

701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

2017 AM
Existing Conditions



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	67	95	218	188	123	262	
Future Volume (vph)	67	95	218	188	123	262	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		0	165		
Storage Lanes	0	0		0	1		
Taper Length (ft)	0				25		
Satd. Flow (prot)	1690	1512	3072	0	1674	3348	
Flt Permitted	0.950				0.403		
Satd. Flow (perm)	1670	1512	3072	0	707	3348	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		102	204				
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1304			879	
Travel Time (s)	25.2		25.4			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	72	102	236	204	132	281	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	72	102	440	0	132	281	
Turn Type	Prot	Prot	NA		pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	9.7	5.8	17.4		25.9	27.9	
Actuated g/C Ratio	0.26	0.16	0.47		0.70	0.75	
v/c Ratio	0.16	0.32	0.29		0.20	0.11	
Control Delay	13.8	7.6	6.5		4.4	3.4	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.8	7.6	6.5		4.4	3.4	
LOS	B	A	A		A	A	
Approach Delay	10.2		6.5			3.7	
Approach LOS	B		A			A	
Queue Length 50th (ft)	11	0	17		9	10	
Queue Length 95th (ft)	30	22	38		21	18	
Internal Link Dist (ft)	1216		1224			799	
Turn Bay Length (ft)					165		
Base Capacity (vph)	467	1325	2196		679	3020	
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	0.15	0.08	0.20		0.19	0.09	

Intersection Summary

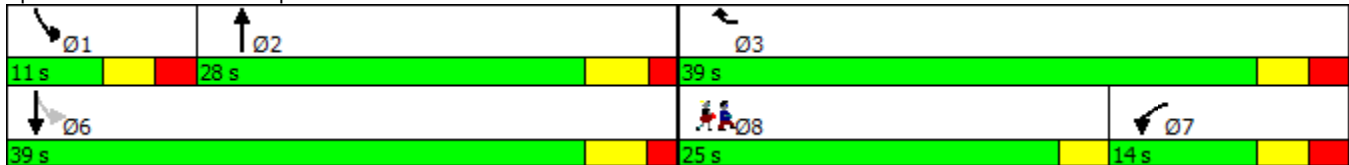
Area Type: Other
Cycle Length: 78

701: Spenard Rd & Fireweed Ln
 Lanes, Volumes, Timings

2017 AM
 Existing Conditions

Actuated Cycle Length: 37.2	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 38.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 AM
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ← ← ←			← ←			← ←	
Traffic Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Future Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Satd. Flow (prot)	0	0	0	0	5994	0	0	3314	0	0	3140	0
Flt Permitted					0.992			0.907				
Satd. Flow (perm)	0	0	0	0	5986	0	0	3022	0	0	3140	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					23						36	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			1304	
Travel Time (s)		26.5			25.8			10.3			25.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	136	650	65	24	170	0	0	62	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	851	0	0	194	0	0	98	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					82.7			14.3			14.3	
Actuated g/C Ratio					0.79			0.14			0.14	
v/c Ratio					0.18			0.47			0.21	
Control Delay					2.8			33.0			27.2	
Queue Delay					0.0			0.0			0.0	
Total Delay					2.8			33.0			27.2	
LOS					A			C			C	
Approach Delay					2.8			33.0			27.2	
Approach LOS					A			C			C	
Queue Length 50th (ft)					23			52			15	
Queue Length 95th (ft)					36			81			34	
Internal Link Dist (ft)		1279			1243			451			1224	
Turn Bay Length (ft)												
Base Capacity (vph)					4721			1352			1100	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.18			0.14			0.09	

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 AM
 Existing Conditions

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 10.0

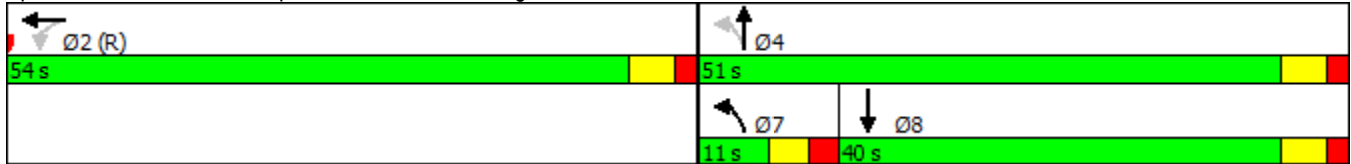
Intersection LOS: B

Intersection Capacity Utilization 33.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 AM
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Future Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Satd. Flow (prot)	0	6080	0	0	0	0	0	3062	0	0	3297	0
Flt Permitted		0.997									0.659	
Satd. Flow (perm)	0	6078	0	0	0	0	0	3062	0	0	2203	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						85				
Link Speed (mph)		40			40			35				35
Link Distance (ft)		1351			1350			2283				531
Travel Time (s)		23.0			23.0			44.5				10.3
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	69	1262	30	0	0	0	0	163	167	96	220	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1361	0	0	0	0	0	330	0	0	316	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		78.0						18.9			18.9	
Actuated g/C Ratio		0.74						0.18			0.18	
v/c Ratio		0.30						0.53			0.80	
Control Delay		5.0						31.2			58.7	
Queue Delay		0.0						0.0			0.0	
Total Delay		5.0						31.2			58.7	
LOS		A						C			E	
Approach Delay		5.0						31.2			58.7	
Approach LOS		A						C			E	
Queue Length 50th (ft)		58						62			87	
Queue Length 95th (ft)		88						91			120	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		4518						1102			984	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.30						0.30			0.32	

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2017 AM
 Existing Conditions

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 17.7

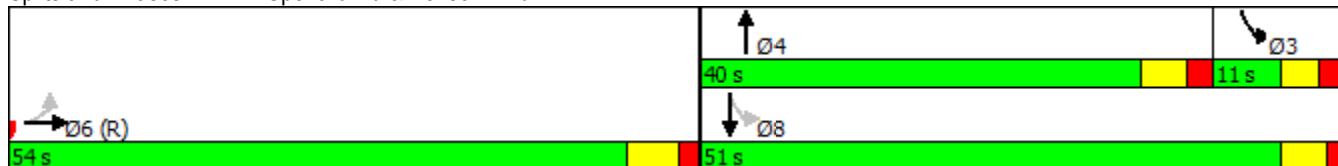
Intersection LOS: B

Intersection Capacity Utilization 51.0%

ICU Level of Service A














Analysis Period (min) 15

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

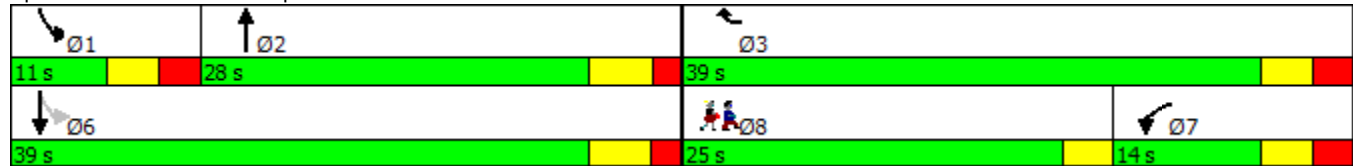
2017 MID
Existing Conditions

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations			 			 	
Traffic Volume (vph)	164	70	235	194	53	110	
Future Volume (vph)	164	70	235	194	53	110	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		0	165		
Storage Lanes	0	0		0	1		
Taper Length (ft)	0				25		
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95	
Ped Bike Factor	0.99		0.99		1.00		
Frt		0.850	0.932				
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	3080	0	1674	3348	
Flt Permitted	0.950				0.389		
Satd. Flow (perm)	1670	1512	3080	0	683	3348	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		75	210				
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1304			879	
Travel Time (s)	25.2		25.4			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	176	75	255	210	57	118	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	176	75	465	0	57	118	
Turn Type	Prot	Prot	NA		pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.0	7.6	15.2		20.2	20.2	
Actuated g/C Ratio	0.26	0.20	0.40		0.53	0.53	
v/c Ratio	0.40	0.21	0.34		0.11	0.07	
Control Delay	15.3	6.7	6.4		4.8	4.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	15.3	6.7	6.4		4.8	4.5	
LOS	B	A	A		A	A	
Approach Delay	12.7		6.4			4.6	
Approach LOS	B		A			A	
Queue Length 50th (ft)	17	0	10		4	4	
Queue Length 95th (ft)	62	19	42		11	9	
Internal Link Dist (ft)	1216		1224			799	
Turn Bay Length (ft)					165		
Base Capacity (vph)	451	1300	2030		544	2965	
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	0.39	0.06	0.23		0.10	0.04	

Intersection Summary

Area Type:	Other		
Cycle Length:	78		
Actuated Cycle Length:	38.4		
Control Type:	Actuated-Uncoordinated		
Maximum v/c Ratio:	0.40		
Intersection Signal Delay:	7.8	Intersection LOS:	A
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 MID
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑ ←			← ↑ ↑			← ↑ ↑	
Traffic Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Future Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.976						0.956	
Flt Protected					0.991			0.990				
Satd. Flow (prot)	0	0	0	0	5899	0	0	3301	0	0	3181	0
Flt Permitted					0.991			0.785				
Satd. Flow (perm)	0	0	0	0	5890	0	0	2614	0	0	3181	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			1304	
Travel Time (s)		26.5			25.8			10.3			25.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	340	1239	308	81	311	0	0	159	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1887	0	0	392	0	0	226	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					75.4			21.6			21.6	
Actuated g/C Ratio					0.72			0.21			0.21	
v/c Ratio					0.44			0.73			0.32	
Control Delay					6.7			41.7			24.9	
Queue Delay					0.0			0.0			0.0	
Total Delay					6.7			41.7			24.9	
LOS					A			D			C	
Approach Delay					6.7			41.7			24.9	
Approach LOS					A			D			C	
Queue Length 50th (ft)					101			109			37	
Queue Length 95th (ft)					147			145			61	
Internal Link Dist (ft)		1279			1243			451			1224	
Turn Bay Length (ft)												
Base Capacity (vph)					4247			1170			1134	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.44			0.34			0.20	

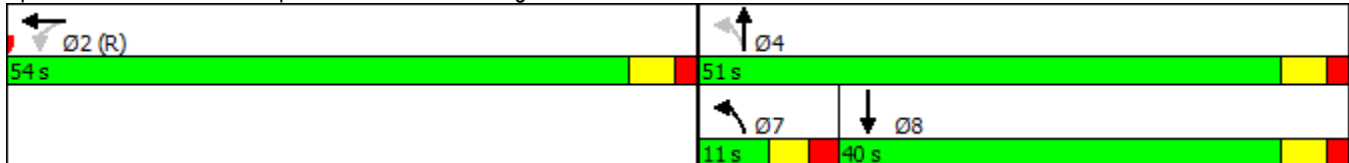
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 MID
 Existing Conditions

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	21 (20%), Referenced to phase 2:WBTL, Start of Green
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	13.8
Intersection LOS:	B
Intersection Capacity Utilization:	60.2%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 MID
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑	
Traffic Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Future Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.991						0.942				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6027	0	0	0	0	0	3129	0	0	3281	0
Flt Permitted		0.995									0.598	
Satd. Flow (perm)	0	6023	0	0	0	0	0	3129	0	0	1999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						47				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	139	1249	84	0	0	0	0	325	205	330	460	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	0	0	0	0	530	0	0	790	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		51.9						45.0			45.0	
Actuated g/C Ratio		0.49						0.43			0.43	
v/c Ratio		0.49						0.39			1.14dl	
Control Delay		18.6						19.2			44.0	
Queue Delay		0.0						0.0			0.0	
Total Delay		18.6						19.2			44.0	
LOS		B						B			D	
Approach Delay		18.6						19.2			44.0	
Approach LOS		B						B			D	
Queue Length 50th (ft)		152						87			180	
Queue Length 95th (ft)		176						119			#281	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2985						1367			892	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.49						0.39			0.89	

Intersection Summary

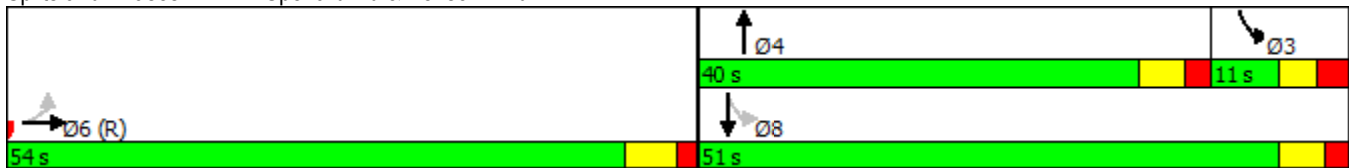
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2017 MID
 Existing Conditions














Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 25.9 Intersection LOS: C
 Intersection Capacity Utilization 66.8% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

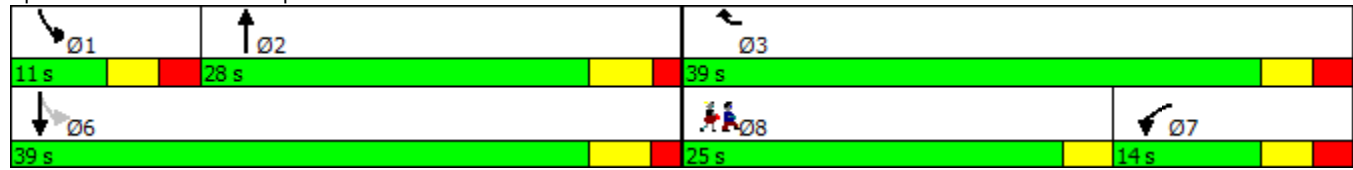
2017 PM
Existing Conditions

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations			 			 	
Traffic Volume (vph)	238	128	249	205	56	181	
Future Volume (vph)	238	128	249	205	56	181	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		0	165		
Storage Lanes	0	0		0	1		
Taper Length (ft)	0				25		
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95	
Ped Bike Factor	0.99		0.99		1.00		
Frt		0.850	0.932				
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	3080	0	1674	3348	
Flt Permitted	0.950				0.365		
Satd. Flow (perm)	1670	1512	3080	0	641	3348	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		137	222				
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1304			879	
Travel Time (s)	25.2		25.4			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	256	137	270	222	60	194	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	256	137	492	0	60	194	
Turn Type	Prot	Prot	NA		pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.2	7.8	12.7		17.3	17.3	
Actuated g/C Ratio	0.29	0.22	0.36		0.48	0.48	
v/c Ratio	0.53	0.31	0.40		0.12	0.12	
Control Delay	18.5	6.3	6.7		4.9	4.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.5	6.3	6.7		4.9	4.8	
LOS	B	A	A		A	A	
Approach Delay	14.2		6.7			4.8	
Approach LOS	B		A			A	
Queue Length 50th (ft)	26	0	11		4	7	
Queue Length 95th (ft)	#106	26	44		12	14	
Internal Link Dist (ft)	1216		1224			799	
Turn Bay Length (ft)					165		
Base Capacity (vph)	483	1388	2103		517	3123	
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	0.53	0.10	0.23		0.12	0.06	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 35.7
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 8.9 Intersection LOS: A
 Intersection Capacity Utilization 43.9% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 PM
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑ ←			← ↑ ↑			← ↑ ↑	
Traffic Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Future Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.994						0.946	
Flt Protected					0.994			0.992				
Satd. Flow (prot)	0	0	0	0	6041	0	0	3308	0	0	3143	0
Flt Permitted					0.994			0.811				
Satd. Flow (perm)	0	0	0	0	6035	0	0	2702	0	0	3143	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					11						77	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			1304	
Travel Time (s)		26.5			25.8			10.3			25.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	263	1837	93	61	298	0	0	154	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2193	0	0	359	0	0	240	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					77.1			19.9			19.9	
Actuated g/C Ratio					0.73			0.19			0.19	
v/c Ratio					0.49			0.70			0.37	
Control Delay					6.6			41.5			25.6	
Queue Delay					0.0			0.0			0.0	
Total Delay					6.6			41.5			25.6	
LOS					A			D			C	
Approach Delay					6.6			41.5			25.6	
Approach LOS					A			D			C	
Queue Length 50th (ft)					121			101			40	
Queue Length 95th (ft)					172			135			64	
Internal Link Dist (ft)		1279			1243			451			1224	
Turn Bay Length (ft)												
Base Capacity (vph)					4436			1209			1128	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.49			0.30			0.21	

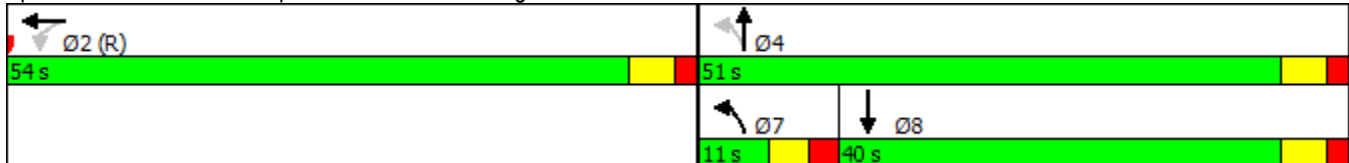
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 PM
 Existing Conditions

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	21 (20%), Referenced to phase 2:WBTL, Start of Green
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	12.7
Intersection LOS:	B
Intersection Capacity Utilization	63.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 PM
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑	
Traffic Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Future Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.993						0.938				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6041	0	0	0	0	0	3114	0	0	3281	0
Flt Permitted		0.995									0.589	
Satd. Flow (perm)	0	6036	0	0	0	0	0	3114	0	0	1970	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12						42				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	149	1321	71	0	0	0	0	329	232	322	462	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1541	0	0	0	0	0	561	0	0	784	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		51.8						45.1			45.1	
Actuated g/C Ratio		0.49						0.43			0.43	
v/c Ratio		0.52						0.41			1.16dl	
Control Delay		19.0						19.8			44.8	
Queue Delay		0.0						0.0			0.0	
Total Delay		19.0						19.8			44.8	
LOS		B						B			D	
Approach Delay		19.0						19.8			44.8	
Approach LOS		B						B			D	
Queue Length 50th (ft)		162						95			176	
Queue Length 95th (ft)		187						128			#281	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2982						1362			879	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.52						0.41			0.89	

Intersection Summary

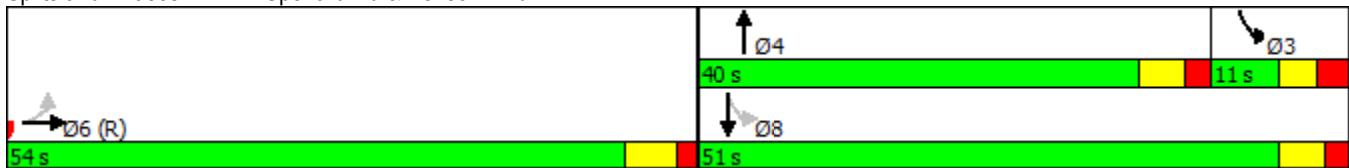
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2017 PM
 Existing Conditions













Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 26.2 Intersection LOS: C
 Intersection Capacity Utilization 68.2% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

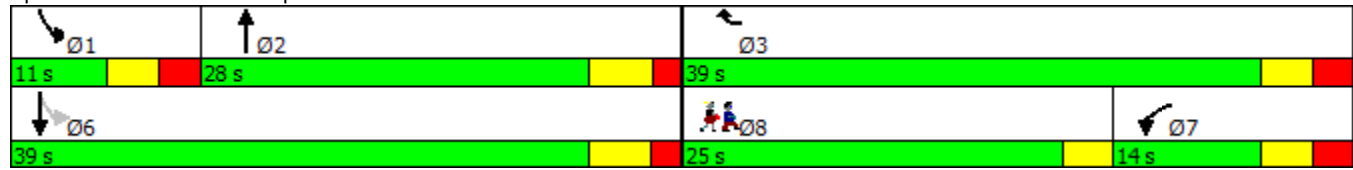
2017 AM
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	67	95	218	188	123	262	
Future Volume (vph)	67	95	218	188	123	262	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.498		
Satd. Flow (perm)	1657	1512	1762	1498	875	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		102		204			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	72	102	236	204	132	281	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	72	102	236	204	132	281	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effect Green (s)	9.8	5.8	17.6	0.0	26.2	28.2	
Actuated g/C Ratio	0.26	0.15	0.47	0.00	0.70	0.75	
v/c Ratio	0.16	0.32	0.29	1.00	0.17	0.21	
Control Delay	14.0	7.6	12.0	77.0	4.2	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.0	7.6	12.0	77.0	4.2	4.2	
LOS	B	A	B	E	A	A	
Approach Delay	10.3		42.2			4.2	
Approach LOS	B		D			A	
Queue Length 50th (ft)	11	0	35	0	9	21	
Queue Length 95th (ft)	31	23	73	#76	22	44	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	464	1316	1216	204	764	1578	
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	0.16	0.08	0.19	1.00	0.17	0.18	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 37.5
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 21.5 Intersection LOS: C
 Intersection Capacity Utilization 37.7% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ←			← ↑ ←			← ↑ ←	
Traffic Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Future Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.989						0.945	
Flt Protected					0.992			0.994				
Satd. Flow (prot)	0	0	0	0	5994	0	0	3314	0	0	3140	0
Flt Permitted					0.992			0.907				
Satd. Flow (perm)	0	0	0	0	5986	0	0	3022	0	0	3140	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					23						36	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	136	650	65	24	170	0	0	62	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	851	0	0	194	0	0	98	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					82.7			14.3			14.3	
Actuated g/C Ratio					0.79			0.14			0.14	
v/c Ratio					0.18			0.47			0.21	
Control Delay					2.8			33.0			27.2	
Queue Delay					0.0			0.0			0.0	
Total Delay					2.8			33.0			27.2	
LOS					A			C			C	
Approach Delay					2.8			33.0			27.2	
Approach LOS					A			C			C	
Queue Length 50th (ft)					23			52			15	
Queue Length 95th (ft)					36			81			34	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4721			1352			1100	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.18			0.14			0.09	

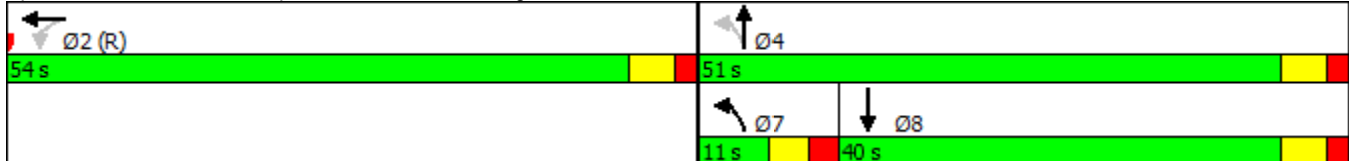
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 AM
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay: 10.0 Intersection LOS: B
 Intersection Capacity Utilization 33.4% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Future Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.997						0.924				
Flt Protected		0.997									0.985	
Satd. Flow (prot)	0	6080	0	0	0	0	0	3062	0	0	3297	0
Flt Permitted		0.997									0.659	
Satd. Flow (perm)	0	6078	0	0	0	0	0	3062	0	0	2203	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						85				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	69	1262	30	0	0	0	0	163	167	96	220	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1361	0	0	0	0	0	330	0	0	316	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		78.0						18.9			18.9	
Actuated g/C Ratio		0.74						0.18			0.18	
v/c Ratio		0.30						0.53			0.80	
Control Delay		5.0						31.2			58.7	
Queue Delay		0.0						0.0			0.0	
Total Delay		5.0						31.2			58.7	
LOS		A						C			E	
Approach Delay		5.0						31.2			58.7	
Approach LOS		A						C			E	
Queue Length 50th (ft)		58						62			87	
Queue Length 95th (ft)		88						91			120	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		4518						1102			984	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.30						0.30			0.32	

Intersection Summary

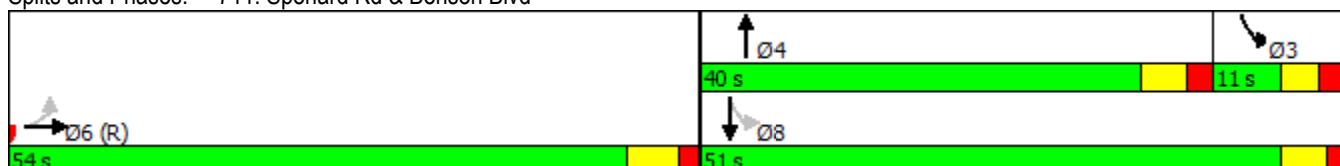
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2017 AM
 3-Lane













Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 51.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

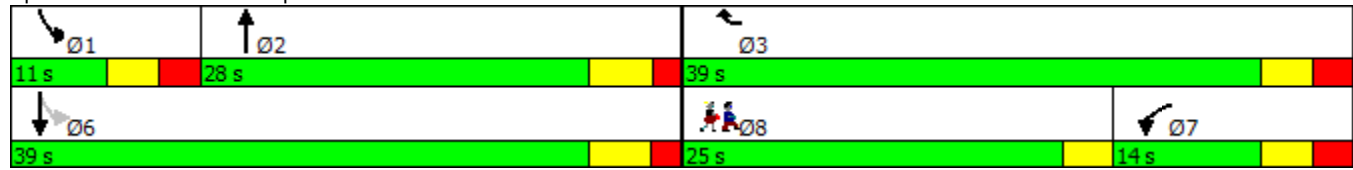
2017 MID
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	164	70	235	194	53	110	
Future Volume (vph)	164	70	235	194	53	110	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.485		
Satd. Flow (perm)	1657	1512	1762	1498	852	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		75		210			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	176	75	255	210	57	118	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	176	75	255	210	57	118	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.0	7.6	15.7	0.0	20.5	20.5	
Actuated g/C Ratio	0.26	0.20	0.40	0.00	0.53	0.53	
v/c Ratio	0.40	0.21	0.36	1.00	0.10	0.13	
Control Delay	15.8	7.0	11.8	75.7	4.6	4.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.8	7.0	11.8	75.7	4.6	4.9	
LOS	B	A	B	E	A	A	
Approach Delay	13.1		40.6			4.8	
Approach LOS	B		D			A	
Queue Length 50th (ft)	17	0	22	0	4	8	
Queue Length 95th (ft)	66	20	79	#78	11	19	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	448	1290	1108	210	603	1547	
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	0.06	0.23	1.00	0.09	0.08	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 38.8
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 25.8 Intersection LOS: C
 Intersection Capacity Utilization 38.4% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 MID
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ←			↑ ↑			↑ ↑	
Traffic Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Future Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.976						0.956	
Flt Protected					0.991			0.990				
Satd. Flow (prot)	0	0	0	0	5899	0	0	3301	0	0	3181	0
Flt Permitted					0.991			0.785				
Satd. Flow (perm)	0	0	0	0	5890	0	0	2614	0	0	3181	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	340	1239	308	81	311	0	0	159	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1887	0	0	392	0	0	226	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					75.4			21.6			21.6	
Actuated g/C Ratio					0.72			0.21			0.21	
v/c Ratio					0.44			0.73			0.32	
Control Delay					6.7			41.7			24.9	
Queue Delay					0.0			0.0			0.0	
Total Delay					6.7			41.7			24.9	
LOS					A			D			C	
Approach Delay					6.7			41.7			24.9	
Approach LOS					A			D			C	
Queue Length 50th (ft)					101			109			37	
Queue Length 95th (ft)					147			145			61	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4247			1170			1134	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.44			0.34			0.20	

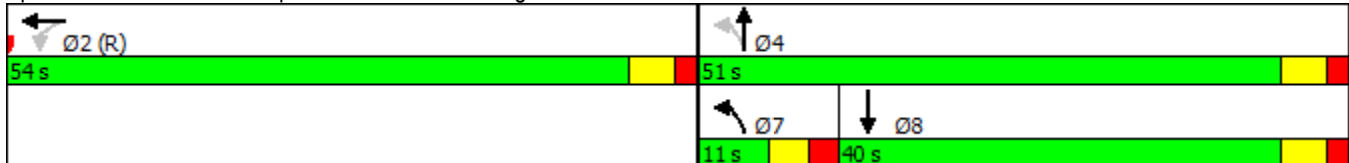
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 MID
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 13.8 Intersection LOS: B
 Intersection Capacity Utilization 60.2% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 MID
3-Lane



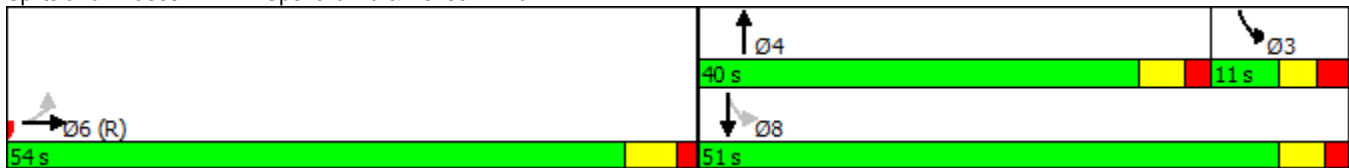
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑	
Traffic Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Future Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.991						0.942				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6027	0	0	0	0	0	3129	0	0	3281	0
Flt Permitted		0.995									0.598	
Satd. Flow (perm)	0	6023	0	0	0	0	0	3129	0	0	1999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						47				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	139	1249	84	0	0	0	0	325	205	330	460	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	0	0	0	0	530	0	0	790	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		51.9						45.0			45.0	
Actuated g/C Ratio		0.49						0.43			0.43	
v/c Ratio		0.49						0.39			1.14dl	
Control Delay		18.6						19.2			44.0	
Queue Delay		0.0						0.0			0.0	
Total Delay		18.6						19.2			44.0	
LOS		B						B			D	
Approach Delay		18.6						19.2			44.0	
Approach LOS		B						B			D	
Queue Length 50th (ft)		152						87			180	
Queue Length 95th (ft)		176						119			#281	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2985						1367			892	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.49						0.39			0.89	

Intersection Summary

Area Type: Other













Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 25.9 Intersection LOS: C
 Intersection Capacity Utilization 66.8% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

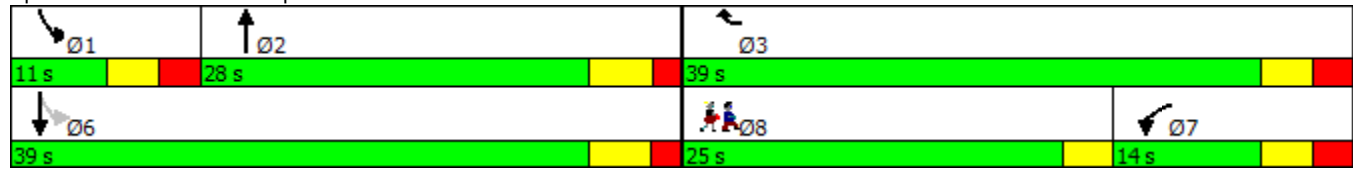
2017 PM
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	238	128	249	205	56	181	
Future Volume (vph)	238	128	249	205	56	181	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.462		
Satd. Flow (perm)	1657	1512	1762	1498	812	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		137		222			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	102%	102%	103%	103%	102%	102%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	256	137	270	222	60	194	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	256	137	270	222	60	194	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.3	7.8	13.2	0.0	17.7	17.7	
Actuated g/C Ratio	0.28	0.22	0.36	0.00	0.49	0.49	
v/c Ratio	0.53	0.32	0.42	1.00	0.11	0.22	
Control Delay	19.6	6.5	12.6	73.7	4.7	5.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.6	6.5	12.6	73.7	4.7	5.5	
LOS	B	A	B	E	A	A	
Approach Delay	15.1		40.2			5.3	
Approach LOS	B		D			A	
Queue Length 50th (ft)	26	0	23	0	4	15	
Queue Length 95th (ft)	#116	27	83	#80	12	30	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	479	1375	1148	222	568	1626	
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	0.53	0.10	0.24	1.00	0.11	0.12	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 36.2
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 23.7 Intersection LOS: C
 Intersection Capacity Utilization 43.4% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2017 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑			← ↑			← ↑	
Traffic Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Future Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.994						0.946	
Flt Protected					0.994			0.992				
Satd. Flow (prot)	0	0	0	0	6041	0	0	3308	0	0	3143	0
Flt Permitted					0.994			0.811				
Satd. Flow (perm)	0	0	0	0	6035	0	0	2702	0	0	3143	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					11						77	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	263	1837	93	61	298	0	0	154	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2193	0	0	359	0	0	240	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					77.1			19.9			19.9	
Actuated g/C Ratio					0.73			0.19			0.19	
v/c Ratio					0.49			0.70			0.37	
Control Delay					6.6			41.5			25.6	
Queue Delay					0.0			0.0			0.0	
Total Delay					6.6			41.5			25.6	
LOS					A			D			C	
Approach Delay					6.6			41.5			25.6	
Approach LOS					A			D			C	
Queue Length 50th (ft)					121			101			40	
Queue Length 95th (ft)					172			135			64	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4436			1209			1128	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.49			0.30			0.21	

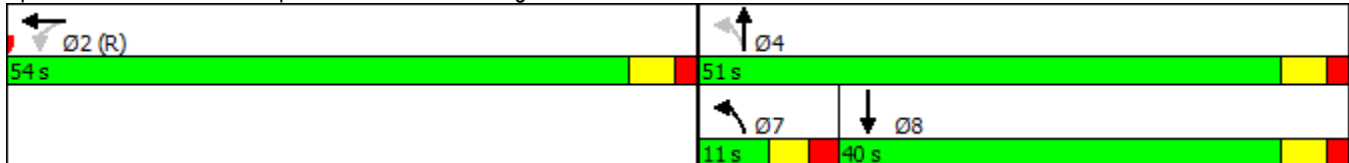
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2017 PM
 3-Lane

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	21 (20%), Referenced to phase 2:WBTL, Start of Green
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	12.7
Intersection LOS:	B
Intersection Capacity Utilization:	63.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2017 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑						↑↑			↑↑	
Traffic Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Future Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.993						0.938				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6041	0	0	0	0	0	3114	0	0	3281	0
Flt Permitted		0.995									0.589	
Satd. Flow (perm)	0	6036	0	0	0	0	0	3114	0	0	1970	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12						42				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	149	1321	71	0	0	0	0	329	232	322	462	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1541	0	0	0	0	0	561	0	0	784	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		51.8						45.1			45.1	
Actuated g/C Ratio		0.49						0.43			0.43	
v/c Ratio		0.52						0.41			1.16dl	
Control Delay		19.0						19.8			44.8	
Queue Delay		0.0						0.0			0.0	
Total Delay		19.0						19.8			44.8	
LOS		B						B			D	
Approach Delay		19.0						19.8			44.8	
Approach LOS		B						B			D	
Queue Length 50th (ft)		162						95			176	
Queue Length 95th (ft)		187						128			#281	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2982						1362			879	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.52						0.41			0.89	

Intersection Summary

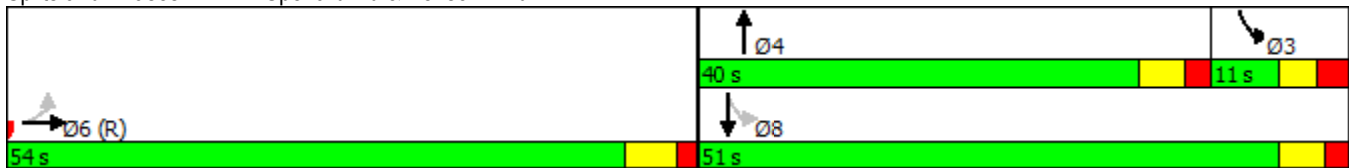
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2017 PM
 3-Lane













Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 26.2 Intersection LOS: C
 Intersection Capacity Utilization 68.2% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

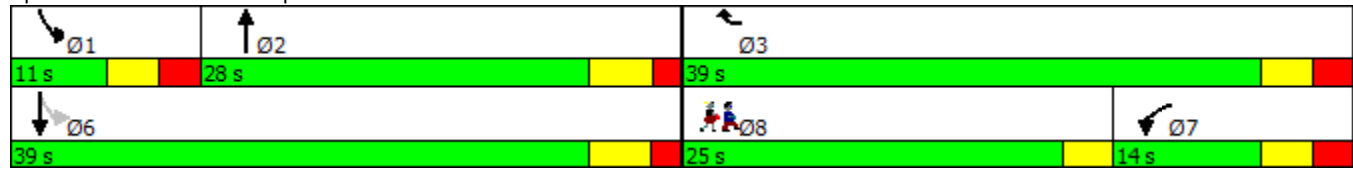
2027 AM
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	67	95	218	188	123	262	
Future Volume (vph)	67	95	218	188	123	262	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.487		
Satd. Flow (perm)	1657	1512	1762	1498	855	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		107		226			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	107%	107%	114%	114%	107%	107%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	75	107	262	226	139	295	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	75	107	262	226	139	295	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effect Green (s)	9.8	5.8	17.8	0.0	26.4	28.4	
Actuated g/C Ratio	0.26	0.15	0.47	0.00	0.70	0.75	
v/c Ratio	0.17	0.33	0.31	1.00	0.19	0.22	
Control Delay	14.4	7.8	12.1	73.1	4.3	4.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.4	7.8	12.1	73.1	4.3	4.1	
LOS	B	A	B	E	A	A	
Approach Delay	10.5		40.4			4.2	
Approach LOS	B		D			A	
Queue Length 50th (ft)	12	0	40	0	10	22	
Queue Length 95th (ft)	33	24	81	#80	23	46	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	462	1312	1212	226	755	1571	
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	0.16	0.08	0.22	1.00	0.18	0.19	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 37.7
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 21.2 Intersection LOS: C
 Intersection Capacity Utilization 39.2% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2027 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ← ← ←			↑↑			↑↑	
Traffic Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Future Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.988						0.944	
Flt Protected					0.992			0.994				
Satd. Flow (prot)	0	0	0	0	5988	0	0	3314	0	0	3136	0
Flt Permitted					0.992			0.905				
Satd. Flow (perm)	0	0	0	0	5980	0	0	3015	0	0	3136	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					24						40	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	114%	114%	114%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	143	681	69	25	178	0	0	68	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	893	0	0	203	0	0	108	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					82.6			14.4			14.4	
Actuated g/C Ratio					0.79			0.14			0.14	
v/c Ratio					0.19			0.49			0.23	
Control Delay					2.9			33.2			26.8	
Queue Delay					0.0			0.0			0.0	
Total Delay					2.9			33.2			26.8	
LOS					A			C			C	
Approach Delay					2.9			33.2			26.8	
Approach LOS					A			C			C	
Queue Length 50th (ft)					25			54			17	
Queue Length 95th (ft)					38			84			36	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4707			1349			1101	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.19			0.15			0.10	

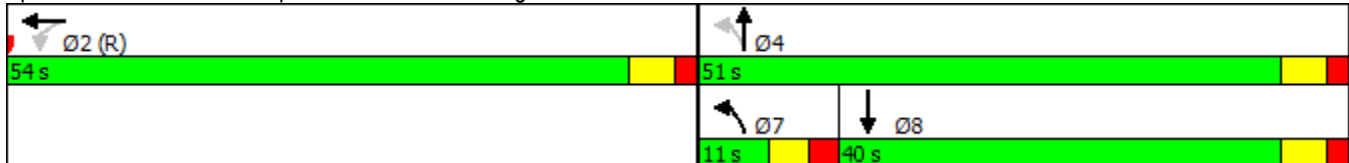
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2027 AM
 3-Lane

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	21 (20%), Referenced to phase 2:WBTL, Start of Green
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	10.2
Intersection LOS:	B
Intersection Capacity Utilization	33.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2027 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑						↑↑			↑↑	
Traffic Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Future Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.997						0.924				
Flt Protected		0.997									0.985	
Satd. Flow (prot)	0	6080	0	0	0	0	0	3062	0	0	3297	0
Flt Permitted		0.997									0.651	
Satd. Flow (perm)	0	6078	0	0	0	0	0	3062	0	0	2176	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						79				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	72	1324	31	0	0	0	0	171	176	101	231	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1427	0	0	0	0	0	347	0	0	332	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		77.1						19.8			19.8	
Actuated g/C Ratio		0.73						0.19			0.19	
v/c Ratio		0.32						0.54			0.81	
Control Delay		5.4						31.9			58.7	
Queue Delay		0.0						0.0			0.0	
Total Delay		5.4						31.9			58.7	
LOS		A						C			E	
Approach Delay		5.4						31.9			58.7	
Approach LOS		A						C			E	
Queue Length 50th (ft)		65						68			92	
Queue Length 95th (ft)		98						96			125	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		4464						1098			971	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.32						0.32			0.34	

Intersection Summary

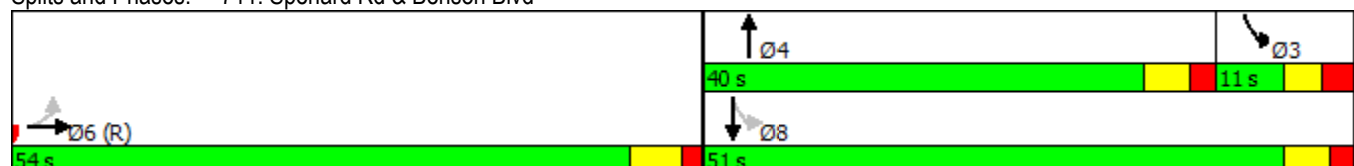
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2027 AM
 3-Lane













Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 52.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

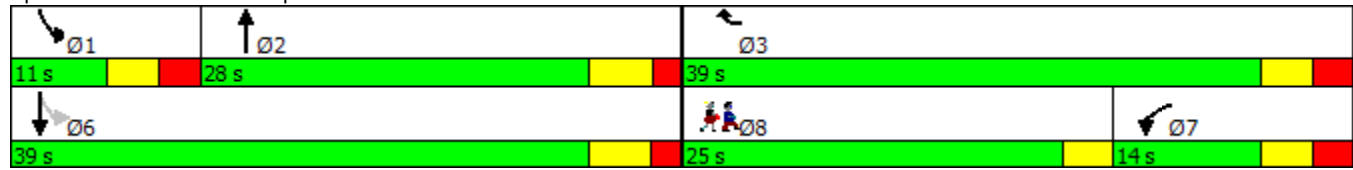
2027 MID
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	164	70	235	194	53	110	
Future Volume (vph)	164	70	235	194	53	110	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Fr _t		0.850		0.850			
Fl _t Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Fl _t Permitted	0.950				0.472		
Satd. Flow (perm)	1657	1512	1762	1498	829	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		79		233			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	107%	107%	114%	114%	107%	107%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	185	79	282	233	60	124	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	185	79	282	233	60	124	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effect Green (s)	10.1	7.6	16.0	0.0	23.1	23.1	
Actuated g/C Ratio	0.24	0.18	0.39	0.00	0.56	0.56	
v/c Ratio	0.45	0.23	0.41	1.00	0.10	0.13	
Control Delay	18.0	7.2	13.3	71.7	4.4	4.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.0	7.2	13.3	71.7	4.4	4.6	
LOS	B	A	B	E	A	A	
Approach Delay	14.8		39.8			4.5	
Approach LOS	B		D			A	
Queue Length 50th (ft)	30	0	44	0	4	9	
Queue Length 95th (ft)	71	21	86	#82	11	20	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	416	1219	1033	233	609	1480	
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	0.44	0.06	0.27	1.00	0.10	0.08	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 41.3
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 26.2 Intersection LOS: C
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2027 MID
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑			↑ ↑			↑ ↑	
Traffic Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Future Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.976						0.956	
Flt Protected					0.991			0.990				
Satd. Flow (prot)	0	0	0	0	5899	0	0	3301	0	0	3181	0
Flt Permitted					0.991			0.771				
Satd. Flow (perm)	0	0	0	0	5890	0	0	2568	0	0	3181	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	114%	114%	114%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	357	1300	323	84	327	0	0	176	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1980	0	0	411	0	0	250	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					74.3			22.7			22.7	
Actuated g/C Ratio					0.71			0.22			0.22	
v/c Ratio					0.47			0.74			0.34	
Control Delay					7.4			41.5			25.5	
Queue Delay					0.0			0.0			0.0	
Total Delay					7.4			41.5			25.5	
LOS					A			D			C	
Approach Delay					7.4			41.5			25.5	
Approach LOS					A			D			C	
Queue Length 50th (ft)					114			114			43	
Queue Length 95th (ft)					165			152			66	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4186			1149			1134	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.47			0.36			0.22	

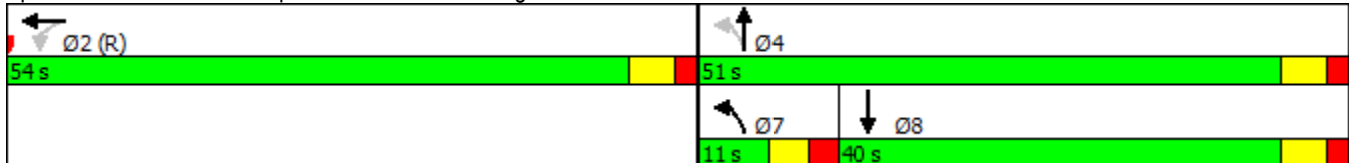
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2027 MID
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 14.4 Intersection LOS: B
 Intersection Capacity Utilization 62.0% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2027 MID
3-Lane



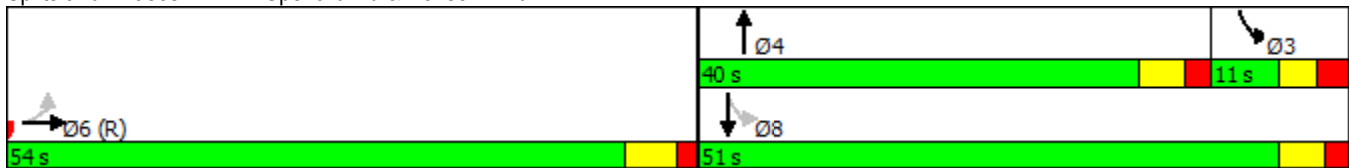
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Future Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.991						0.942				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6027	0	0	0	0	0	3129	0	0	3281	0
Flt Permitted		0.995									0.591	
Satd. Flow (perm)	0	6023	0	0	0	0	0	3129	0	0	1976	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						41				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	145	1310	88	0	0	0	0	341	215	346	482	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1543	0	0	0	0	0	556	0	0	828	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		51.0						45.9			45.9	
Actuated g/C Ratio		0.49						0.44			0.44	
v/c Ratio		0.53						0.40			1.21dl	
Control Delay		19.4						19.4			49.8	
Queue Delay		0.0						0.0			0.0	
Total Delay		19.4						19.4			49.8	
LOS		B						B			D	
Approach Delay		19.4						19.4			49.8	
Approach LOS		B						B			D	
Queue Length 50th (ft)		162						94			194	
Queue Length 95th (ft)		187						127			#307	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2934						1390			882	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.53						0.40			0.94	

Intersection Summary

Area Type: Other

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 69.3% 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.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

2027 PM
3-Lane

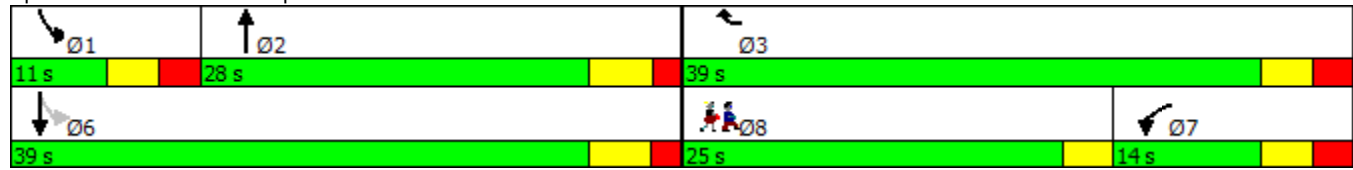


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	238	128	249	205	56	181	
Future Volume (vph)	238	128	249	205	56	181	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.438		
Satd. Flow (perm)	1657	1512	1762	1498	770	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		144		246			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	107%	107%	114%	114%	107%	107%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	268	144	299	246	63	204	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	268	144	299	246	63	204	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.3	7.8	13.5	0.0	20.2	20.2	
Actuated g/C Ratio	0.27	0.20	0.35	0.00	0.52	0.52	
v/c Ratio	0.60	0.34	0.49	1.00	0.11	0.22	
Control Delay	23.4	6.9	14.4	69.8	4.4	5.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.4	6.9	14.4	69.8	4.4	5.2	
LOS	C	A	B	E	A	A	
Approach Delay	17.6		39.4			5.0	
Approach LOS	B		D			A	
Queue Length 50th (ft)	46	0	47	0	4	15	
Queue Length 95th (ft)	#128	28	92	#85	12	31	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	448	1305	1074	246	570	1554	
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	0.60	0.11	0.28	1.00	0.11	0.13	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 38.7
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 24.6 Intersection LOS: C
 Intersection Capacity Utilization 45.3% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2027 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ← ← ←			↑ ↑			↑ ↑	
Traffic Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Future Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.994						0.946	
Flt Protected					0.994			0.992				
Satd. Flow (prot)	0	0	0	0	6041	0	0	3308	0	0	3144	0
Flt Permitted					0.994			0.806				
Satd. Flow (perm)	0	0	0	0	6035	0	0	2685	0	0	3144	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					11						74	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	107%	107%	107%	107%	107%	107%	114%	114%	114%	107%	107%	107%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	276	1927	98	68	334	0	0	160	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2301	0	0	402	0	0	249	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					75.3			21.7			21.7	
Actuated g/C Ratio					0.72			0.21			0.21	
v/c Ratio					0.53			0.73			0.35	
Control Delay					7.7			41.0			25.2	
Queue Delay					0.0			0.0			0.0	
Total Delay					7.7			41.0			25.2	
LOS					A			D			C	
Approach Delay					7.7			41.0			25.2	
Approach LOS					A			D			C	
Queue Length 50th (ft)					141			112			42	
Queue Length 95th (ft)					201			149			66	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4333			1201			1126	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.53			0.33			0.22	

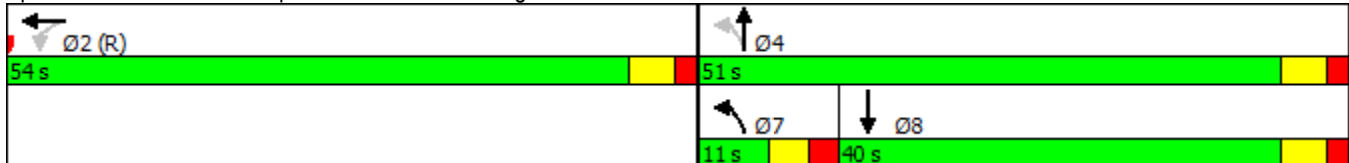
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2027 PM
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 13.7 Intersection LOS: B
 Intersection Capacity Utilization 65.6% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2027 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Future Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.993						0.938				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6041	0	0	0	0	0	3114	0	0	3281	0
Flt Permitted		0.995									0.582	
Satd. Flow (perm)	0	6036	0	0	0	0	0	3114	0	0	1946	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12						37				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	156	1386	75	0	0	0	0	345	243	338	485	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1617	0	0	0	0	0	588	0	0	823	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		50.9						46.0			46.0	
Actuated g/C Ratio		0.48						0.44			0.44	
v/c Ratio		0.55						0.43			1.24dl	
Control Delay		19.9						19.9			51.0	
Queue Delay		0.0						0.0			0.0	
Total Delay		19.9						19.9			51.0	
LOS		B						B			D	
Approach Delay		19.9						19.9			51.0	
Approach LOS		B						B			D	
Queue Length 50th (ft)		173						102			192	
Queue Length 95th (ft)		199						137			#309	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2934						1383			869	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.55						0.43			0.95	

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 28.4

Intersection LOS: C

Intersection Capacity Utilization 70.9%

ICU Level of Service C

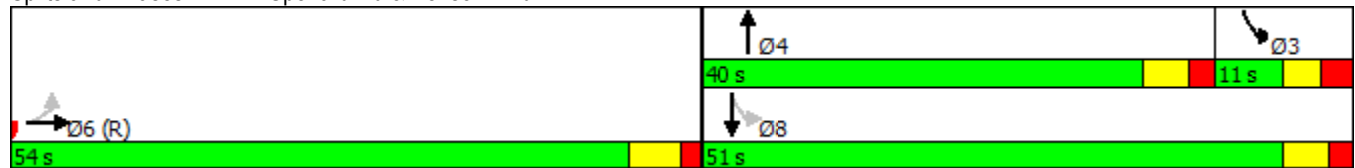
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.













dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

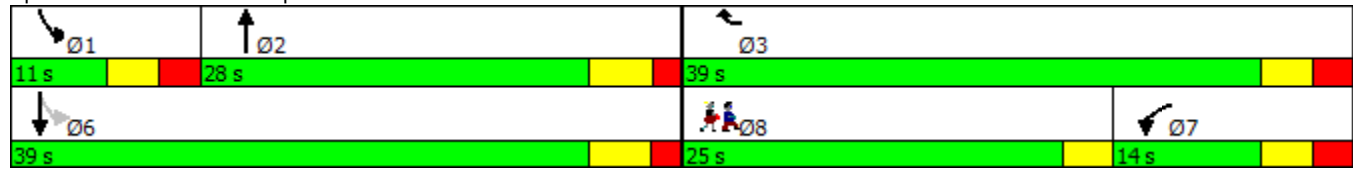
2037 AM
3-Lane

							Ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (vph)	67	95	218	188	123	262	
Future Volume (vph)	67	95	218	188	123	262	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.477		
Satd. Flow (perm)	1657	1512	1762	1498	838	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		112		249			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	112%	112%	126%	126%	112%	112%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	79	112	289	249	145	309	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	79	112	289	249	145	309	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effect Green (s)	9.6	6.5	18.4	0.0	26.4	27.4	
Actuated g/C Ratio	0.24	0.16	0.45	0.00	0.65	0.67	
v/c Ratio	0.20	0.34	0.36	1.00	0.21	0.26	
Control Delay	15.5	7.8	13.3	69.5	4.8	4.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.5	7.8	13.3	69.5	4.8	4.9	
LOS	B	A	B	E	A	A	
Approach Delay	11.0		39.3			4.8	
Approach LOS	B		D			A	
Queue Length 50th (ft)	12	0	45	0	10	24	
Queue Length 95th (ft)	35	25	89	#85	23	48	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	420	1244	1109	249	688	1505	
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	0.19	0.09	0.26	1.00	0.21	0.21	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 40.8
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 21.5 Intersection LOS: C
 Intersection Capacity Utilization 40.7% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2037 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ←			← ↑ ←			← ↑ ←	
Traffic Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Future Volume (vph)	0	0	0	127	605	61	22	158	0	0	57	33
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.988						0.945	
Flt Protected					0.992			0.994				
Satd. Flow (prot)	0	0	0	0	5988	0	0	3314	0	0	3140	0
Flt Permitted					0.992			0.903				
Satd. Flow (perm)	0	0	0	0	5980	0	0	3008	0	0	3140	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					24						44	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	126%	126%	126%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	150	713	72	26	186	0	0	76	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	935	0	0	212	0	0	120	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					82.4			14.6			14.6	
Actuated g/C Ratio					0.78			0.14			0.14	
v/c Ratio					0.20			0.51			0.25	
Control Delay					3.0			33.7			26.7	
Queue Delay					0.0			0.0			0.0	
Total Delay					3.0			33.7			26.7	
LOS					A			C			C	
Approach Delay					3.0			33.7			26.7	
Approach LOS					A			C			C	
Queue Length 50th (ft)					26			57			19	
Queue Length 95th (ft)					41			88			40	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4697			1346			1105	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.20			0.16			0.11	

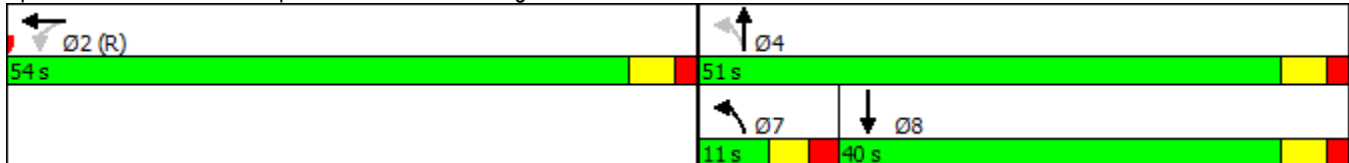
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2037 AM
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 10.4 Intersection LOS: B
 Intersection Capacity Utilization 33.4% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2037 AM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Future Volume (vph)	60	1101	26	0	0	0	0	142	146	84	192	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.997						0.924				
Flt Protected		0.997									0.985	
Satd. Flow (prot)	0	6080	0	0	0	0	0	3062	0	0	3297	0
Flt Permitted		0.997									0.644	
Satd. Flow (perm)	0	6078	0	0	0	0	0	3062	0	0	2153	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						74				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	76	1386	33	0	0	0	0	179	184	106	242	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1495	0	0	0	0	0	363	0	0	348	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		76.1						20.8			20.8	
Actuated g/C Ratio		0.72						0.20			0.20	
v/c Ratio		0.34						0.55			0.82	
Control Delay		5.9						32.2			58.4	
Queue Delay		0.0						0.0			0.0	
Total Delay		5.9						32.2			58.4	
LOS		A						C			E	
Approach Delay		5.9						32.2			58.4	
Approach LOS		A						C			E	
Queue Length 50th (ft)		72						73			96	
Queue Length 95th (ft)		109						101			130	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		4405						1095			961	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.34						0.33			0.36	

Intersection Summary

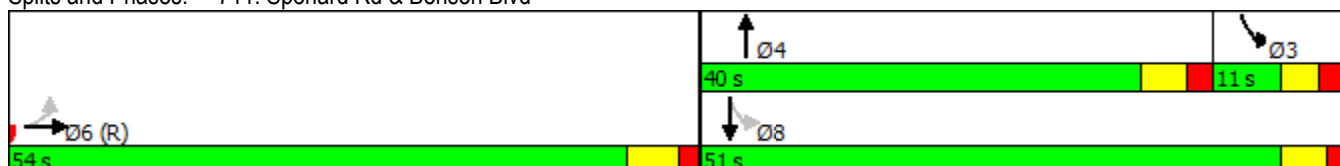
Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2037 AM
 3-Lane













Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings

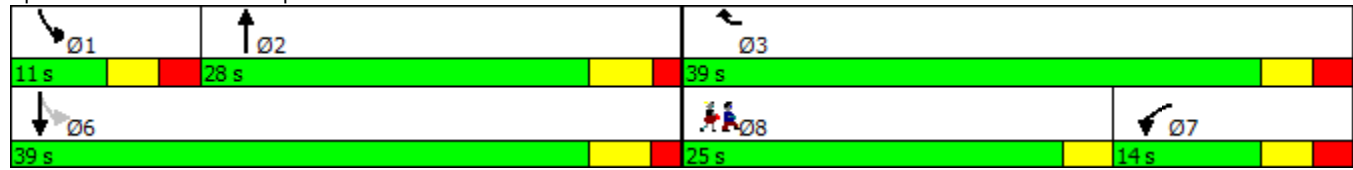
2037 MID
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	164	70	235	194	53	110	
Future Volume (vph)	164	70	235	194	53	110	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.442		
Satd. Flow (perm)	1657	1512	1762	1498	777	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		83		257			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	112%	112%	126%	126%	112%	112%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	193	83	312	257	62	130	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	193	83	312	257	62	130	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effect Green (s)	10.2	7.7	16.3	0.0	23.3	23.3	
Actuated g/C Ratio	0.24	0.18	0.39	0.00	0.56	0.56	
v/c Ratio	0.47	0.24	0.45	1.00	0.11	0.13	
Control Delay	18.7	7.3	13.7	68.2	4.4	4.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.7	7.3	13.7	68.2	4.4	4.5	
LOS	B	A	B	E	A	A	
Approach Delay	15.3		38.3			4.5	
Approach LOS	B		D			A	
Queue Length 50th (ft)	31	0	49	0	4	9	
Queue Length 95th (ft)	77	22	96	#87	12	21	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	413	1211	1017	257	588	1467	
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	0.47	0.07	0.31	1.00	0.11	0.09	

Intersection Summary

Area Type: Other
 Cycle Length: 78
 Actuated Cycle Length: 41.7
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 25.9 Intersection LOS: C
 Intersection Capacity Utilization 41.8% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 701: Spenard Rd & Fireweed Ln



706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2037 MID
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑			↑ ↑			↑ ↑	
Traffic Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Future Volume (vph)	0	0	0	317	1154	287	75	290	0	0	147	62
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	
Frt					0.976						0.956	
Flt Protected					0.991			0.990				
Satd. Flow (prot)	0	0	0	0	5899	0	0	3301	0	0	3181	0
Flt Permitted					0.991			0.754				
Satd. Flow (perm)	0	0	0	0	5890	0	0	2511	0	0	3181	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1359			1323			531			289	
Travel Time (s)		26.5			25.8			10.3			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	126%	126%	126%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	374	1361	338	88	342	0	0	195	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2073	0	0	430	0	0	277	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	
Total Lost Time (s)					4.0			4.0			4.0	
Act Effct Green (s)					73.1			23.9			23.9	
Actuated g/C Ratio					0.70			0.23			0.23	
v/c Ratio					0.50			0.75			0.36	
Control Delay					8.2			41.2			25.9	
Queue Delay					0.0			0.0			0.0	
Total Delay					8.2			41.2			25.9	
LOS					A			D			C	
Approach Delay					8.2			41.3			25.9	
Approach LOS					A			D			C	
Queue Length 50th (ft)					128			120			49	
Queue Length 95th (ft)					186			161			73	
Internal Link Dist (ft)		1279			1243			451			209	
Turn Bay Length (ft)												
Base Capacity (vph)					4118			1123			1134	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.50			0.38			0.24	

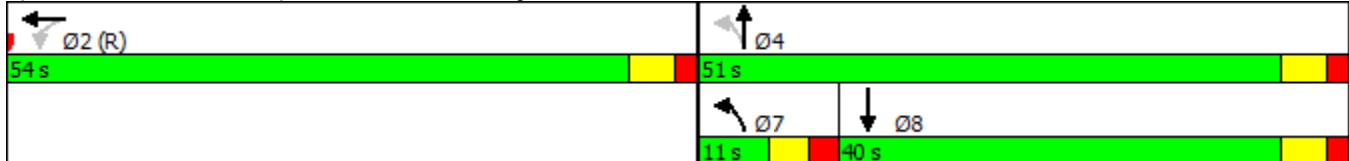
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2037 MID
 3-Lane

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	21 (20%), Referenced to phase 2:WBTL, Start of Green
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	15.1
Intersection LOS:	B
Intersection Capacity Utilization:	63.8%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2037 MID
3-Lane



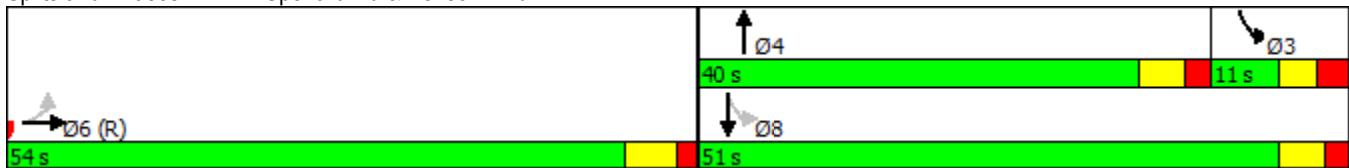
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Future Volume (vph)	121	1090	73	0	0	0	0	284	179	288	401	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.991						0.942				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6027	0	0	0	0	0	3129	0	0	3281	0
Flt Permitted		0.995									0.583	
Satd. Flow (perm)	0	6023	0	0	0	0	0	3129	0	0	1950	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						36				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	152	1372	92	0	0	0	0	357	225	362	505	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1616	0	0	0	0	0	582	0	0	867	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		50.3						46.6			46.6	
Actuated g/C Ratio		0.48						0.44			0.44	
v/c Ratio		0.56						0.41			1.29dl	
Control Delay		20.2						19.6			58.9	
Queue Delay		0.0						0.0			0.0	
Total Delay		20.2						19.6			58.9	
LOS		C						B			E	
Approach Delay		20.2						19.6			58.9	
Approach LOS		C						B			E	
Queue Length 50th (ft)		172						101			214	
Queue Length 95th (ft)		198						135			#336	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2892						1409			871	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.56						0.41			1.00	

Intersection Summary

Area Type: Other













Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 31.0 Intersection LOS: C
 Intersection Capacity Utilization 71.9% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd



701: Spenard Rd & Fireweed Ln
Lanes, Volumes, Timings







2037 PM
3-Lane

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	238	128	249	205	56	181	
Future Volume (vph)	238	128	249	205	56	181	
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	
Storage Length (ft)	0	0		120	165		
Storage Lanes	0	0		1	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98				1.00		
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1690	1512	1762	1498	1674	1762	
Flt Permitted	0.950				0.409		
Satd. Flow (perm)	1657	1512	1762	1498	719	1762	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		151		266			
Link Speed (mph)	35		35			30	
Link Distance (ft)	1296		1015			879	
Travel Time (s)	25.2		19.8			20.0	
Confl. Peds. (#/hr)	5	5		5	5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	112%	112%	126%	126%	112%	112%	
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%	
Adj. Flow (vph)	281	151	330	272	66	213	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	281	151	330	272	66	213	
Turn Type	Prot	Prot	NA	NA	pm+pt	NA	
Protected Phases	7	3	2		1	6	8
Permitted Phases					6		
Total Split (s)	14.0	39.0	28.0		11.0	39.0	25.0
Total Lost Time (s)	4.0	6.4	5.0		4.0	4.0	
Act Effct Green (s)	10.3	7.8	14.0	0.0	20.7	20.7	
Actuated g/C Ratio	0.26	0.20	0.36	0.00	0.53	0.53	
v/c Ratio	0.63	0.36	0.52	1.02	0.12	0.23	
Control Delay	25.3	7.0	14.8	73.4	4.4	5.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.3	7.0	14.8	73.4	4.4	5.1	
LOS	C	A	B	E	A	A	
Approach Delay	18.9		41.3			5.0	
Approach LOS	B		D			A	
Queue Length 50th (ft)	49	0	53	~3	5	16	
Queue Length 95th (ft)	#141	30	102	#93	12	32	
Internal Link Dist (ft)	1216		935			799	
Turn Bay Length (ft)				120	165		
Base Capacity (vph)	444	1295	1064	266	554	1538	
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	0.63	0.12	0.31	1.02	0.12	0.14	

Intersection Summary

Area Type:	Other		
Cycle Length:	78		
Actuated Cycle Length:	39.3		
Control Type:	Actuated-Uncoordinated		
Maximum v/c Ratio:	1.02		
Intersection Signal Delay:	26.2	Intersection LOS:	C
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
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.			

Splits and Phases: 701: Spenard Rd & Fireweed Ln

 Ø1	 Ø2	 Ø3
11 s	28 s	39 s
 Ø6	 Ø8	 Ø7
39 s	25 s	14 s

706: Spenard Rd & Northern Lights Blvd
Lanes, Volumes, Timings

2037 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					← ↑ ↑ ↑ ←			← ↑ ↑			← ↑ ↑	
Traffic Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Future Volume (vph)	0	0	0	245	1711	87	57	278	0	0	142	79
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor					1.00			1.00			0.99	0.99
Frt					0.994						0.946	0.946
Flt Protected					0.994			0.992				
Satd. Flow (prot)	0	0	0	0	6041	0	0	3308	0	0	3143	0
Flt Permitted					0.994			0.772				
Satd. Flow (perm)	0	0	0	0	6035	0	0	2572	0	0	3143	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					11						73	73
Link Speed (mph)		35			35			35			35	35
Link Distance (ft)		1359			1323			531			289	289
Travel Time (s)		26.5			25.8			10.3			5.6	5.6
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	126%	126%	126%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	0	0
Adj. Flow (vph)	0	0	0	289	2017	103	67	328	0	0	188	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2409	0	0	395	0	0	293	0
Turn Type				Perm	NA		pm+pt	NA			NA	NA
Protected Phases					2		7	4			8	8
Permitted Phases				2			4					
Total Split (s)				54.0	54.0		11.0	51.0			40.0	40.0
Total Lost Time (s)					4.0			4.0			4.0	4.0
Act Effct Green (s)					75.5			21.5			21.5	21.5
Actuated g/C Ratio					0.72			0.20			0.20	0.20
v/c Ratio					0.55			0.75			0.42	0.42
Control Delay					7.9			42.1			28.0	28.0
Queue Delay					0.0			0.0			0.0	0.0
Total Delay					7.9			42.1			28.0	28.0
LOS					A			D			C	C
Approach Delay					7.9			42.1			28.0	28.0
Approach LOS					A			D			C	C
Queue Length 50th (ft)					151			111			53	53
Queue Length 95th (ft)					214			147			80	80
Internal Link Dist (ft)		1279			1243			451			209	209
Turn Bay Length (ft)												
Base Capacity (vph)					4342			1151			1125	1125
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					0.55			0.34			0.26	0.26

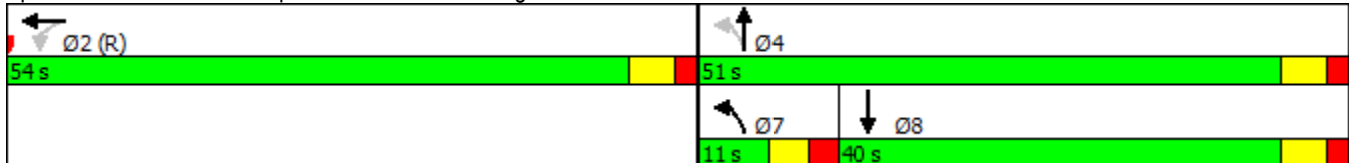
Intersection Summary

706: Spenard Rd & Northern Lights Blvd
 Lanes, Volumes, Timings

2037 PM
 3-Lane

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 21 (20%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 14.2 Intersection LOS: B
 Intersection Capacity Utilization 67.2% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 706: Spenard Rd & Northern Lights Blvd



711: Spenard Rd & Benson Blvd
Lanes, Volumes, Timings

2037 PM
3-Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑↑			←↑↑	
Traffic Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Future Volume (vph)	130	1153	62	0	0	0	0	287	202	281	403	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Util. Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.993						0.938				
Flt Protected		0.995									0.980	
Satd. Flow (prot)	0	6041	0	0	0	0	0	3114	0	0	3281	0
Flt Permitted		0.995									0.575	
Satd. Flow (perm)	0	6036	0	0	0	0	0	3114	0	0	1923	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12						32				
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		1351			1350			2283			531	
Travel Time (s)		23.0			23.0			44.5			10.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	164	1451	78	0	0	0	0	361	254	354	507	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1693	0	0	0	0	0	615	0	0	861	0
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		6						4		3	8	
Permitted Phases	6									8		
Total Split (s)	54.0	54.0						40.0		11.0	51.0	
Total Lost Time (s)		4.0						4.1			4.1	
Act Effct Green (s)		50.2						46.7			46.7	
Actuated g/C Ratio		0.48						0.44			0.44	
v/c Ratio		0.59						0.44			1.33dl	
Control Delay		20.8						20.1			61.0	
Queue Delay		0.0						0.0			0.0	
Total Delay		20.8						20.1			61.0	
LOS		C						C			E	
Approach Delay		20.8						20.1			61.0	
Approach LOS		C						C			E	
Queue Length 50th (ft)		184						110			~214	
Queue Length 95th (ft)		211						145			#337	
Internal Link Dist (ft)		1271			1270			2203			451	
Turn Bay Length (ft)												
Base Capacity (vph)		2891						1402			858	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.59						0.44			1.00	

Intersection Summary

Area Type: Other

711: Spenard Rd & Benson Blvd
 Lanes, Volumes, Timings

2037 PM
 3-Lane

Cycle Length: 105
 Actuated Cycle Length: 105
 Offset: 96 (91%), Referenced to phase 6:EBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 31.6 Intersection LOS: C
 Intersection Capacity Utilization 73.5% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 711: Spenard Rd & Benson Blvd

