
Queue Delay	0.3	0.0	0.0	0.0	0.0
Total Delay	8.5	3.7	34.2	2.8	13.2
LOS	A	A	C	A	B
Approach Delay	7.4			11.2	
Approach LOS	A			B	
90th %ile Green (s)	44.9	44.9	21.1		21.1
90th %ile Term Code	Coord	Coord	Gap		Gap
70th %ile Green (s)	48.2	48.2	17.8		17.8
70th %ile Term Code	Coord	Coord	Gap		Gap
50th %ile Green (s)	50.0	50.0	16.0		16.0
50th %ile Term Code	Coord	Coord	Gap		Gap
30th %ile Green (s)	51.9	51.9	14.1		14.1
30th %ile Term Code	Coord	Coord	Gap		Gap
10th %ile Green (s)	54.6	54.6	11.4		11.4
10th %ile Term Code	Coord	Coord	Gap		Gap
Stops (vph)	438	48	404	136	47
Fuel Used(gal)	6	1	6	5	2
CO Emissions (g/hr)	418	71	429	318	105
NOx Emissions (g/hr)	81	14	84	62	20
VOC Emissions (g/hr)	97	17	100	74	24

Timings

301: Quadrant Road West & Okmulgee

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBR
Dilemma Vehicles (#)	0	0	0	0	0
Queue Length 50th (ft)	104	17	182	66	24
Queue Length 95th (ft)	183	55	m228	47	51
Internal Link Dist (ft)	210			303	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1927	898	853	2869	486
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	397	0	0	0	16
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.30	0.50	0.40	0.34

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 8 (11%), Referenced to phase 4:EBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 9.8

Intersection LOS: A

Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 301: Quadrant Road West & Okmulgee



Timings

302: US-69 & Quadrant Road West

09-30-2020



Lane Group	EBR	NBT	SBT	SBR
Lane Configurations	↘↘	↑↑↑	↑↑↑	↘
Traffic Volume (vph)	643	1951	1752	147
Future Volume (vph)	643	1951	1752	147
Lane Group Flow (vph)	699	2121	1904	160
Turn Type	Prot	NA	NA	Perm
Protected Phases	5	Free	6	
Permitted Phases				6
Detector Phase	5		6	6
Switch Phase				
Minimum Initial (s)	5.0		5.0	5.0
Minimum Split (s)	9.5		22.5	22.5
Total Split (s)	27.1		47.9	47.9
Total Split (%)	36.1%		63.9%	63.9%
Maximum Green (s)	22.6		43.4	43.4
Yellow Time (s)	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0
Recall Mode	None		C-Max	C-Max
Walk Time (s)			7.0	7.0
Flash Dont Walk (s)			11.0	11.0
Pedestrian Calls (#/hr)			0	0
Act Effct Green (s)	22.6	75.0	43.4	43.4
Actuated g/C Ratio	0.30	1.00	0.58	0.58
v/c Ratio	0.96	0.58	0.91	0.19
Control Delay	55.8	0.3	31.3	2.9
Queue Delay	0.0	0.1	0.8	0.0
Total Delay	55.8	0.4	32.1	2.9
LOS	E	A	C	A
Approach Delay		0.4	29.8	
Approach LOS		A	C	
90th %ile Green (s)	22.6		43.4	43.4
90th %ile Term Code	Max		Coord	Coord
70th %ile Green (s)	22.6		43.4	43.4
70th %ile Term Code	Max		Coord	Coord
50th %ile Green (s)	22.6		43.4	43.4
50th %ile Term Code	Max		Coord	Coord
30th %ile Green (s)	22.6		43.4	43.4
30th %ile Term Code	Max		Coord	Coord
10th %ile Green (s)	22.6		43.4	43.4
10th %ile Term Code	Max		Coord	Coord
Stops (vph)	662	0	1374	25
Fuel Used(gal)	15	34	26	1
CO Emissions (g/hr)	1025	2384	1809	45
NOx Emissions (g/hr)	199	464	352	9
VOC Emissions (g/hr)	238	553	419	10

Timings

302: US-69 & Quadrant Road West

09-30-2020



Lane Group	EBR	NBT	SBT	SBR
Dilemma Vehicles (#)	0	0	134	0
Queue Length 50th (ft)	264	0	592	24
Queue Length 95th (ft)	#317	m0	640	m26
Internal Link Dist (ft)		2334	266	
Turn Bay Length (ft)				225
Base Capacity (vph)	728	3650	2094	861
Starvation Cap Reductn	0	0	49	0
Spillback Cap Reductn	0	328	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.96	0.64	0.93	0.19

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 46 (61%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 73.1%

ICU Level of Service D

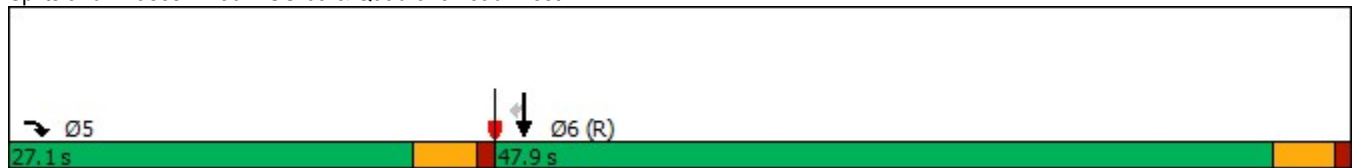
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 302: US-69 & Quadrant Road West



Timings

303: Okmulgee & Quadrant Road East

09-30-2020



Lane Group	EBL	EBT	WBT	SBR
Lane Configurations				
Traffic Volume (vph)	443	862	825	650
Future Volume (vph)	443	862	825	650
Lane Group Flow (vph)	482	937	897	707
Turn Type	Prot	NA	NA	Over
Protected Phases	7	Free	8	7
Permitted Phases				
Detector Phase	7		8	7
Switch Phase				
Minimum Initial (s)	5.0		5.0	5.0
Minimum Split (s)	9.5		22.5	9.5
Total Split (s)	35.0		40.0	35.0
Total Split (%)	46.7%		53.3%	46.7%
Maximum Green (s)	30.5		35.5	30.5
Yellow Time (s)	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0
Recall Mode	None		C-Max	None
Walk Time (s)			7.0	
Flash Dont Walk (s)			11.0	
Pedestrian Calls (#/hr)			0	
Act Effct Green (s)	24.9	75.0	41.1	24.9
Actuated g/C Ratio	0.33	1.00	0.55	0.33
v/c Ratio	0.56	0.31	0.53	0.80
Control Delay	35.1	0.2	13.4	25.4
Queue Delay	0.0	0.0	0.1	0.6
Total Delay	35.1	0.2	13.5	26.0
LOS	D	A	B	C
Approach Delay		12.0	13.5	
Approach LOS		B	B	
90th %ile Green (s)	30.5		35.5	30.5
90th %ile Term Code	Max		Coord	Max
70th %ile Green (s)	29.0		37.0	29.0
70th %ile Term Code	Gap		Coord	Gap
50th %ile Green (s)	25.5		40.5	25.5
50th %ile Term Code	Gap		Coord	Gap
30th %ile Green (s)	22.4		43.6	22.4
30th %ile Term Code	Gap		Coord	Gap
10th %ile Green (s)	17.0		49.0	17.0
10th %ile Term Code	Gap		Coord	Gap
Stops (vph)	427	0	516	415
Fuel Used(gal)	7	3	7	8
CO Emissions (g/hr)	480	184	505	526
NOx Emissions (g/hr)	93	36	98	102
VOC Emissions (g/hr)	111	43	117	122

Timings

303: Okmulgee & Quadrant Road East

09-30-2020



Lane Group	EBL	EBT	WBT	SBR
Dilemma Vehicles (#)	0	0	0	0
Queue Length 50th (ft)	226	0	132	125
Queue Length 95th (ft)	m262	0	214	m168
Internal Link Dist (ft)		307	252	
Turn Bay Length (ft)	250			
Base Capacity (vph)	1063	3068	1682	1055
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	164	103
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.45	0.31	0.59	0.74

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 28 (37%), Referenced to phase 8:WBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 303: Okmulgee & Quadrant Road East



Timings

304: Quadrant Road East & Broadway

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Configurations					
Traffic Volume (vph)	440	492	158	413	383
Future Volume (vph)	440	492	158	413	383
Lane Group Flow (vph)	542	471	0	621	481
Turn Type	NA	Perm	Perm	NA	Prot
Protected Phases	4			8	2
Permitted Phases		4	8		
Detector Phase	4	4	8	8	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	52.5	52.5	52.5	52.5	22.5
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%
Maximum Green (s)	48.0	48.0	48.0	48.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	48.0	48.0		48.0	18.0
Actuated g/C Ratio	0.64	0.64		0.64	0.24
v/c Ratio	0.56	0.48		0.93	0.75
Control Delay	14.7	6.8		36.9	69.5
Queue Delay	1.3	0.3		45.4	0.1
Total Delay	16.0	7.0		82.3	69.6
LOS	B	A		F	E
Approach Delay	11.8			82.3	69.6
Approach LOS	B			F	E
90th %ile Green (s)	48.0	48.0	48.0	48.0	18.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR
70th %ile Green (s)	48.0	48.0	48.0	48.0	18.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR
50th %ile Green (s)	48.0	48.0	48.0	48.0	18.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR
30th %ile Green (s)	48.0	48.0	48.0	48.0	18.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR
10th %ile Green (s)	48.0	48.0	48.0	48.0	18.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR
Stops (vph)	318	134		419	530
Fuel Used(gal)	5	3		9	10
CO Emissions (g/hr)	329	182		617	732
NOx Emissions (g/hr)	64	35		120	142
VOC Emissions (g/hr)	76	42		143	170

Timings

304: Quadrant Road East & Broadway

09-30-2020



Lane Group	EBT	EBR	WBL	WBT	NBL
Dilemma Vehicles (#)	0	0		0	0
Queue Length 50th (ft)	310	132		225	228
Queue Length 95th (ft)	m349	m177		#475	247
Internal Link Dist (ft)	293			419	290
Turn Bay Length (ft)					
Base Capacity (vph)	967	979		666	638
Starvation Cap Reductn	227	128		0	0
Spillback Cap Reductn	0	0		122	6
Storage Cap Reductn	0	0		0	0
Reduced v/c Ratio	0.73	0.55		1.14	0.76

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 45.7

Intersection LOS: D

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 304: Quadrant Road East & Broadway

