

APPENDIX F TRANSPORTATION: SYNCHRO L.O.S SUMMARIES

AM Existing Condition

1: N Mills Avenue & E Princeton St

12/17/2016

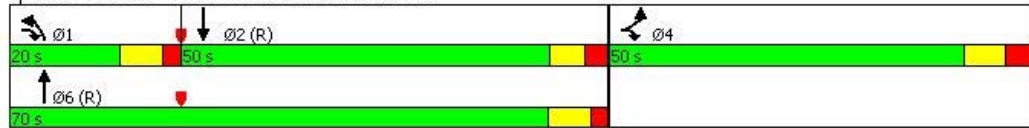


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↕	↕↗	
Traffic Volume (vph)	99	555	664	1182	847	104
Future Volume (vph)	99	555	664	1182	847	104
Satd. Flow (prot)	1770	2787	3433	3539	3468	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1761	2787	3407	3539	3468	0
Satd. Flow (RTOR)		50			12	
Confl. Peds. (#/hr)	8		22			22
Confl. Bikes (#/hr)						7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	108	603	722	1285	921	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	603	722	1285	1034	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	50.0		20.0	70.0	50.0	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	20.9	61.4	33.4	33.4	43.0	
Actuated g/C Ratio	0.17	0.51	0.28	0.70	0.36	
w/c Ratio	0.35	0.42	0.76	0.52	0.83	
Control Delay	45.5	17.6	54.3	13.0	41.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.5	17.6	54.3	13.0	41.5	
LOS	D	B	D	B	D	
Approach Delay	21.8			27.8	41.5	
Approach LOS	C			C	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.83
 Intersection Signal Delay: 30.5
 Intersection LOS: C
 Intersection Capacity Utilization 72.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



AM Existing Condition

2: N Orange Ave & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	352	719	269	42	684	63	121	209	32	81	357	242
Future Volume (vph)	352	719	269	42	684	63	121	209	32	81	357	242
Satd. Flow (prot)	1770	3539	1583	1770	5007	0	1770	3454	0	1770	3539	1583
Flt Permitted	0.174			0.197			0.467			0.590		
Satd. Flow (perm)	323	3539	1558	367	5007	0	864	3454	0	1086	3539	1545
Satd. Flow (RTOR)			292		15			21				196
Confl. Peds. (#/hr)	15		3	3		15	15		20	20		15
Confl. Bikes (#/hr)			1			3			5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	383	782	292	46	743	68	132	227	35	88	388	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	383	782	292	46	811	0	132	262	0	88	388	263
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	14.0	24.0	15.0	14.0	24.0		15.0	37.0		15.0	37.0	14.0
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	29.2	24.0	32.5	25.7	18.0		41.8	34.5		39.4	31.5	40.3
Actuated g/C Ratio	0.32	0.27	0.36	0.29	0.20		0.46	0.38		0.44	0.35	0.45
w/c Ratio	1.61	0.83	0.39	0.21	0.80		0.27	0.20		0.16	0.31	0.33
Control Delay	316.4	42.9	4.2	28.5	42.7		13.3	17.1		12.5	22.4	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	316.4	42.9	4.2	28.5	42.7		13.3	17.1		12.5	22.4	4.9
LOS	F	D	A	C	D		B	B		B	C	A
Approach Delay		107.1			42.0			15.9			15.0	
Approach LOS		F			D			B			B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 24.5 (27%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.61
 Intersection Signal Delay: 60.7
 Intersection LOS: E
 Intersection Capacity Utilization 92.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



AM Existing Condition

4: N Mills Avenue & Virginia Drive

12/17/2016

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (vph)	51	222	87	225	448	285	74	954	63	124	860	62
Future Volume (vph)	51	222	87	225	448	285	74	954	63	124	860	62
Satd. Flow (prot)	1770	3365	0	1770	1863	1583	1770	3502	0	1770	3495	0
Flt Permitted	0.241			0.412			0.950			0.950		
Satd. Flow (perm)	449	3365	0	761	1863	1538	1764	3502	0	1766	3495	0
Satd. Flow (RTOR)		46				249		6			6	
Confl. Peds. (#/hr)	12		11	11		12	6		8	8		6
Confl. Bikes (#/hr)			2			4			4			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	55	241	95	245	487	310	80	1037	68	135	935	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	336	0	245	487	310	80	1105	0	135	1002	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	23.0	37.0		23.0	37.0	19.0	19.0	41.0		19.0	41.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	36.9	29.4		51.2	38.7	51.6	10.3	38.0		12.2	42.2	
Actuated g/C Ratio	0.31	0.24		0.43	0.32	0.43	0.09	0.32		0.10	0.35	
w/c Ratio	0.25	0.39		0.54	0.81	0.38	0.53	0.99		0.75	0.81	
Control Delay	23.2	33.6		27.1	49.6	5.8	66.6	60.6		96.6	28.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	23.2	33.6		27.1	49.6	5.8	66.6	60.6		96.6	28.7	
LOS	C	C		C	D	A	E	E		F	C	
Approach Delay		32.1			31.3			61.0			36.8	
Approach LOS		C			C			E			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 15 (13%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.99
 Intersection Signal Delay: 42.4
 Intersection LOS: D
 Intersection Capacity Utilization 84.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



AM Existing Condition
 7: Orange Ave & Virginia Drive

12/17/2016

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑	↗		↘↙
Traffic Volume (vph)	259	177	257	66	253	481
Future Volume (vph)	259	177	257	66	253	481
Satd. Flow (prot)	1770	1583	1863	1583	0	3479
Flt Permitted	0.950					0.739
Satd. Flow (perm)	1770	1583	1863	1527	0	2608
Satd. Flow (RTOR)		192		72		
Confl. Peds. (#/hr)		7		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	282	192	279	72	275	523
Shared Lane Traffic (%)						
Lane Group Flow (vph)	282	192	279	72	0	798
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	30.0	30.0	40.0	40.0	20.0	60.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	19.0	19.0	59.4	59.4		59.4
Actuated g/C Ratio	0.21	0.21	0.66	0.66		0.66
w/c Ratio	0.75	0.40	0.23	0.07		0.46
Control Delay	45.9	6.7	6.3	1.2		6.6
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	45.9	6.7	6.3	1.2		6.6
LOS	D	A	A	A		A
Approach Delay	30.0		5.2			6.6
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.75
 Intersection Signal Delay: 13.2
 Intersection LOS: B
 Intersection Capacity Utilization 69.2%
 ICU Level of Service C
 Analysis Period (min) 15



AM Existing Condition

8: Alden Road & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗			↖↗		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	180	677	47	11	602	43	25	4	9	40	4	146
Future Volume (vph)	180	677	47	11	602	43	25	4	9	40	4	146
Satd. Flow (prot)	1770	3498	0	0	3492	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.315				0.939							
Satd. Flow (perm)	585	3498	0	0	3282	0	1855	1863	1562	1860	1863	1557
Satd. Flow (RTOR)		11			9				182			159
Confl. Peds. (#/hr)	6		3	3		6	3		1	1		3
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	196	736	51	12	654	47	27	4	10	43	4	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	787	0	0	713	0	27	4	10	43	4	159
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6			2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	15.0	37.0		37.0	37.0		13.0	25.0	37.0	13.0	25.0	37.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	73.7	76.1			59.2		7.7	5.8	59.2	7.9	6.5	76.1
Actuated g/C Ratio	0.82	0.85			0.66		0.09	0.06	0.66	0.09	0.07	0.85
w/c Ratio	0.33	0.27			0.33		0.18	0.03	0.01	0.27	0.03	0.12
Control Delay	8.1	1.3			9.4		40.5	45.2	0.0	39.5	39.0	1.0
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	1.3			9.4		40.5	45.2	0.0	39.5	39.0	1.0
LOS	A	A			A		D	D	A	D	D	A
Approach Delay		2.6			9.4			31.1			9.8	
Approach LOS		A			A			C			A	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.33	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 62.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



AM Existing Condition

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Volume (vph)	9	306	8	110	449	4	3	0	11	5	1	9
Future Volume (vph)	9	306	8	110	449	4	3	0	11	5	1	9
Satd. Flow (prot)	0	1855	0	0	1842	0	0	1645	0	0	1631	0
Flt Permitted		0.999			0.990			0.990			0.985	
Satd. Flow (perm)	0	1855	0	0	1842	0	0	1645	0	0	1631	0
Confl. Peds. (#/hr)	1		4	4		1	1		1	1		1
Confl. Bikes (#/hr)			2			4			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	333	9	120	488	4	3	0	12	5	1	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	352	0	0	612	0	0	15	0	0	16	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 60.7% ICU Level of Service B												
Analysis Period (min) 15												

AM Existing Condition

15: Alden Rd & Brookhaven Dr

12/17/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		BT	RT		LT
Traffic Volume (vph)	49	9	12	8	11	101
Future Volume (vph)	49	9	12	8	11	101
Satd. Flow (prot)	1751	0	1760	0	0	1353
Flt Permitted	0.960					0.995
Satd. Flow (perm)	1751	0	1760	0	0	1353
Confl. Peds. (#/hr)				1		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	53	10	13	9	12	110
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	22	0	0	122
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 22.6%			ICU Level of Service A			
Analysis Period (min) 15						

AM Existing Condition

22: N Mills Avenue & Nebraska St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	30	10	29	17	12	384	19	1364	19	241	919	41
Future Volume (vph)	30	10	29	17	12	384	19	1364	19	241	919	41
Satd. Flow (prot)	1770	1654	0	0	1811	1583	1770	3531	0	1770	3515	0
Flt Permitted	0.604				0.841		0.950			0.950		
Satd. Flow (perm)	1125	1654	0	0	1567	1562	1770	3531	0	1770	3515	0
Satd. Flow (RTOR)		32				203		2			6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)						1			1			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	11	32	18	13	417	21	1483	21	262	999	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	43	0	0	31	417	21	1504	0	262	1044	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	12.0	34.0		22.0	22.0	22.0	12.0	74.0		12.0	74.0	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	29.5	27.5			20.4	20.4	6.7	67.9		7.5	75.1	
Actuated g/C Ratio	0.25	0.23			0.17	0.17	0.06	0.57		0.06	0.63	
w/c Ratio	0.11	0.11			0.12	0.96	0.21	0.75		2.38	0.47	
Control Delay	35.8	17.0			46.9	61.5	62.2	11.6		664.7	24.5	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay	35.8	17.0			46.9	61.5	62.2	12.1		664.7	24.5	
LOS	D	B			D	E	E	B		F	C	
Approach Delay		25.2			60.5			12.8			152.9	
Approach LOS		C			E			B			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 2.38
 Intersection Signal Delay: 74.0
 Intersection LOS: E
 Intersection Capacity Utilization 83.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



AM Existing Condition

25: N Mills Avenue & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (vph)	30	6	10	9	7	8	24	1152	5	6	1059	46
Future Volume (vph)	30	6	10	9	7	8	24	1152	5	6	1059	46
Satd. Flow (prot)	0	1746	0	0	1739	0	1770	3535	0	1770	3512	0
Flt Permitted		0.788			0.889		0.223			0.209		
Satd. Flow (perm)	0	1417	0	0	1565	0	415	3535	0	389	3512	0
Satd. Flow (RTOR)		11			9			1			7	
Confl. Peds. (#/hr)	1		5	5			1	5		4	4	
Confl. Bikes (#/hr)												6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	7	11	10	8	9	26	1252	5	7	1151	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	27	0	26	1257	0	7	1201	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	40.0	40.0		40.0	40.0		80.0	80.0		80.0	80.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		8.8			8.8		102.3	102.3		102.3	102.3	
Actuated g/C Ratio		0.07			0.07		0.85	0.85		0.85	0.85	
w/c Ratio		0.45			0.22		0.07	0.42		0.02	0.40	
Control Delay		55.4			42.2		2.8	2.8		2.5	2.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		55.4			42.2		2.8	2.8		2.5	2.6	
LOS		E			D		A	A		A	A	
Approach Delay		55.4			42.2			2.8			2.6	
Approach LOS		E			D			A			A	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NB SB and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.45	
Intersection Signal Delay: 4.2	Intersection LOS: A
Intersection Capacity Utilization 46.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



AM Existing Condition

27: Ferris Ave & Lake Highland Dr

12/17/2016



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	21	5	2	52	10	6	27	0	5	24	42
Future Volume (vph)	15	21	5	2	52	10	6	27	0	5	24	42
Satd. Flow (prot)	0	1802	0	0	1822	0	0	1844	0	0	1707	0
Flt Permitted		0.982			0.999			0.990			0.997	
Satd. Flow (perm)	0	1802	0	0	1822	0	0	1844	0	0	1707	0
Confl. Peds. (#/hr)	11		5	5		11	27		2	2		27
Confl. Bikes (#/hr)			2			1			1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	23	5	2	57	11	7	29	0	5	26	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	70	0	0	36	0	0	77	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 26.7%						ICU Level of Service A						
Analysis Period (min) 15												

AM Existing Condition

28: Highland Ave & Driveway/Lake Highland Dr

12/17/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	81	0	28	1	79	28	17	204	3
Future Volume (vph)	2	0	2	81	0	28	1	79	28	17	204	3
Satd. Flow (prot)	0	1694	0	0	1735	0	0	1798	0	0	1852	0
Flt Permitted		0.976			0.964						0.996	
Satd. Flow (perm)	0	1694	0	0	1735	0	0	1798	0	0	1852	0
Confl. Peds. (#/hr)	8					8	2		10	10		2
Confl. Bikes (#/hr)						6			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	0	2	88	0	30	1	86	30	18	222	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	118	0	0	117	0	0	243	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 35.6% ICU Level of Service A												
Analysis Period (min) 15												

AM Existing Condition

29: N Mills Avenue & E Marks St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Volume (vph)	66	19	18	9	75	40	32	974	0	13	900	105
Future Volume (vph)	66	19	18	9	75	40	32	974	0	13	900	105
Satd. Flow (prot)	1770	1713	0	0	1763	0	1770	3539	0	1770	3469	0
Flt Permitted	0.476				0.974		0.245			0.254		
Satd. Flow (perm)	881	1713	0	0	1724	0	456	3539	0	473	3469	0
Satd. Flow (RTOR)		20			19						19	
Confl. Peds. (#/hr)	6		2	2		6	5		1	1		5
Confl. Bikes (#/hr)			2			2			5			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	21	20	10	82	43	35	1059	0	14	978	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	41	0	0	135	0	35	1059	0	14	1092	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	40.0	40.0		40.0	40.0		80.0	80.0		80.0	80.0	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	13.5	13.5			13.5		93.8	93.8		93.8	93.8	
Actuated g/C Ratio	0.11	0.11			0.11		0.78	0.78		0.78	0.78	
w/c Ratio	0.73	0.20			0.64		0.10	0.38		0.04	0.40	
Control Delay	88.8	30.2			57.0		4.6	4.9		7.8	8.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	88.8	30.2			57.0		4.6	4.9		7.8	8.2	
LOS	F	C			E		A	A		A	A	
Approach Delay		67.5			57.0			4.9			8.2	
Approach LOS		E			E			A			A	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.73	
Intersection Signal Delay: 12.1	Intersection LOS: B
Intersection Capacity Utilization 54.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 29: N Mills Avenue & E Marks St



AM Existing Condition
 32: N Orange Ave & Alden Rd

12/17/2016



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↰	↱	↕	↱		↱↱
Traffic Volume (vph)	53	2	416	23	0	751
Future Volume (vph)	53	2	416	23	0	751
Satd. Flow (prot)	1770	1583	1863	1583	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1863	1583	0	3539
Confl. Peds. (#/hr)				5	5	
Confl. Bikes (#/hr)				1		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	53	2	452	25	0	816
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	2	452	25	0	816
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 31.9%			ICU Level of Service A			
Analysis Period (min) 15						

AM Existing Condition

34: Highland Ave & E Marks St

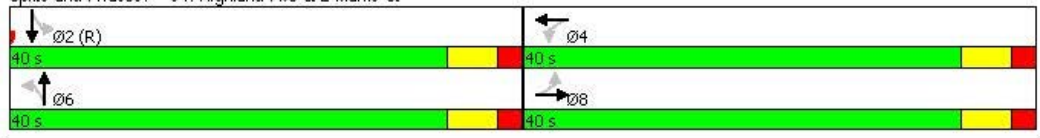
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	12	19	7	26	36	33	28	76	5	29	159	31
Future Volume (vph)	12	19	7	26	36	33	28	76	5	29	159	31
Satd. Flow (prot)	0	1780	0	0	1775	0	0	1825	0	0	1809	0
Flt Permitted		0.893			0.931			0.903			0.958	
Satd. Flow (perm)	0	1609	0	0	1663	0	0	1669	0	0	1744	0
Satd. Flow (RTOR)		8			23			3			13	
Confl. Peds. (#/hr)	5					5	1		3	3		1
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	13	21	8	28	93	36	30	83	5	32	173	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	157	0	0	118	0	0	239	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		12.5			12.5			55.5			55.5	
Actuated g/C Ratio		0.16			0.16			0.69			0.69	
w/c Ratio		0.16			0.56			0.10			0.20	
Control Delay		25.1			34.0			4.8			5.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		25.1			34.0			4.8			5.0	
LOS		C			C			A			A	
Approach Delay		25.1			34.0			4.8			5.0	
Approach LOS		C			C			A			A	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 45 (56%), Referenced to phase 2:SBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.56	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 34.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



AM Existing Condition

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	1	10	4	8	0	24	40	2	4	53	37
Future Volume (vph)	0	1	10	4	8	0	24	40	2	4	53	37
Satd. Flow (prot)	0	1632	0	0	1835	0	0	1822	0	0	1760	0
Flt Permitted					0.985			0.982			0.998	
Satd. Flow (perm)	0	1632	0	0	1835	0	0	1822	0	0	1760	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1	11	4	9	0	26	43	2	4	58	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	13	0	0	71	0	0	102	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 21.0%						ICU Level of Service A						
Analysis Period (min) 15												

AM Existing Condition

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	312	23	55	561	11	22	4	10	8	3	9
Future Volume (vph)	5	312	23	55	561	11	22	4	10	8	3	9
Satd. Flow (prot)	0	1844	0	0	1852	0	0	1738	0	0	1714	0
Flt Permitted		0.999			0.996			0.970			0.980	
Satd. Flow (perm)	0	1844	0	0	1852	0	0	1738	0	0	1714	0
Confl. Peds. (#/hr)	3		2	2		3						
Confl. Bikes (#/hr)			5			3						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	339	25	60	610	12	24	4	11	9	3	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	682	0	0	39	0	0	22	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

AM Existing Condition

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	6	320	4	7	586	4	1	0	3	7	2	36
Future Volume (vph)	6	320	4	7	586	4	1	0	3	7	2	36
Satd. Flow (prot)	0	1857	0	0	1859	0	0	1665	0	0	1650	0
Flt Permitted		0.999			0.999			0.988			0.992	
Satd. Flow (perm)	0	1857	0	0	1859	0	0	1665	0	0	1650	0
Confl. Peds. (#/hr)	4		4	4		4			2	2		
Confl. Bikes (#/hr)			3			2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	348	4	8	637	4	1	0	3	8	2	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	359	0	0	649	0	0	4	0	0	49	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

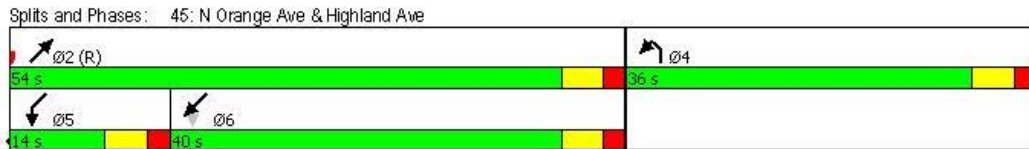
AM Existing Condition
 45: N Orange Ave & Highland Ave

12/17/2016

Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	38	67	383	104	137	761
Future Volume (vph)	38	67	383	104	137	761
Satd. Flow (prot)	1656	0	3410	0	0	3511
Flt Permitted	0.982					0.759
Satd. Flow (perm)	1655	0	3410	0	0	2685
Satd. Flow (RTOR)	73		59			
Confl. Peds. (#/hr)	1	2		1	4	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	41	73	416	113	149	827
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	529	0	0	976
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2!		5!	6
Permitted Phases					6	
Total Split (s)	36.0		54.0		14.0	40.0
Total Lost Time (s)	5.7		5.7			5.7
Act Effect Green (s)	8.8		73.5			73.5
Actuated g/C Ratio	0.10		0.82			0.82
w/c Ratio	0.50		0.19			0.45
Control Delay	24.0		2.5			3.1
Queue Delay	0.0		0.0			0.0
Total Delay	24.0		2.5			3.1
LOS	C		A			A
Approach Delay	24.0		2.5			3.1
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.50
 Intersection Signal Delay: 4.4
 Intersection LOS: A
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.



AM No Build

1: N Mills Avenue & E Princeton St

12/17/2016

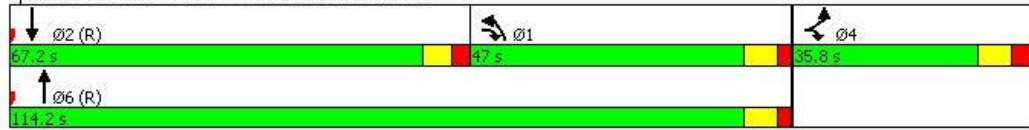


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗↘	↗↘	↕	↕	↗
Traffic Volume (vph)	99	555	664	1182	847	104
Future Volume (vph)	110	555	664	1234	956	104
Satd. Flow (prot)	1770	2787	3433	3539	3471	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1746	2787	3411	3539	3471	0
Satd. Flow (RTOR)		19			9	
Confl. Peds. (#/hr)	8		22			22
Confl. Bikes (#/hr)						7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	149	754	902	1677	1299	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	754	902	1677	1440	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	35.8		47.0	114.2	67.2	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	18.8	65.8	39.9	115.5	68.6	
Actuated g/C Ratio	0.13	0.44	0.27	0.77	0.46	
w/c Ratio	0.67	0.61	0.99	0.62	0.90	
Control Delay	57.0	13.9	35.5	0.9	46.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.0	13.9	35.5	0.9	46.9	
LOS	E	B	D	A	D	
Approach Delay	21.0			13.0	46.9	
Approach LOS	C			B	D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 137 (91%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.99
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 83.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



AM No Build

2: N Orange Ave & E Princeton St

12/17/2016

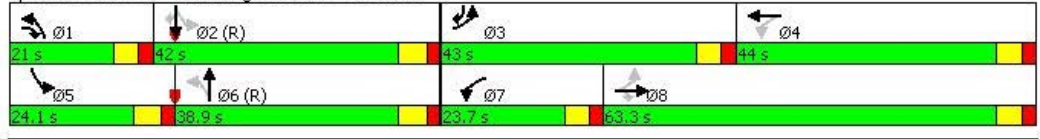


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	352	761	275	42	836	96	121	209	32	95	357	242
Future Volume (vph)	352	763	311	54	846	97	140	243	62	95	403	242
Satd. Flow (prot)	1770	3539	1583	1770	4990	0	1770	3401	0	1770	3539	1583
Flt Permitted	0.091			0.264			0.252			0.396		
Satd. Flow (perm)	170	3539	1555	491	4990	0	466	3401	0	728	3539	1533
Satd. Flow (RTOR)			264			13			19			66
Confl. Peds. (#/hr)	15		3	3		15	15		20	20		15
Confl. Bikes (#/hr)			1			3			5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	478	1037	423	73	1149	132	190	330	84	129	548	329
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1037	423	73	1281	0	190	414	0	129	548	329
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	43.0	63.3	21.0	23.7	44.0		21.0	38.9		24.1	42.0	43.0
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	81.3	66.7	81.0	47.0	38.1		52.3	37.8		49.7	36.7	74.4
Actuated g/C Ratio	0.54	0.44	0.54	0.31	0.25		0.35	0.25		0.33	0.24	0.50
w/c Ratio	0.98	0.66	0.44	0.32	1.00		0.67	0.47		0.39	0.63	0.41
Control Delay	79.6	35.4	7.5	15.7	55.5		38.9	41.7		35.2	54.7	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	79.6	35.4	7.5	15.7	55.5		38.9	41.7		35.2	54.7	18.0
LOS	E	D	A	B	E		D	D		D	D	B
Approach Delay		40.2			53.3			40.8			40.2	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 88 (59%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.00
 Intersection Signal Delay: 43.9
 Intersection LOS: D
 Intersection Capacity Utilization 103.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



AM No Build

4: N Mills Avenue & Virginia Drive

12/17/2016

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (vph)	150	326	108	225	470	285	83	954	63	124	860	70
Future Volume (vph)	202	380	108	225	531	285	86	954	63	124	860	179
Satd. Flow (prot)	1770	3400	0	1770	1863	1583	1770	3502	0	1770	3423	0
Flt Permitted	0.100			0.175			0.950			0.950		
Satd. Flow (perm)	186	3400	0	325	1863	1533	1765	3502	0	1767	3423	0
Satd. Flow (RTOR)		24				120		5			18	
Confl. Peds. (#/hr)	12		11	11		12	6		8	8		6
Confl. Bikes (#/hr)			2			4			4			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	274	516	147	306	721	387	117	1296	86	168	1168	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	663	0	306	721	387	117	1382	0	168	1411	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	20.0	45.6		28.4	54.0	17.0	15.0	59.0		17.0	61.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	53.1	40.0		67.3	47.3	59.0	8.7	52.6		11.0	54.6	
Actuated g/C Ratio	0.35	0.27		0.45	0.32	0.39	0.06	0.35		0.07	0.36	
w/c Ratio	1.34	0.72		0.88	1.23	0.57	1.15	1.12		1.30	1.12	
Control Delay	214.4	52.1		55.5	160.2	20.8	191.8	104.3		215.2	93.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	1.0		0.0	0.1	
Total Delay	214.4	52.1		55.5	160.2	20.8	191.8	105.3		215.2	93.7	
LOS	F	D		E	F	C	F	F		F	F	
Approach Delay		99.6			99.4			112.1			106.6	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 16 (11%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.34
 Intersection Signal Delay: 105.0
 Intersection LOS: F
 Intersection Capacity Utilization 107.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



AM No Build

7: Orange Ave & Virginia Drive

12/17/2016

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑	↗		↘↙
Traffic Volume (vph)	322	230	257	92	259	481
Future Volume (vph)	322	245	325	92	291	543
Satd. Flow (prot)	1770	1583	1863	1583	0	3479
Flt Permitted	0.950					0.645
Satd. Flow (perm)	1770	1583	1863	1511	0	2283
Satd. Flow (RTOR)		295		125		
Confl. Peds. (#/hr)		7		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	438	333	442	125	395	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	438	333	442	125	0	1133
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	54.0	54.0	83.3	83.3	12.7	96.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	41.7	41.7	96.7	96.7		96.7
Actuated g/C Ratio	0.28	0.28	0.64	0.64		0.64
w/c Ratio	0.89	0.51	0.37	0.12		0.77
Control Delay	60.7	10.5	11.3	0.9		18.0
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	60.7	10.5	11.3	0.9		18.0
LOS	E	B	B	A		B
Approach Delay	39.0		9.0			18.0
Approach LOS	D		A			B

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 125 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.89
 Intersection Signal Delay: 22.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Orange Ave & Virginia Drive



AM No Build

8: Alden Road & E Princeton St

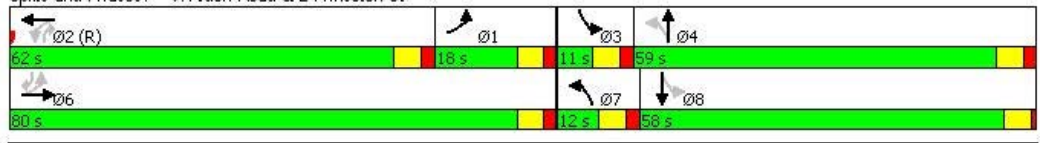
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	180	677	101	18	602	43	63	24	26	40	413	146
Future Volume (vph)	200	687	103	18	602	43	74	25	27	40	435	158
Satd. Flow (prot)	1770	3454	0	0	3490	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.181				0.812		0.076			0.735		
Satd. Flow (perm)	337	3454	0	0	2837	0	142	1863	1560	1366	1863	1553
Satd. Flow (RTOR)		16			5				109			110
Confl. Peds. (#/hr)	6		3	3		6	3		1	1		3
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	272	933	140	24	818	58	101	34	37	54	591	215
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	1073	0	0	900	0	101	34	37	54	591	215
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6			2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	18.0	80.0		62.0	62.0		12.0	59.0	62.0	11.0	58.0	80.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	76.5	76.5			58.5		57.5	52.7	58.5	54.5	50.5	76.5
Actuated g/C Ratio	0.51	0.51			0.39		0.38	0.35	0.39	0.36	0.34	0.51
w/c Ratio	0.95	0.61			0.81		0.85	0.05	0.05	0.11	0.94	0.25
Control Delay	68.9	11.6			50.6		80.6	32.6	0.1	26.7	72.2	11.0
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	11.8			50.6		80.6	32.6	0.1	26.7	72.2	11.0
LOS	E	B			D		F	C	A	C	E	B
Approach Delay		23.3			50.6			53.8			54.0	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 144 (96%), Referenced to phase 2:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.95	
Intersection Signal Delay: 40.5	Intersection LOS: D
Intersection Capacity Utilization 101.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



AM No Build
 9: North Alden

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	0	0	0	146	131	0
Future Volume (vph)	12	29	5	147	152	3
Satd. Flow (prot)	1660	0	0	1859	1857	0
Flt Permitted	0.986			0.998		
Satd. Flow (perm)	1660	0	0	1859	1857	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	16	39	7	200	207	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	207	211	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.9%				ICU Level of Service A		
Analysis Period (min) 15						

AM No Build

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔		↔	↔
Traffic Volume (vph)	36	306	8	110	449	28	3	19	11	50	47	66
Future Volume (vph)	36	331	15	228	461	33	6	20	58	81	66	66
Satd. Flow (prot)	0	1844	0	0	1822	0	0	1683	0	0	1761	0
Flt Permitted		0.995			0.984			0.997			0.981	
Satd. Flow (perm)	0	1844	0	0	1822	0	0	1683	0	0	1761	0
Confl. Peds. (#/hr)	1		4	4		1	1		1	1		1
Confl. Bikes (#/hr)			2			4			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	49	450	20	310	626	45	8	27	79	110	90	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	519	0	0	981	0	0	114	0	0	290	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 89.9%

ICU Level of Service E

Analysis Period (min) 15

AM No Build

15: Alden Rd & South Alden/Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	49	0	9	0	12	8	11	101	0
Future Volume (vph)	14	7	8	90	12	9	6	49	28	11	217	28
Satd. Flow (prot)	0	1753	0	0	1770	0	0	1772	0	0	1831	0
Flt Permitted		0.977			0.961			0.996			0.998	
Satd. Flow (perm)	0	1753	0	0	1770	0	0	1772	0	0	1831	0
Confl. Peds. (#/hr)									1			
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	10	11	122	16	12	8	67	38	15	295	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	150	0	0	113	0	0	348	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 24.8% ICU Level of Service A												
Analysis Period (min) 15												

AM No Build

22: N Mills Avenue & Nebraska St

12/17/2016

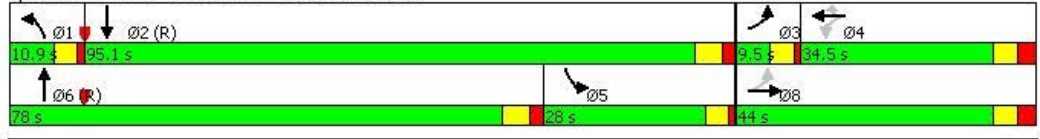


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	30	10	29	17	12	384	19	1392	19	241	942	41
Future Volume (vph)	30	10	29	17	12	384	19	1444	19	241	1051	41
Satd. Flow (prot)	1770	1658	0	0	1809	1583	1770	3531	0	1770	3515	0
Flt Permitted	0.629				0.830		0.950			0.950		
Satd. Flow (perm)	1172	1658	0	0	1546	1562	1770	3531	0	1770	3515	0
Satd. Flow (RTOR)		39				300		1			5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)						1			1			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	14	39	23	16	522	26	1962	26	327	1428	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	53	0	0	39	522	26	1988	0	327	1484	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	9.5	44.0		34.5	34.5	34.5	10.9	78.0		28.0	95.1	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	37.1	35.1			27.5	27.5	6.2	74.3		23.5	95.8	
Actuated g/C Ratio	0.25	0.23			0.18	0.18	0.04	0.50		0.16	0.64	
w/c Ratio	0.13	0.13			0.14	0.98	0.36	1.14		1.18	0.66	
Control Delay	43.0	18.1			52.5	60.6	87.9	83.0		151.8	15.5	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.1		0.0	0.6	
Total Delay	43.0	18.1			52.5	60.6	87.9	83.0		151.8	16.0	
LOS	D	B			D	E	F	F		F	B	
Approach Delay		29.0			60.0			83.1			40.5	
Approach LOS		C			E			F			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 4 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.18
 Intersection Signal Delay: 61.9
 Intersection LOS: E
 Intersection Capacity Utilization 99.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



AM No Build

25: N Mills Avenue & Lake Highland Dr

12/17/2016

	↖	→	↘	↙	←	↖	↖	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↖	↖		↖	↖	
Traffic Volume (vph)	30	6	10	9	7	8	34	1170	5	6	1065	46
Future Volume (vph)	30	6	111	9	7	8	126	1173	5	6	1065	46
Satd. Flow (prot)	0	1626	0	0	1739	0	1770	3535	0	1770	3511	0
Flt Permitted		0.920			0.584		0.149			0.133		
Satd. Flow (perm)	0	1510	0	0	1034	0	278	3535	0	248	3511	0
Satd. Flow (RTOR)		84			11			1			10	
Confl. Peds. (#/hr)	1		5	5		1	5		4	4		5
Confl. Bikes (#/hr)												6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	41	8	151	12	10	11	171	1594	7	8	1447	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	33	0	171	1601	0	8	1510	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	24.8	24.8		24.8	24.8		125.2	125.2		125.2	125.2	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		15.7			15.7		121.8	121.8		121.8	121.8	
Actuated g/C Ratio		0.10			0.10		0.81	0.81		0.81	0.81	
w/c Ratio		0.86			0.28		0.76	0.56		0.04	0.53	
Control Delay		68.8			50.4		32.5	4.2		1.9	2.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.3	
Total Delay		68.8			50.4		32.5	4.2		1.9	2.4	
LOS		E			D		C	A		A	A	
Approach Delay		68.8			50.4			7.0			2.4	
Approach LOS		E			D			A			A	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:NB SB and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.86	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



AM No Build

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	21	5	2	52	10	6	27	0	5	24	42
Future Volume (vph)	15	72	5	2	92	62	6	27	0	55	24	42
Satd. Flow (prot)	0	1833	0	0	1762	0	0	1846	0	0	1736	0
Flt Permitted		0.992			0.999			0.991			0.978	
Satd. Flow (perm)	0	1833	0	0	1762	0	0	1846	0	0	1736	0
Confl. Peds. (#/hr)	11		5	5		11	27		2	2		27
Confl. Bikes (#/hr)			2			1			1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	98	7	3	125	84	8	37	0	75	33	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	0	0	212	0	0	45	0	0	165	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 27.6%

ICU Level of Service A

Analysis Period (min) 15

AM No Build

28: Highland Ave & Driveway/Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔		↔	↔
Traffic Volume (vph)	2	0	3	81	0	28	1	79	28	17	204	3
Future Volume (vph)	56	51	14	81	40	28	4	137	28	17	300	89
Satd. Flow (prot)	0	1791	0	0	1767	0	0	1820	0	0	1803	0
Flt Permitted		0.977			0.973			0.999			0.998	
Satd. Flow (perm)	0	1791	0	0	1767	0	0	1820	0	0	1803	0
Confl. Peds. (#/hr)	8					8	2		10	10		2
Confl. Bikes (#/hr)						6			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	76	69	19	110	54	38	5	186	38	23	408	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	0	0	202	0	0	229	0	0	552	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 48.0%												
ICU Level of Service A												
Analysis Period (min) 15												

AM No Build

29: N Mills Avenue & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	66	19	18	9	75	40	32	974	0	13	900	105
Future Volume (vph)	66	20	19	9	78	44	33	1065	0	14	1000	105
Satd. Flow (prot)	1770	1712	0	0	1761	0	1770	3539	0	1770	3479	0
Flt Permitted	0.575				0.975		0.126			0.138		
Satd. Flow (perm)	1067	1712	0	0	1722	0	235	3539	0	257	3479	0
Satd. Flow (RTOR)		21			16						20	
Confl. Peds. (#/hr)	6		2	2		6	5		1	1		5
Confl. Bikes (#/hr)			2			2			5			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	90	27	26	12	106	60	45	1447	0	19	1359	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	53	0	0	178	0	45	1447	0	19	1502	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	§	§			4			6				2
Permitted Phases	§			4			6			2		
Total Split (s)	33.5	33.5		33.5	33.5		41.5	41.5		41.5	41.5	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	12.4	12.4			12.4		49.9	49.9		49.9	49.9	
Actuated g/C Ratio	0.17	0.17			0.17		0.67	0.67		0.67	0.67	
w/c Ratio	0.51	0.18			0.60		0.29	0.61		0.11	0.65	
Control Delay	37.7	18.4			34.0		12.8	9.2		3.8	5.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	37.7	18.4			34.0		12.8	9.2		3.8	5.3	
LOS	D	B			C		B	A		A	A	
Approach Delay		30.5			34.0			9.3			5.3	
Approach LOS		C			C			A			A	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.65
 Intersection Signal Delay: 9.7
 Intersection LOS: A
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



AM No Build

32: N Orange Ave & Alden Rd

12/17/2016



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↔	↔	↕	↕	↔	↕
Traffic Volume (vph)	306	2	452	54	3	814
Future Volume (vph)	471	2	520	117	3	876
Satd. Flow (prot)	1770	1583	1863	1583	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1863	1583	0	3539
Confl. Peds. (#/hr)				5	5	
Confl. Bikes (#/hr)				1		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	640	3	707	159	4	1190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	640	3	707	159	0	1194
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 58.6%			ICU Level of Service B			
Analysis Period (min) 15						

AM No Build

33: Highland Ave & City Site South Drive

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	54	13	7	128	153	86
Satd. Flow (prot)	1742	0	0	1857	1771	0
Flt Permitted	0.961			0.997		
Satd. Flow (perm)	1742	0	0	1857	1771	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	73	18	10	174	208	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	0	184	325	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%				ICU Level of Service A		
Analysis Period (min) 15						

AM No Build

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	12	19	7	26	36	33	28	76	5	29	159	31
Future Volume (vph)	12	19	7	26	36	37	28	36	5	31	136	36
Satd. Flow (prot)	0	1730	0	0	1773	0	0	1327	0	0	1311	0
Flt Permitted		0.375			0.927			0.376			0.950	
Satd. Flow (perm)	0	1673	0	0	1653	0	0	1620	0	0	1730	0
Satd. Flow (RTOR)		10			37			5			20	
Confl. Peds. (#/hr)	5					5	1		3	3		1
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	26	10	35	117	50	38	117	7	42	253	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	202	0	0	162	0	0	344	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		10.9			10.9			24.4			24.4	
Actuated g/C Ratio		0.26			0.26			0.57			0.57	
w/c Ratio		0.13			0.45			0.17			0.35	
Control Delay		11.2			14.5			7.7			3.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.2			14.5			7.7			3.5	
LOS		B			B			A			A	
Approach Delay		11.3			14.5			7.7			3.5	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 42.7	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.45	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 33.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



AM No Build

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	1	10	4	8	0	24	40	2	4	53	37
Future Volume (vph)	0	21	17	36	49	13	36	40	42	45	64	37
Satd. Flow (prot)	0	1751	0	0	1796	0	0	1747	0	0	1772	0
Flt Permitted					0.982			0.985			0.985	
Satd. Flow (perm)	0	1751	0	0	1796	0	0	1747	0	0	1772	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	29	23	49	67	18	49	54	57	61	87	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	134	0	0	160	0	0	198	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.8% ICU Level of Service A												
Analysis Period (min) 15												

AM No Build

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	328	23	75	610	11	22	4	37	8	3	9
Future Volume (vph)	5	379	75	75	732	11	35	4	37	8	3	9
Satd. Flow (prot)	0	1820	0	0	1850	0	0	1700	0	0	1716	0
Flt Permitted		0.999			0.995			0.977			0.980	
Satd. Flow (perm)	0	1820	0	0	1850	0	0	1700	0	0	1716	0
Confl. Peds. (#/hr)	3		2	2		3						
Confl. Bikes (#/hr)			5			3						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	515	102	102	995	15	48	5	50	11	4	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	624	0	0	1112	0	0	103	0	0	27	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

AM No Build

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	6	320	4	7	586	4	1	0	3	7	2	36
Future Volume (vph)	6	371	4	58	708	4	1	0	58	7	2	36
Satd. Flow (prot)	0	1859	0	0	1853	0	0	1613	0	0	1650	0
Flt Permitted		0.999			0.996			0.999			0.992	
Satd. Flow (perm)	0	1859	0	0	1853	0	0	1613	0	0	1650	0
Confl. Peds. (#/hr)	4		4	4		4			2	2		
Confl. Bikes (#/hr)			3			2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	504	5	79	962	5	1	0	79	10	3	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	517	0	0	1046	0	0	80	0	0	62	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 54.1%

ICU Level of Service A

Analysis Period (min) 15

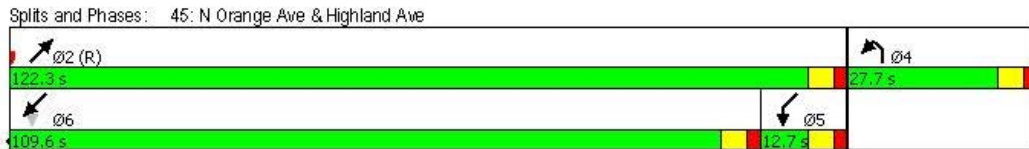
AM No Build
 45: N Orange Ave & Highland Ave

12/17/2016



Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations	↘		↕			↗
Traffic Volume (vph)	38	76	431	104	179	948
Future Volume (vph)	42	184	454	112	353	1001
Satd. Flow (prot)	1619	0	3419	0	0	3493
Flt Permitted	0.991					0.610
Satd. Flow (perm)	1619	0	3419	0	0	2157
Satd. Flow (RTOR)	123		65			
Confl. Peds. (#/hr)	1	2		1	4	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	57	250	617	152	480	1360
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	0	769	0	0	1840
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2!		5!	6
Permitted Phases					6	
Total Split (s)	27.7		122.3		12.7	109.6
Total Lost Time (s)	5.7		5.7			5.7
Act Effect Green (s)	20.7		117.9			117.9
Actuated g/C Ratio	0.14		0.79			0.79
w/c Ratio	0.93		0.28			1.09
Control Delay	72.6		4.4			64.8
Queue Delay	0.0		0.0			0.0
Total Delay	72.6		4.4			64.8
LOS	E		A			E
Approach Delay	72.6		4.4			64.8
Approach LOS	E		A			E

Intersection Summary
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.09
 Intersection Signal Delay: 49.7
 Intersection LOS: D
 Intersection Capacity Utilization 81.8%
 ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.



AM No Build

50: Brookhaven Dr & Vir. Dr. East Mixed Use

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	101	28	11	51	55	86
Satd. Flow (prot)	0	1792	1656	0	1770	1583
Flt Permitted		0.962			0.950	
Satd. Flow (perm)	0	1792	1656	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	137	38	15	69	75	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	175	84	0	75	117
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%			ICU Level of Service A			
Analysis Period (min) 15						

AM Alden #1

1: N Mills Avenue & E Princeton St

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↑↑	↑↗	
Traffic Volume (vph)	99	555	664	1182	847	104
Future Volume (vph)	112	555	664	1240	956	104
Satd. Flow (prot)	1770	2787	3433	3539	3473	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1746	2787	3411	3539	3473	0
Satd. Flow (RTOR)		19			9	
Confl. Peds. (#/hr)	8		22			22
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	152	754	902	1685	1299	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	754	902	1685	1440	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4.1	1	6	2	
Permitted Phases						
Total Split (s)	35.8		47.0	114.2	67.2	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	26.7	74.2	40.4	107.6	60.2	
Actuated g/C Ratio	0.18	0.49	0.27	0.72	0.40	
w/c Ratio	0.48	0.54	0.98	0.66	1.03	
Control Delay	53.9	13.5	64.1	1.9	75.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.9	13.5	64.1	1.9	75.3	
LOS	D	B	E	A	E	
Approach Delay	20.3			23.6	75.3	
Approach LOS	C			C	E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 67 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.03
 Intersection Signal Delay: 38.1
 Intersection LOS: D
 Intersection Capacity Utilization 83.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



AM Alden #1

2: N Orange Ave & E Princeton St

12/17/2016

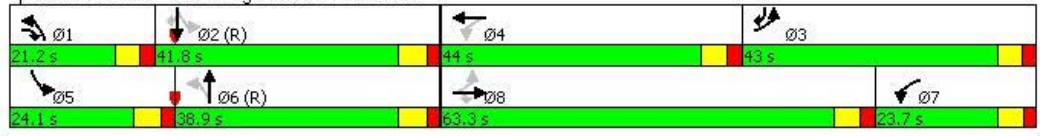


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖		↖	↖↖		↖	↖↖	↖
Traffic Volume (vph)	352	761	275	42	836	96	121	209	32	95	357	242
Future Volume (vph)	352	763	310	42	846	97	143	246	44	95	403	242
Satd. Flow (prot)	1770	3539	1583	1770	4991	0	1770	3435	0	1770	3539	1583
Flt Permitted	0.091			0.105			0.241			0.413		
Satd. Flow (perm)	170	3539	1556	196	4991	0	445	3435	0	759	3539	1530
Satd. Flow (RTOR)			263		13			13				65
Confl. Peds. (#/hr)	15		3	3		15	15		20	20		15
Confl. Bikes (#/hr)						2			2			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	478	1037	421	57	1149	132	194	334	60	129	548	329
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1037	421	57	1281	0	194	394	0	129	548	329
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	43.0	63.3	21.2	23.7	44.0		21.2	38.9		24.1	41.8	43.0
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	81.2	59.3	73.8	56.4	38.0		52.6	37.9		49.6	36.6	74.3
Actuated g/C Ratio	0.54	0.40	0.49	0.38	0.25		0.35	0.25		0.33	0.24	0.50
w/c Ratio	0.98	0.74	0.47	0.21	1.01		0.69	0.45		0.38	0.63	0.41
Control Delay	86.8	44.1	6.6	25.9	61.1		46.7	46.1		35.0	54.9	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	86.8	44.1	6.6	25.9	61.1		46.7	46.1		35.0	54.9	12.0
LOS	F	D	A	C	E		D	D		C	D	B
Approach Delay		46.5			59.6			46.3			38.3	
Approach LOS		D			E			D			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 37 (25%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.01
 Intersection Signal Delay: 48.4
 Intersection LOS: D
 Intersection Capacity Utilization 103.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



AM Alden #1

4: N Mills Avenue & Virginia Drive

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↗	↖	↖	↖	↖	↖↗	↗	↖	↖↗	↗
Traffic Volume (vph)	150	326	108	225	470	285	83	954	58	124	864	70
Future Volume (vph)	208	380	108	225	530	285	83	954	58	124	864	179
Satd. Flow (prot)	1770	3400	0	1770	1863	1683	1770	3502	0	1770	3424	0
Flt Permitted	0.097			0.185			0.950			0.950		
Satd. Flow (perm)	181	3400	0	343	1863	1634	1765	3502	0	1767	3424	0
Satd. Flow (RTOR)		24				74		4			18	
Confl. Peds. (#/hr)	12		11	11		12	6		8	8		6
Confl. Bikes (#/hr)			2			3			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	283	516	147	306	720	387	113	1296	79	168	1174	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	283	663	0	306	720	387	113	1375	0	168	1417	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	21.0	46.8		28.2	54.0	17.0	15.0	58.0		17.0	60.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	55.4	41.3		68.0	47.3	59.0	8.7	51.6		11.0	53.6	
Actuated g/C Ratio	0.37	0.28		0.45	0.32	0.39	0.06	0.34		0.07	0.36	
w/c Ratio	1.30	0.70		0.87	1.23	0.59	1.11	1.14		1.30	1.15	
Control Delay	200.4	54.4		52.4	159.5	25.5	171.3	108.2		214.6	98.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	1.1		0.0	0.1	
Total Delay	200.4	54.4		52.4	159.5	25.5	171.3	109.3		214.6	98.7	
LOS	F	D		D	F	C	F	F		F	F	
Approach Delay		98.1			99.6			114.0			111.0	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 7 (5%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.30
 Intersection Signal Delay: 106.6
 Intersection LOS: F
 Intersection Capacity Utilization 106.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



AM Alden #1

7: Orange Ave & Virginia Drive

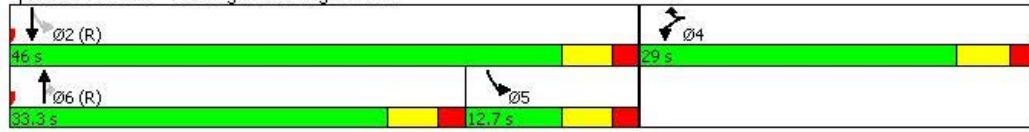
12/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↑	↘	↙	↗
Traffic Volume (vph)	317	230	257	92	264	481
Future Volume (vph)	356	247	311	124	299	527
Satd. Flow (prot)	1770	1583	1863	1583	0	3476
Flt Permitted	0.950					0.656
Satd. Flow (perm)	1770	1583	1863	1525	0	2317
Satd. Flow (RTOR)		336		168		
Confl. Peds. (#/hr)		7		8	8	
Confl. Bikes (#/hr)		2		4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	484	336	423	168	406	716
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	336	423	168	0	1122
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	29.0	29.0	33.3	33.3	12.7	46.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	22.4	22.4	41.0	41.0		41.0
Actuated g/C Ratio	0.30	0.30	0.55	0.55		0.55
w/c Ratio	0.92	0.47	0.42	0.18		0.89
Control Delay	40.7	3.5	11.8	2.0		29.4
Queue Delay	3.2	0.0	0.0	0.0		0.0
Total Delay	43.9	3.5	11.8	2.0		29.4
LOS	D	A	B	A		C
Approach Delay	27.4		9.0			29.4
Approach LOS	C		A			C

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 69 (92%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.92
 Intersection Signal Delay: 24.0
 Intersection LOS: C
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Orange Ave & Virginia Drive



AM Alden #1

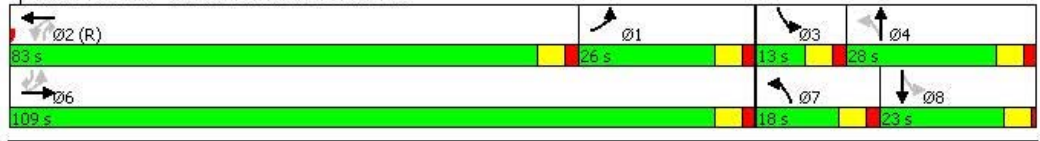
8: Alden Road & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖	↖↗	↖	↖	↖
Traffic Volume (vph)	180	677	101	18	602	43	63	24	26	40	13	146
Future Volume (vph)	180	689	103	18	602	43	74	24	27	40	13	146
Satd. Flow (prot)	1770	3454	0	0	3490	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.281				0.892		0.412			0.851		
Satd. Flow (perm)	523	3454	0	0	3116	0	763	1863	1559	1581	1863	1552
Satd. Flow (RTOR)		25			7				109			198
Confl. Peds. (#/hr)	6		3	3		6	3		1	1		3
Confl. Bikes (#/hr)						4			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	245	936	140	24	818	58	101	33	37	54	18	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	1076	0	0	900	0	101	33	37	54	18	198
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6			2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	26.0	109.0		83.0	83.0		18.0	28.0	83.0	13.0	23.0	109.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	115.1	115.1			101.8		21.8	9.7	101.8	13.7	7.0	115.1
Actuated g/C Ratio	0.77	0.77			0.68		0.15	0.06	0.68	0.09	0.05	0.77
w/c Ratio	0.53	0.40			0.43		0.48	0.28	0.03	0.35	0.21	0.16
Control Delay	9.8	1.2			3.5		62.4	71.6	0.1	60.3	73.8	1.1
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	1.3			3.5		62.4	71.6	0.1	60.3	73.8	1.1
LOS	A	A			A		E	E	A	E	E	A
Approach Delay		2.9			3.5			50.7			17.8	
Approach LOS		A			A			D			B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 55 (37%), Referenced to phase 2:WBL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.53	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 76.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



AM Alden #1

9: North Alden Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	146	131	0
Future Volume (vph)	12	28	6	146	131	2
Satd. Flow (prot)	1770	1583	0	1859	1859	0
Flt Permitted	0.950			0.998		
Satd. Flow (perm)	1770	1583	0	1859	1859	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	16	38	8	198	178	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	38	0	206	181	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.9%				ICU Level of Service A		
Analysis Period (min) 15						

AM Alden #1

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔		↔	↔
Traffic Volume (vph)	36	304	8	110	449	28	20	1	37	8	3	7
Future Volume (vph)	38	359	18	226	488	29	28	4	89	25	5	16
Satd. Flow (prot)	0	1842	0	0	1826	0	0	1658	0	0	1729	0
Flt Permitted		0.995			0.985			0.989			0.974	
Satd. Flow (perm)	0	1842	0	0	1826	0	0	1658	0	0	1729	0
Confl. Peds. (#/hr)	1		4	4		1	1		1	1		1
Confl. Bikes (#/hr)			3			3			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	52	488	24	307	663	39	38	5	121	34	7	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	564	0	0	1009	0	0	164	0	0	63	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

AM Alden #1

15: Alden Road/Alden Rd & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	49	0	9	0	12	8	11	101	0
Future Volume (vph)	20	0	9	49	0	9	18	55	11	11	199	30
Satd. Flow (prot)	0	1726	0	0	1749	0	0	1811	0	0	1827	0
Flt Permitted		0.967			0.959			0.990			0.998	
Satd. Flow (perm)	0	1726	0	0	1749	0	0	1811	0	0	1827	0
Confl. Peds. (#/hr)				1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	0	12	67	0	12	24	75	15	15	270	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	79	0	0	114	0	0	326	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 26.0%												
ICU Level of Service A												
Analysis Period (min) 15												

AM Alden #1
 16: N Orange Ave & Highlands Ave

12/17/2016

Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations	↔		↕			↕
Traffic Volume (vph)	38	76	431	104	179	948
Future Volume (vph)	42	130	463	113	225	987
Satd. Flow (prot)	1653	0	3433	0	0	3507
Flt Permitted	0.988					0.642
Satd. Flow (perm)	1653	0	3433	0	0	2272
Satd. Flow (RTOR)	87		70			
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	57	177	629	154	306	1341
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	783	0	0	1647
Turn Type	Prot		NA		Perm	NA
Protected Phases	2		4			8
Permitted Phases					8	
Total Split (s)	26.0		124.0		124.0	124.0
Total Lost Time (s)	4.5		4.5			4.5
Act Effect Green (s)	21.5		119.5			119.5
Actuated g/C Ratio	0.14		0.80			0.80
w/c Ratio	0.75		0.28			0.91
Control Delay	54.2		3.9			17.6
Queue Delay	0.0		0.0			0.0
Total Delay	54.2		3.9			17.6
LOS	D		A			B
Approach Delay	54.2		3.9			17.6
Approach LOS	D		A			B

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 90 (60%), Referenced to phase 2:NBL and 6:, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.91
 Intersection Signal Delay: 16.8
 Intersection LOS: B
 Intersection Capacity Utilization 78.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 16: N Orange Ave & Highlands Ave



AM Alden #1

22: N Mills Avenue & Nebraska St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	30	10	29	17	12	384	19	1392	19	241	942	41
Future Volume (vph)	30	10	29	17	12	384	19	1450	19	241	1051	41
Satd. Flow (prot)	1770	1636	0	0	1809	1583	1770	3531	0	1770	3515	0
Flt Permitted	0.732				0.831		0.950			0.950		
Satd. Flow (perm)	1364	1636	0	0	1548	1583	1770	3531	0	1770	3515	0
Satd. Flow (RTOR)		39				251		1			5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			7						1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	14	39	23	16	522	26	1970	26	327	1428	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	53	0	0	39	522	26	1996	0	327	1484	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	9.5	44.0		34.5	34.5	34.5	10.9	78.0		28.0	95.1	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	38.6	35.6			28.0	28.0	6.2	71.9		25.4	95.3	
Actuated g/C Ratio	0.26	0.24			0.19	0.19	0.04	0.48		0.17	0.64	
w/c Ratio	0.11	0.13			0.14	1.05	0.36	1.18		1.09	0.66	
Control Delay	43.2	18.1			52.5	82.6	72.2	102.0		115.1	17.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.1		0.0	0.8	
Total Delay	43.2	18.1			52.5	82.6	72.2	102.0		115.1	17.9	
LOS	D	B			D	F	E	F		F	B	
Approach Delay		29.1			80.5			101.7			35.4	
Approach LOS		C			F			F			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 149 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.18
 Intersection Signal Delay: 70.8
 Intersection LOS: E
 Intersection Capacity Utilization 99.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



AM Alden #1

25: N Mills Avenue & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (vph)	30	6	10	9	7	8	34	1170	5	6	1065	42
Future Volume (vph)	30	6	127	9	7	8	131	1170	5	6	1065	42
Satd. Flow (prot)	0	1621	0	0	1736	0	1770	3535	0	1770	3512	0
Flt Permitted		0.927			0.572		0.150			0.133		
Satd. Flow (perm)	0	1515	0	0	1011	0	279	3535	0	248	3512	0
Satd. Flow (RTOR)		96			11			1			9	
Confl. Peds. (#/hr)	1		5	5			1	5		4	4	5
Confl. Bikes (#/hr)							2					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	8	173	12	10	11	178	1590	7	8	1447	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	222	0	0	33	0	178	1597	0	8	1504	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	24.0	24.0		24.0	24.0		126.0	126.0		126.0	126.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		16.0			16.0		121.5	121.5		121.5	121.5	
Actuated g/C Ratio		0.11			0.11		0.81	0.81		0.81	0.81	
w/c Ratio		0.90			0.28		0.79	0.56		0.04	0.53	
Control Delay		73.0			50.9		38.6	6.2		1.7	2.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		73.0			50.9		38.6	6.2		1.7	2.5	
LOS		E			D		D	A		A	A	
Approach Delay		73.0			50.9			9.5			2.5	
Approach LOS		E			D			A			A	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 121 (@1%), Referenced to phase 2:NBSB and 6:, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.90
 Intersection Signal Delay: 10.8
 Intersection Capacity Utilization 56.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



AM Alden #1

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	23	5	2	57	10	24	38	2	4	53	37
Future Volume (vph)	15	88	5	2	113	51	24	38	2	56	53	45
Satd. Flow (prot)	0	1839	0	0	1785	0	0	1820	0	0	1768	0
Flt Permitted		0.993			0.999			0.982			0.982	
Satd. Flow (perm)	0	1839	0	0	1785	0	0	1820	0	0	1768	0
Confl. Peds. (#/hr)	11		5	5		11	27		2	2		27
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	120	7	3	154	69	33	52	3	76	72	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	226	0	0	88	0	0	209	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 28.0%												
ICU Level of Service A												
Analysis Period (min) 15												

AM Alden #1

28: Highland Ave & Driveway/Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	2	0	9	44	0	20	0	76	47	22	88	0
Future Volume (vph)	31	77	21	103	85	20	3	105	71	23	115	27
Satd. Flow (prot)	0	1800	0	0	1794	0	0	1762	0	0	1809	0
Flt Permitted		0.988			0.976			0.999			0.993	
Satd. Flow (perm)	0	1800	0	0	1794	0	0	1762	0	0	1809	0
Confl. Peds. (#/hr)	8					8	2		10	10		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	42	105	29	140	115	27	4	143	96	31	156	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	282	0	0	243	0	0	224	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 39.8%												
ICU Level of Service A												
Analysis Period (min) 15												

AM Alden #1

29: N Mills Avenue & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	66	19	18	9	75	40	32	974	0	13	900	105
Future Volume (vph)	66	20	19	9	78	44	33	1067	0	15	1015	105
Satd. Flow (prot)	1770	1713	0	0	1761	0	1770	3539	0	1770	3480	0
Flt Permitted	0.575				0.975		0.122			0.138		
Satd. Flow (perm)	1067	1713	0	0	1722	0	227	3539	0	257	3480	0
Satd. Flow (RTOR)		20			16						20	
Confl. Peds. (#/hr)	6		2	2		6	5		1	1		5
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	90	27	26	12	106	60	45	1450	0	20	1379	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	53	0	0	178	0	45	1450	0	20	1622	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	§	§			4		6	6			2	2
Permitted Phases	§			4			6			2		
Total Split (s)	33.5	33.5		33.5	33.5		41.5	41.5		41.5	41.5	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	12.4	12.4			12.4		49.9	49.9		49.9	49.9	
Actuated g/C Ratio	0.17	0.17			0.17		0.67	0.67		0.67	0.67	
w/c Ratio	0.51	0.18			0.60		0.30	0.62		0.12	0.66	
Control Delay	37.7	18.8			34.0		13.3	9.3		4.8	5.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	37.7	18.8			34.0		13.3	9.3		4.8	5.9	
LOS	D	B			C		B	A		A	A	
Approach Delay		30.7			34.0			9.4			5.9	
Approach LOS		C			C			A			A	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 60 (80%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.66
 Intersection Signal Delay: 10.0
 Intersection LOS: A
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



AM Alden #1

33: Highland Ave & City South Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	49	14	7	128	155	75
Satd. Flow (prot)	1770	1583	0	1857	1781	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	1770	1583	0	1857	1781	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	67	19	10	174	211	102
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	19	0	184	313	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%				ICU Level of Service A		
Analysis Period (min) 15						

AM Alden #1

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	12	19	7	26	36	33	28	76	5	29	159	31
Future Volume (vph)	12	19	7	26	36	37	28	36	5	31	139	36
Satd. Flow (prot)	0	1737	0	0	1773	0	0	1327	0	0	1311	0
Flt Permitted		0.875			0.927			0.875			0.951	
Satd. Flow (perm)	0	1535	0	0	1659	0	0	1613	0	0	1732	0
Satd. Flow (RTOR)		10			37			5			20	
Confl. Peds. (#/hr)	5					5	1		3	3		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	26	10	35	117	50	38	117	7	42	257	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	202	0	0	162	0	0	343	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		10.9			10.9			24.4			24.4	
Actuated g/C Ratio		0.26			0.26			0.57			0.57	
w/c Ratio		0.13			0.45			0.17			0.35	
Control Delay		11.2			14.5			7.7			3.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.2			14.5			7.7			3.5	
LOS		B			B			A			A	
Approach Delay		11.3			14.5			7.7			3.5	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 42.7	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.45	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 33.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



AM Alden #1

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	1	10	4	8	0	24	38	2	4	53	37
Future Volume (vph)	0	4	10	50	8	39	24	38	43	59	67	37
Satd. Flow (prot)	0	167%	0	0	171%	0	0	1741	0	0	1773	0
Flt Permitted					0.975			0.989			0.982	
Satd. Flow (perm)	0	167%	0	0	171%	0	0	1741	0	0	1773	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	5	14	68	11	53	33	52	58	80	91	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	132	0	0	143	0	0	221	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.7%						ICU Level of Service A						
Analysis Period (min) 15												

AM Alden #1

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	328	23	75	610	11	20	1	37	8	3	7
Future Volume (vph)	5	383	92	75	727	11	59	1	37	8	3	7
Satd. Flow (prot)	0	1812	0	0	1850	0	0	1713	0	0	1723	0
Flt Permitted		0.999			0.995			0.970			0.978	
Satd. Flow (perm)	0	1812	0	0	1850	0	0	1713	0	0	1723	0
Confl. Peds. (#/hr)	3		2	2		3						
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	520	125	102	988	15	80	1	50	11	4	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	652	0	0	1105	0	0	131	0	0	25	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 84.9%												
ICU Level of Service E												
Analysis Period (min) 15												

AM Alden #1

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	6	320	4	7	586	4	1	0	3	5	0	34
Future Volume (vph)	6	375	4	59	703	4	1	0	60	5	0	34
Satd. Flow (prot)	0	1859	0	0	1853	0	0	1613	0	0	1633	0
Flt Permitted		0.999			0.996			0.999			0.993	
Satd. Flow (perm)	0	1859	0	0	1853	0	0	1613	0	0	1633	0
Confl. Peds. (#/hr)	4		4	4		4			2	2		
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	510	5	80	955	5	1	0	82	7	0	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	523	0	0	1040	0	0	83	0	0	53	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 54.1%

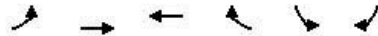
ICU Level of Service A

Analysis Period (min) 15

AM Alden #1

48: Brookhaven Dr & East Mixed Use Driveway

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	99	28	11	52	57	85
Satd. Flow (prot)	0	1792	1656	0	1770	1583
Flt Permitted		0.962			0.950	
Satd. Flow (perm)	0	1792	1656	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	135	38	15	71	77	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	173	86	0	77	115
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%				ICU Level of Service A		
Analysis Period (min) 15						

AM Alden #1

50: Alden Road & Lake Highlands Drive

12/17/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Volume (vph)	158	2	103	18	24	217
Future Volume (vph)	203	21	148	75	32	316
Satd. Flow (prot)	1759	0	1779	0	0	1853
Flt Permitted	0.957					0.995
Satd. Flow (perm)	1759	0	1779	0	0	1853
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	276	29	201	102	43	429
Shared Lane Traffic (%)						
Lane Group Flow (vph)	305	0	303	0	0	472
Sign Control	Stop		Stop			Stop

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 45.2%	ICU Level of Service A
Analysis Period (min) 15	
Description: Alden at Lake Highland	

AM Alden #2

1: N Mills Avenue & E Princeton St

12/17/2016

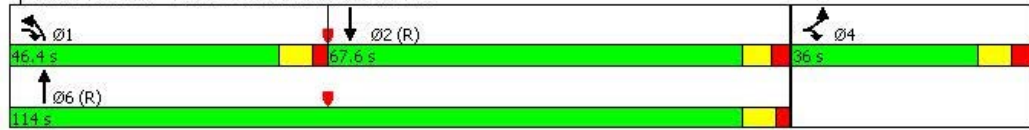


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↑↑	↑↗	
Traffic Volume (vph)	99	555	664	1182	847	104
Future Volume (vph)	99	640	664	1353	967	119
Satd. Flow (prot)	1770	2787	3433	3539	3467	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1746	2787	3412	3539	3467	0
Satd. Flow (RTOR)		19			11	
Confl. Peds. (#/hr)	8		22			22
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	135	870	902	1838	1314	162
Shared Lane Traffic (%)						
Lane Group Flow (vph)	135	870	902	1838	1476	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	41	1	6	2	
Permitted Phases						
Total Split (s)	36.0		46.4	114.0	67.6	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	27.4	73.8	39.3	106.9	60.6	
Actuated g/C Ratio	0.18	0.49	0.26	0.71	0.40	
w/c Ratio	0.42	0.63	1.00	0.73	1.05	
Control Delay	41.6	23.6	71.3	2.4	80.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.6	23.6	71.3	2.4	80.7	
LOS	D	C	E	A	F	
Approach Delay	26.0			25.1	80.7	
Approach LOS	C			C	F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 52 (35%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.05
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 83.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



AM Alden #2

2: N Orange Ave & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	352	761	275	42	836	96	121	209	32	95	357	242
Future Volume (vph)	352	979	275	42	839	96	139	239	32	122	357	242
Satd. Flow (prot)	1770	3539	1583	1770	4991	0	1770	3458	0	1770	3539	1583
Flt Permitted	0.087			0.132			0.476			0.206		
Satd. Flow (perm)	162	3539	1556	246	4991	0	877	3458	0	379	3539	1530
Satd. Flow (RTOR)			286		13			9				67
Confl. Peds. (#/hr)	15		3	3		15	15		20	20		15
Confl. Bikes (#/hr)						2			2			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	478	1330	374	57	1140	130	189	325	43	166	485	329
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	1330	374	57	1270	0	189	368	0	166	485	329
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	42.6	63.9	19.9	23.7	45.0		19.9	38.3		24.1	42.5	42.6
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	81.9	70.4	84.5	47.3	39.0		34.6	34.3		36.4	36.3	73.7
Actuated g/C Ratio	0.55	0.47	0.56	0.32	0.26		0.23	0.23		0.24	0.24	0.49
w/c Ratio	0.99	0.80	0.37	0.36	0.97		0.66	0.46		0.70	0.57	0.41
Control Delay	82.6	39.3	3.7	22.9	52.6		55.9	40.3		63.7	53.0	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	82.6	39.3	3.7	22.9	52.6		55.9	40.3		63.7	53.0	12.2
LOS	F	D	A	C	D		E	D		E	D	B
Approach Delay		42.7			51.3			45.6			41.1	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 137 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.99
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 103.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



AM Alden #2

4: N Mills Avenue & Virginia Drive

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (vph)	66	181	87	237	446	88	74	865	63	124	860	42
Future Volume (vph)	238	208	90	259	531	88	141	865	63	124	1025	83
Satd. Flow (prot)	1770	3349	0	1770	1863	1583	1770	3498	0	1770	3490	0
Flt Permitted	0.111			0.333			0.950			0.950		
Satd. Flow (perm)	207	3349	0	616	1863	1534	1766	3498	0	1766	3490	0
Satd. Flow (RTOR)		41				121		6			6	
Confl. Peds. (#/hr)	12		11	11		12	6		8	8		6
Confl. Bikes (#/hr)			2			3			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	323	283	122	352	721	120	192	1175	86	168	1393	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	405	0	352	721	120	192	1261	0	168	1506	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	22.0	37.6		36.4	52.0	16.0	18.0	60.0		16.0	58.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	51.0	35.9		67.0	45.3	56.0	11.7	53.6		10.0	51.6	
Actuated g/C Ratio	0.34	0.24		0.45	0.30	0.37	0.08	0.36		0.07	0.34	
w/c Ratio	1.42	0.49		0.75	1.28	0.18	1.39	1.01		1.42	1.25	
Control Delay	248.2	46.9		39.2	182.5	4.9	251.6	64.4		271.1	144.1	
Queue Delay	3.9	0.0		0.0	0.0	22.0	0.0	0.4		0.0	0.1	
Total Delay	252.2	46.9		39.2	182.5	26.9	251.6	64.8		271.1	144.2	
LOS	F	D		D	F	C	F	E		F	F	
Approach Delay		138.0			124.6			89.5			157.0	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 15 (10%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.42
 Intersection Signal Delay: 127.2
 Intersection LOS: F
 Intersection Capacity Utilization 96.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



AM Alden #2

7: Orange Ave & Virginia Drive

12/17/2016

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑	↗		↘↙
Traffic Volume (vph)	322	230	257	92	259	481
Future Volume (vph)	322	278	257	92	259	481
Satd. Flow (prot)	1770	1583	1863	1583	0	3479
Flt Permitted	0.950					0.639
Satd. Flow (perm)	1770	1583	1863	1525	0	2469
Satd. Flow (RTOR)		378		125		
Confl. Peds. (#/hr)		7		8	8	
Confl. Bikes (#/hr)		2		4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	438	378	349	125	352	654
Shared Lane Traffic (%)						
Lane Group Flow (vph)	438	378	349	125	0	1006
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	30.0	30.0	32.3	32.3	12.7	45.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	22.0	22.0	41.4	41.4		41.4
Actuated g/C Ratio	0.29	0.29	0.55	0.55		0.55
w/c Ratio	0.85	0.52	0.34	0.14		0.74
Control Delay	43.0	8.0	2.5	0.2		17.7
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	43.0	8.0	2.5	0.2		17.7
LOS	D	A	A	A		B
Approach Delay	26.8		1.9			17.7
Approach LOS	C		A			B

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 23 (31%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.85
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 81.9%
 ICU Level of Service D
 Analysis Period (min) 15



AM Alden #2

8: Alden Road & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	180	677	101	18	602	43	63	24	26	40	13	146
Future Volume (vph)	180	758	265	33	602	43	66	26	26	44	14	146
Satd. Flow (prot)	1770	3373	0	0	3490	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.278				0.768		0.745			0.833		
Satd. Flow (perm)	516	3373	0	0	2686	0	1378	1863	1559	1548	1863	1552
Satd. Flow (RTOR)		83			8				102			198
Confl. Peds. (#/hr)	6		3	3		6	3		1	1		3
Confl. Bikes (#/hr)						4			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	245	1030	360	45	818	58	90	35	35	60	19	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	1390	0	0	921	0	90	35	35	60	19	198
Turn Type	pm+pt	NA		Pem	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6			2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	23.0	114.0		91.0	91.0		13.0	24.0	91.0	12.0	23.0	114.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	118.5	118.5			105.5		17.4	8.7	105.5	11.4	7.1	118.5
Actuated g/C Ratio	0.79	0.79			0.70		0.12	0.06	0.70	0.08	0.05	0.79
w/c Ratio	0.53	0.52			0.49		0.47	0.32	0.03	0.47	0.22	0.16
Control Delay	6.7	0.7			3.8		68.0	75.5	0.1	71.4	73.9	0.8
Queue Delay	0.0	0.5			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	1.2			3.8		68.0	75.5	0.1	71.4	73.9	0.8
LOS	A	A			A		E	E	A	E	E	A
Approach Delay		2.0			3.8			54.8			21.1	
Approach LOS		A			A			D			C	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 62 (41%), Referenced to phase 2:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.53	
Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 76.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



AM Alden #2

9: Alden Road & Alden North Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	0	0	0	146	131	0
Future Volume (vph)	3	6	32	148	292	19
Satd. Flow (prot)	1668	0	0	1846	1848	0
Flt Permitted	0.984			0.991		
Satd. Flow (perm)	1668	0	0	1846	1848	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	4	8	43	201	397	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	244	423	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.9%				ICU Level of Service A		
Analysis Period (min) 15						

AM Alden #2

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	34	306	8	103	449	28	3	9	11	118	47	66
Future Volume (vph)	34	306	8	158	465	57	35	14	140	162	170	66
Satd. Flow (prot)	0	1848	0	0	1820	0	0	1661	0	0	1785	0
Flt Permitted		0.995			0.988			0.991			0.980	
Satd. Flow (perm)	0	1848	0	0	1820	0	0	1661	0	0	1785	0
Confl. Peds. (#/hr)	1		4	4		1	1		1	1		1
Confl. Bikes (#/hr)			3			3			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	416	11	215	632	77	48	19	190	220	231	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	473	0	0	924	0	0	267	0	0	541	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

AM Alden #2

15: Alden Rd & South Alden Driveway/Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	49	0	9	0	12	8	11	101	0
Future Volume (vph)	29	0	19	49	0	9	32	149	8	11	237	42
Satd. Flow (prot)	0	1711	0	0	1749	0	0	1837	0	0	1822	0
Flt Permitted		0.971			0.959			0.992			0.998	
Satd. Flow (perm)	0	1711	0	0	1749	0	0	1837	0	0	1822	0
Confl. Peds. (#/hr)				1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	39	0	26	67	0	12	43	202	11	15	322	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	79	0	0	256	0	0	394	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 26.0%												
ICU Level of Service A												
Analysis Period (min) 15												

AM Alden #2

16: N Orange Ave & Lake Highland Drive

12/17/2016

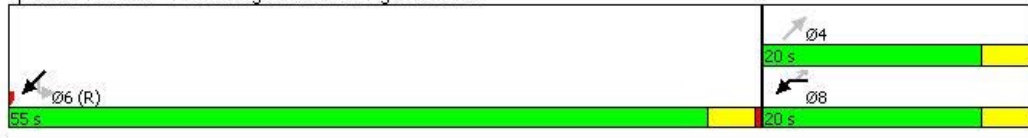


Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↖	↗	↖↗		↖	↗
Traffic Volume (vph)	158	0	323	127	177	740
Future Volume (vph)	171	0	323	153	177	740
Satd. Flow (prot)	1770	1863	3340	0	1770	3539
Flt Permitted	0.950				0.078	
Satd. Flow (perm)	1770	1863	3340	0	145	3539
Satd. Flow (RTOR)			95			
Confl. Peds. (#/hr)		1		3	3	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	232	0	439	208	240	1005
Shared Lane Traffic (%)						
Lane Group Flow (vph)	232	0	647	0	240	1005
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8					6
Permitted Phases		8	4		6	
Total Split (s)	20.0	20.0	20.0		55.0	55.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Act Effect Green (s)	15.4		15.4		51.6	51.6
Actuated g/C Ratio	0.21		0.21		0.69	0.69
w/c Ratio	0.64		0.85		2.42	0.41
Control Delay	35.9		36.4		678.1	5.2
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	35.9		36.4		678.1	5.2
LOS	D		D		F	A
Approach Delay	35.9		36.4			134.9
Approach LOS	D		D			F

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 10 (13%), Referenced to phase 6:SWTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 2.42
 Intersection Signal Delay: 94.1 Intersection LOS: F
 Intersection Capacity Utilization 49.6% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 16: N Orange Ave & Lake Highland Drive



AM Alden #2

22: N Mills Avenue & Nebraska St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	30	10	29	17	12	384	19	1392	19	241	942	41
Future Volume (vph)	30	10	29	18	12	384	19	1563	20	241	1147	41
Satd. Flow (prot)	1770	1636	0	0	1809	1583	1770	3531	0	1770	3519	0
Flt Permitted	0.731				0.826		0.950			0.950		
Satd. Flow (perm)	1362	1636	0	0	1539	1583	1770	3531	0	1770	3519	0
Satd. Flow (RTOR)		39				227		1			4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			7						1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	14	39	24	16	522	26	2124	27	327	1558	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	53	0	0	40	522	26	2151	0	327	1614	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	9.5	44.0		34.5	34.5	34.5	10.9	80.0		26.0	95.1	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	38.6	35.6			28.0	28.0	6.2	73.9		23.4	95.3	
Actuated g/C Ratio	0.26	0.24			0.19	0.19	0.04	0.49		0.16	0.64	
w/c Ratio	0.11	0.13			0.14	1.09	0.36	1.24		1.19	0.72	
Control Delay	43.2	18.1			52.6	98.1	69.2	140.8		149.4	16.7	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	2.9	
Total Delay	43.2	18.1			52.6	98.1	69.2	140.8		149.4	19.5	
LOS	D	B			D	F	E	F		F	B	
Approach Delay		29.1			94.8			140.0			41.4	
Approach LOS		C			F			F			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 136 (91%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.24
 Intersection Signal Delay: 92.4
 Intersection LOS: F
 Intersection Capacity Utilization 99.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



AM Alden #2

25: N Mills Avenue & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	30	11	10	9	7	10	241	1170	3	6	1065	46
Future Volume (vph)	30	12	119	10	8	10	271	1237	3	6	1255	46
Satd. Flow (prot)	0	1630	0	0	1730	0	1770	3539	0	1770	3516	0
Flt Permitted		0.926			0.557		0.105			0.118		
Satd. Flow (perm)	0	1522	0	0	981	0	196	3539	0	220	3516	0
Satd. Flow (RTOR)		64			14			1			9	
Confl. Peds. (#/hr)	1		5	5			1	5		4	4	5
Confl. Bikes (#/hr)							2					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	16	162	14	11	14	368	1681	4	8	1705	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	219	0	0	39	0	368	1685	0	8	1768	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	22.5	22.5		22.5	22.5		127.5	127.5		127.5	127.5	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		16.2			16.2		121.3	121.3		121.3	121.3	
Actuated g/C Ratio		0.11			0.11		0.81	0.81		0.81	0.81	
w/c Ratio		0.99			0.33		2.33	0.59		0.05	0.62	
Control Delay		104.3			52.1		633.9	5.2		2.3	5.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.9	
Total Delay		104.3			52.1		633.9	5.2		2.3	6.0	
LOS		F			D		F	A		A	A	
Approach Delay		104.3			52.1			117.9			6.0	
Approach LOS		F			D			F			A	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 127 (85%), Referenced to phase 2:NBSB and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 2.33	
Intersection Signal Delay: 67.9	Intersection LOS: E
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



AM Alden #2

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	21	5	2	52	10	6	27	0	5	24	42
Future Volume (vph)	20	84	5	2	83	10	6	27	0	52	24	52
Satd. Flow (prot)	0	1835	0	0	1833	0	0	1846	0	0	1725	0
Flt Permitted		0.991			0.999			0.991			0.980	
Satd. Flow (perm)	0	1835	0	0	1833	0	0	1846	0	0	1725	0
Confl. Peds. (#/hr)	11		5	5		11	27		2	2		27
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	114	7	3	113	14	8	37	0	71	33	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	130	0	0	45	0	0	175	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 27.6%

ICU Level of Service A

Analysis Period (min) 15

AM Alden #2

28: Highland Ave & Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	
Traffic Volume (vph)	21	9	69	20	150	0
Future Volume (vph)	130	16	287	101	312	0
Satd. Flow (prot)	1766	0	0	1796	1863	0
Flt Permitted	0.957			0.964		
Satd. Flow (perm)	1766	0	0	1796	1863	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	177	22	390	137	424	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	199	0	0	527	424	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 29.3%			ICU Level of Service A			
Analysis Period (min) 15						

AM Alden #2

29: N Mills Avenue & E Marks St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↙	↕	↔	↖	↗	↘	↙	↕	↔
Traffic Volume (vph)	66	19	18	9	75	40	32	974	0	13	900	105
Future Volume (vph)	66	20	19	9	89	44	38	1067	0	15	998	305
Satd. Flow (prot)	1770	1713	0	0	1769	0	1770	3539	0	1770	3391	0
Flt Permitted	0.545				0.978		0.081			0.135		
Satd. Flow (perm)	1011	1713	0	0	1736	0	151	3539	0	251	3391	0
Satd. Flow (RTOR)		21			16						72	
Confl. Peds. (#/hr)	6		2	2		6	5		1	1		5
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	90	27	26	12	121	60	52	1450	0	20	1356	414
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	53	0	0	193	0	52	1450	0	20	1770	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	§	§			4		6	6			2	2
Permitted Phases	§			4			6			2		
Total Split (s)	33.5	33.5		33.5	33.5		41.5	41.5		41.5	41.5	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	13.0	13.0			13.0		49.3	49.3		49.3	49.3	
Actuated g/C Ratio	0.17	0.17			0.17		0.66	0.66		0.66	0.66	
w/c Ratio	0.51	0.17			0.61		0.53	0.62		0.12	0.79	
Control Delay	37.6	17.9			34.1		34.6	9.7		5.6	9.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	37.6	17.9			34.1		34.6	9.7		5.6	9.2	
LOS	D	B			C		C	A		A	A	
Approach Delay		30.3			34.1			10.6			9.2	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 59 (79%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.79
 Intersection Signal Delay: 11.9
 Intersection LOS: B
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



AM Alden #2

33: Highland Ave & South City Site

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	73	9	18	347	154	147
Satd. Flow (prot)	1756	0	0	1859	1740	0
Flt Permitted	0.957			0.998		
Satd. Flow (perm)	1756	0	0	1859	1740	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	99	12	24	471	209	200
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	495	409	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%				ICU Level of Service A		
Analysis Period (min) 15						

AM Alden #2

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	12	19	7	26	86	33	28	76	5	29	159	31
Future Volume (vph)	15	19	7	26	86	253	28	97	5	31	183	36
Satd. Flow (prot)	0	1785	0	0	1649	0	0	1831	0	0	1811	0
Flt Permitted		0.801			0.974			0.873			0.943	
Satd. Flow (perm)	0	1455	0	0	1613	0	0	1616	0	0	1717	0
Satd. Flow (RTOR)		10			272			5			19	
Confl. Peds. (#/hr)	5					5	1		3	3		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	26	10	35	117	344	38	132	7	42	249	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	496	0	0	177	0	0	340	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	26.0	26.0		26.0	26.0		24.0	24.0		24.0	24.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		13.9			13.9			18.1			18.1	
Actuated g/C Ratio		0.32			0.32			0.41			0.41	
w/c Ratio		0.12			0.72			0.27			0.47	
Control Delay		9.3			12.2			11.0			12.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.3			12.2			11.0			12.9	
LOS		A			B			B			B	
Approach Delay		9.3			12.2			11.0			12.9	
Approach LOS		A			B			B			B	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 44.1	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.72	
Intersection Signal Delay: 12.1	Intersection LOS: B
Intersection Capacity Utilization 38.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



AM Alden #2

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	1	10	4	8	0	24	40	2	4	53	37
Future Volume (vph)	0	1	10	61	8	16	24	40	7	44	53	37
Satd. Flow (prot)	0	1628	0	0	1751	0	0	1805	0	0	1765	0
Flt Permitted					0.965			0.983			0.984	
Satd. Flow (perm)	0	1628	0	0	1751	0	0	1805	0	0	1765	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1	14	83	11	22	33	54	10	60	72	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	116	0	0	97	0	0	182	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.8% ICU Level of Service A												
Analysis Period (min) 15												

AM Alden #2

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	328	23	70	615	11	24	4	27	8	3	9
Future Volume (vph)	5	461	63	70	699	11	40	4	27	8	3	9
Satd. Flow (prot)	0	1833	0	0	1852	0	0	1718	0	0	1716	0
Flt Permitted					0.996			0.973			0.980	
Satd. Flow (perm)	0	1833	0	0	1852	0	0	1718	0	0	1716	0
Confl. Peds. (#/hr)	3		2	2		3						
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	626	86	95	950	15	54	5	37	11	4	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	719	0	0	1060	0	0	96	0	0	27	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

AM Alden #2

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	6	361	4	7	586	196	1	13	3	7	361	4
Future Volume (vph)	6	494	4	116	670	196	1	13	72	7	361	4
Satd. Flow (prot)	0	1859	0	0	1802	0	0	1662	0	0	1859	0
Flt Permitted		0.999			0.994						0.999	
Satd. Flow (perm)	0	1859	0	0	1802	0	0	1662	0	0	1859	0
Confl. Peds. (#/hr)	4		4	4		4			2	2		
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	671	5	158	910	266	1	18	98	10	490	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	684	0	0	1334	0	0	117	0	0	505	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 91.7%

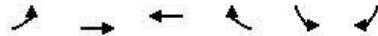
ICU Level of Service F

Analysis Period (min) 15

AM Alden #2

48: Brookhaven Dr & Vir. Dr. East Mixed Use Drive

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	45	28	11	109	69	73
Satd. Flow (prot)	0	1807	1634	0	1770	1583
Flt Permitted		0.970			0.950	
Satd. Flow (perm)	0	1807	1634	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	61	38	15	148	94	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	99	163	0	94	99
Sign Control		Stop	Stop		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%			ICU Level of Service A			
Analysis Period (min) 15						

AM Alden #2

50: Lake Highland Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	21	122	127	40	16	23	12	137	57	57	33	13
Future Volume (vph)	23	134	139	51	16	53	24	274	98	72	172	14
Satd. Flow (prot)	0	1738	0	0	1714	0	0	1796	0	0	1824	0
Flt Permitted		0.996			0.979			0.997			0.986	
Satd. Flow (perm)	0	1738	0	0	1714	0	0	1796	0	0	1824	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	31	182	189	69	22	72	33	372	133	98	234	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	402	0	0	163	0	0	538	0	0	351	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 52.3%												
ICU Level of Service A												
Analysis Period (min) 15												

PM Existing Conditions

1: N Mills Avenue & E Princeton St

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↕	↕↗	
Traffic Volume (vph)	164	781	506	1135	1082	77
Future Volume (vph)	164	781	506	1135	1082	77
Satd. Flow (prot)	1770	2787	3433	3539	3499	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3499	0
Satd. Flow (RTOR)		13			8	
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	178	849	550	1234	1176	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	178	849	550	1234	1260	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	42.0		18.0	58.0	40.0	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	27.4	51.4	16.9	56.9	33.0	
Actuated g/C Ratio	0.27	0.51	0.17	0.57	0.33	
w/c Ratio	0.37	0.59	0.95	0.61	1.09	
Control Delay	31.9	31.9	79.3	16.1	86.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.9	31.9	79.3	16.1	86.0	
LOS	C	C	E	B	F	
Approach Delay	31.9			35.6	86.0	
Approach LOS	C			D	F	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 30 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.09
 Intersection Signal Delay: 50.3
 Intersection LOS: D
 Intersection Capacity Utilization 74.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



PM Existing Conditions

2: N Orange Ave & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	233	734	308	52	722	44	250	389	44	170	327	503
Future Volume (vph)	233	734	308	52	722	44	250	389	44	170	327	503
Satd. Flow (prot)	1770	3539	1583	1770	5034	0	1770	3480	0	1770	3539	1583
Flt Permitted	0.159			0.268			0.490			0.398		
Satd. Flow (perm)	296	3539	1583	499	5034	0	913	3480	0	741	3539	1552
Satd. Flow (RTOR)			335		8			12				99
Confl. Peds. (#/hr)						4			5			7
Confl. Bikes (#/hr)						2			2			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	253	798	335	57	785	48	272	423	48	185	355	547
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	798	335	57	833	0	272	471	0	185	355	547
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	25.0	25.0	15.0	25.0	25.0		15.0	35.0		15.0	35.0	25.0
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	44.0	32.8	48.1	30.9	22.8		39.0	29.3		37.7	28.9	44.5
Actuated g/C Ratio	0.44	0.33	0.48	0.31	0.23		0.39	0.29		0.38	0.29	0.44
w/c Ratio	0.72	0.69	0.36	0.23	0.72		0.63	0.46		0.50	0.35	0.73
Control Delay	31.9	33.8	3.1	19.4	30.6		25.0	27.8		23.3	29.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	31.9	33.8	3.1	19.4	30.6		25.0	27.8		23.3	29.3	21.2
LOS	C	C	A	B	C		C	C		C	C	C
Approach Delay		26.1			29.9			26.8			24.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 24.5 (25%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.73	
Intersection Signal Delay: 26.5	Intersection LOS: C
Intersection Capacity Utilization 90.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: N Orange Ave & E Princeton St



PM Existing Conditions

4: N Mills Avenue & Virginia Drive

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (vph)	98	428	116	108	243	183	91	1064	159	326	1319	57
Future Volume (vph)	98	428	116	108	243	183	91	1064	159	326	1319	57
Satd. Flow (prot)	1770	3408	0	1770	1863	1583	1770	3462	0	1770	3513	0
Flt Permitted	0.422			0.249			0.950			0.950		
Satd. Flow (perm)	786	3408	0	464	1863	1557	1770	3462	0	1770	3513	0
Satd. Flow (RTOR)		34				111		17			4	
Confl. Peds. (#/hr)			11			3			1			5
Confl. Bikes (#/hr)			2			3			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	107	465	126	117	264	199	99	1157	173	354	1434	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	591	0	117	264	199	99	1330	0	354	1496	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	13.0	35.0		13.0	35.0	15.0	15.0	37.0		15.0	37.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	28.7	22.6		29.9	22.6	38.0	9.6	30.6		14.7	35.4	
Actuated g/C Ratio	0.29	0.23		0.30	0.23	0.38	0.10	0.31		0.15	0.35	
w/c Ratio	0.37	0.74		0.52	0.63	0.30	0.59	1.24		1.36	1.20	
Control Delay	21.2	34.5		29.5	41.2	9.3	63.2	151.0		223.1	118.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.2	34.5		29.5	41.2	9.3	63.2	151.0		223.1	118.6	
LOS	C	C		C	D	A	E	F		F	F	
Approach Delay		32.4			27.9			144.9			138.6	
Approach LOS		C			C			F			F	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 15 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.36
 Intersection Signal Delay: 110.2 Intersection LOS: F
 Intersection Capacity Utilization 98.2% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



PM Existing Conditions

7: Orange Ave & Virginia Drive

12/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗		↕
Traffic Volume (vph)	181	249	544	178	340	441
Future Volume (vph)	181	249	544	178	340	441
Satd. Flow (prot)	1770	1583	1863	1583	0	3465
Flt Permitted	0.950					0.591
Satd. Flow (perm)	1770	1583	1863	1583	0	2092
Satd. Flow (RTOR)		271		176		
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)		2		4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	197	271	591	193	370	479
Shared Lane Traffic (%)						
Lane Group Flow (vph)	197	271	591	193	0	849
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	40.0	40.0	40.0	40.0	20.0	60.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	16.5	16.5	71.9	71.9		71.9
Actuated g/C Ratio	0.16	0.16	0.72	0.72		0.72
w/c Ratio	0.67	0.56	0.44	0.17		0.56
Control Delay	48.4	10.3	7.1	1.2		8.0
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	48.4	10.3	7.1	1.2		8.0
LOS	D	B	A	A		A
Approach Delay	26.3		5.7			8.0
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.67
 Intersection Signal Delay: 11.2
 Intersection LOS: B
 Intersection Capacity Utilization 75.1%
 ICU Level of Service D
 Analysis Period (min) 15



PM Existing Conditions

8: Alden Road & E Princeton St

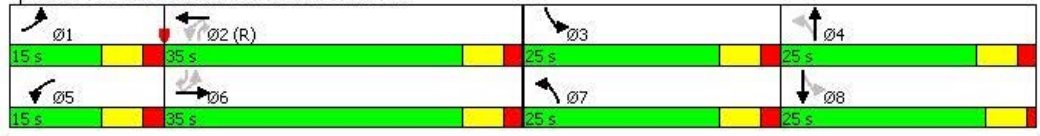
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗			↖↗		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	135	841	34	8	629	22	31	2	24	85	8	233
Future Volume (vph)	135	841	34	8	629	22	31	2	24	85	8	233
Satd. Flow (prot)	1770	3514	0	0	3515	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.312				0.941					0.833		
Satd. Flow (perm)	581	3514	0	0	3311	0	1863	1863	1562	1552	1863	1557
Satd. Flow (RTOR)		4			4				164			253
Confl. Peds. (#/hr)			2									2
Confl. Bikes (#/hr)						4			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	147	914	37	9	684	24	34	2	26	92	9	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	951	0	0	717	0	34	2	26	92	9	253
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	15.0	35.0		15.0	35.0		25.0	25.0	35.0	25.0	25.0	35.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	77.8	79.0			63.5		9.9	5.7	63.5	12.4	7.3	79.0
Actuated g/C Ratio	0.78	0.79			0.64		0.10	0.06	0.64	0.12	0.08	0.79
w/c Ratio	0.27	0.34			0.34		0.19	0.02	0.02	0.43	0.06	0.20
Control Delay	2.9	1.6			17.3		39.1	51.0	0.0	44.1	42.6	1.2
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	1.6			17.3		39.1	51.0	0.0	44.1	42.6	1.2
LOS	A	A			B		D	D	A	D	D	A
Approach Delay		1.8			17.3			23.1			13.4	
Approach LOS		A			B			C			B	

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.43	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



PM Existing Conditions

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	8	463	20	25	392	6	8	1	69	13	3	14
Future Volume (vph)	8	463	20	25	392	6	8	1	69	13	3	14
Satd. Flow (prot)	0	1850	0	0	1853	0	0	1633	0	0	1709	0
Flt Permitted		0.999			0.997			0.995			0.979	
Satd. Flow (perm)	0	1850	0	0	1853	0	0	1633	0	0	1709	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			3			3			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	503	22	27	426	7	9	1	75	14	3	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	534	0	0	460	0	0	85	0	0	32	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

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

PM Existing Conditions

15: Alden Rd & Brookhaven Dr

12/17/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		BT	RT	RT	LT
Traffic Volume (vph)	49	9	12	8	11	101
Future Volume (vph)	49	9	12	8	11	101
Satd. Flow (prot)	1751	0	1760	0	0	1353
Flt Permitted	0.960					0.995
Satd. Flow (perm)	1751	0	1760	0	0	1353
Confl. Peds. (#/hr)	1	4				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	53	10	13	9	12	110
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	22	0	0	122
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 23.8%			ICU Level of Service A			
Analysis Period (min) 15						

PM Existing Conditions

22: N Mills Avenue & Nebraska St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	↖
Traffic Volume (vph)	48	42	49	18	31	236	92	990	14	365	1338	109
Future Volume (vph)	48	42	49	18	31	236	92	990	14	365	1338	109
Satd. Flow (prot)	1770	1695	0	0	1829	1583	1770	3531	0	1770	3494	0
Flt Permitted	0.479				0.836		0.950			0.950		
Satd. Flow (perm)	892	1695	0	0	1557	1561	1770	3531	0	1770	3494	0
Satd. Flow (RTOR)		53				194		2			12	
Confl. Peds. (#/hr)			3			2			1			
Confl. Bikes (#/hr)			7						1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	52	46	53	20	34	257	100	1076	15	397	1454	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	99	0	0	54	257	100	1091	0	397	1572	0
Turn Type	pm+pt	NA		Perm	NA	custom	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		8						
Total Split (s)	12.0	34.0		22.0	22.0	34.0	12.0	53.0		13.0	54.0	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	20.3	18.3			8.9	18.3	10.6	46.9		17.7	54.0	
Actuated g/C Ratio	0.20	0.18			0.09	0.18	0.11	0.47		0.18	0.54	
w/c Ratio	0.21	0.28			0.39	0.58	0.53	0.66		1.27	0.83	
Control Delay	32.0	18.6			50.6	15.1	42.1	20.5		165.7	24.5	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.2		0.0	0.0	
Total Delay	32.0	18.6			50.6	15.1	42.1	20.7		165.7	24.5	
LOS	C	B			D	B	D	C		F	C	
Approach Delay		23.2			21.3			22.5			53.0	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.27
 Intersection Signal Delay: 39.0
 Intersection LOS: D
 Intersection Capacity Utilization 73.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



PM Existing Conditions

25: N Mills Avenue & Lake Highland Dr

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	70	34	15	16	3	6	8	1243	19	15	1407	15
Future Volume (vph)	70	34	15	16	3	6	8	1243	19	15	1407	15
Satd. Flow (prot)	0	1774	0	0	1734	0	1770	3531	0	1770	3531	0
Flt Permitted		0.803			0.793		0.131			0.167		
Satd. Flow (perm)	0	1467	0	0	1419	0	244	3531	0	311	3531	0
Satd. Flow (RTOR)		7			7			3			2	
Confl. Peds. (#/hr)			5			2			2			4
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	76	37	16	17	3	7	9	1351	21	16	1529	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	0	0	27	0	9	1372	0	16	1545	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		13.7			13.7		73.8	73.8		73.8	73.8	
Actuated g/C Ratio		0.14			0.14		0.74	0.74		0.74	0.74	
w/c Ratio		0.63			0.14		0.05	0.53		0.07	0.59	
Control Delay		51.1			30.1		4.6	5.0		1.5	8.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		51.1			30.1		4.6	5.0		1.5	8.2	
LOS		D			C		A	A		A	A	
Approach Delay		51.1			30.1			5.0			8.1	
Approach LOS		D			C			A			A	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NB SB and 6:, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.63
 Intersection Signal Delay: 8.7
 Intersection Capacity Utilization 57.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



PM Existing Conditions

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	74	85	20	2	31	17	7	30	5	9	36	18
Future Volume (vph)	74	85	20	2	31	17	7	30	5	9	36	18
Satd. Flow (prot)	0	1798	0	0	1775	0	0	1818	0	0	1778	0
Flt Permitted		0.980			0.998			0.991			0.993	
Satd. Flow (perm)	0	1798	0	0	1775	0	0	1818	0	0	1778	0
Confl. Peds. (#/hr)	3		3	3		3	15					15
Confl. Bikes (#/hr)			2						1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	80	92	22	2	34	18	8	33	5	10	39	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	194	0	0	54	0	0	46	0	0	69	0
Sign Control		Stop			Stop			Stop			Stop	

















Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 31.4%	ICU Level of Service A
Analysis Period (min) 15	

PM Existing Conditions

28: Highland Ave & Driveway/Lake Highland Dr

12/17/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	30	2	23	2	52	32	37	160	3
Future Volume (vph)	1	0	1	30	2	23	2	52	32	37	160	3
Satd. Flow (prot)	0	1694	0	0	1711	0	0	1768	0	0	1842	0
Flt Permitted		0.976			0.973			0.999			0.991	
Satd. Flow (perm)	0	1694	0	0	1711	0	0	1768	0	0	1842	0
Confl. Peds. (#/hr)	8						8		2	2		
Confl. Bikes (#/hr)						16			8			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	0	1	33	2	25	2	57	35	40	174	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	60	0	0	94	0	0	217	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 30.5%						ICU Level of Service A						
Analysis Period (min) 15												

PM Existing Conditions

29: N Mills Avenue & E Marks St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕	↔	↖	↗		↖	↗	
Traffic Volume (vph)	183	122	49	9	49	48	45	1004	8	38	1202	60
Future Volume (vph)	183	122	49	9	49	48	45	1004	8	38	1202	60
Satd. Flow (prot)	1770	1775	0	0	1725	0	1770	3534	0	1770	3511	0
Flt Permitted	0.685				0.964		0.151			0.223		
Satd. Flow (perm)	1276	1775	0	0	1670	0	281	3534	0	415	3511	0
Satd. Flow (RTOR)		19			39			2			10	
Confl. Peds. (#/hr)			3				8		7			1
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	199	133	53	10	53	52	49	1091	9	41	1307	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	186	0	0	115	0	49	1100	0	41	1372	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	20.1	20.1			20.1		67.2	67.2		67.2	67.2	
Actuated g/C Ratio	0.20	0.20			0.20		0.67	0.67		0.67	0.67	
w/c Ratio	0.78	0.50			0.31		0.26	0.46		0.15	0.58	
Control Delay	48.6	27.2			23.8		12.1	9.1		15.1	18.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	48.6	27.2			23.8		12.1	9.1		15.1	18.8	
LOS	D	C			C		B	A		B	B	
Approach Delay		38.3			23.8			9.2			18.7	
Approach LOS		D			C			A			B	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.78
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 65.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



PM Existing Conditions
 32: N Orange Ave & Alden Rd

12/17/2016



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↔	↔	↕	↕	↔	↔
Traffic Volume (vph)	53	19	662	72	15	681
Future Volume (vph)	53	19	662	72	15	681
Satd. Flow (prot)	1770	1583	1863	1583	0	3536
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1583	1863	1583	0	3536
Confl. Peds. (#/hr)		1		3	3	
Confl. Bikes (#/hr)		1		8		7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	58	21	720	78	16	740
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	21	720	78	0	756
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 45.2%			ICU Level of Service A			
Analysis Period (min) 15						

PM Existing Conditions

34: Highland Ave & E Marks St

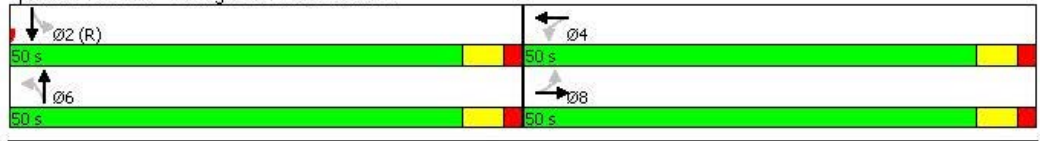
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	138	11	21	77	48	48	223	47	68	104	14
Future Volume (vph)	30	138	11	21	77	48	48	223	47	68	104	14
Satd. Flow (prot)	0	1830	0	0	1747	0	0	1807	0	0	1811	0
Flt Permitted		0.892			0.899			0.929			0.783	
Satd. Flow (perm)	0	1644	0	0	1581	0	0	1690	0	0	1443	0
Satd. Flow (RTOR)		4			31			11			5	
Confl. Peds. (#/hr)	6		1	1		6			1	1		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	150	12	23	84	52	52	242	51	74	113	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	0	0	159	0	0	345	0	0	202	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	50.0	50.0		50.0	50.0		50.0	50.0		50.0	50.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		17.2			17.2			70.8			70.8	
Actuated g/C Ratio		0.17			0.17			0.71			0.71	
w/c Ratio		0.68			0.53			0.29			0.20	
Control Delay		49.4			22.9			6.6			4.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		49.4			22.9			6.6			4.1	
LOS		D			C			A			A	
Approach Delay		49.4			22.9			6.6			4.1	
Approach LOS		D			C			A			A	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 45 (45%), Referenced to phase 2:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.68
 Intersection Signal Delay: 18.2
 Intersection LOS: B
 Intersection Capacity Utilization 44.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 34: Highland Ave & E Marks St



PM Existing Conditions

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	18	13	12	7	10	16	8	88	12	3	42	5
Future Volume (vph)	18	13	12	7	10	16	8	88	12	3	42	5
Satd. Flow (prot)	0	1756	0	0	1724	0	0	1827	0	0	1833	0
Flt Permitted		0.979			0.989			0.996			0.997	
Satd. Flow (perm)	0	1756	0	0	1724	0	0	1827	0	0	1833	0
Confl. Peds. (#/hr)			1	1					1	1		
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	14	13	8	11	17	9	96	13	3	46	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	36	0	0	118	0	0	54	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 19.5%	ICU Level of Service A
Analysis Period (min) 15	

PM Existing Conditions

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	530	36	28	406	5	34	6	57	6	0	4
Future Volume (vph)	4	530	36	28	406	5	34	6	57	6	0	4
Satd. Flow (prot)	0	1846	0	0	1855	0	0	1636	0	0	1717	0
Flt Permitted					0.997			0.983			0.969	
Satd. Flow (perm)	0	1846	0	0	1855	0	0	1636	0	0	1717	0
Confl. Peds. (#/hr)			5			2			1			
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	4	576	39	30	441	5	37	7	62	7	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	619	0	0	476	0	0	106	0	0	11	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 53.9%												
ICU Level of Service A												
Analysis Period (min) 15												

PM Existing Conditions

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	35	549	4	13	424	14	0	1	32	8	0	38
Future Volume (vph)	35	549	4	13	424	14	0	1	32	8	0	38
Satd. Flow (prot)	0	1855	0	0	1853	0	0	1619	0	0	1641	0
Flt Permitted		0.997			0.999						0.991	
Satd. Flow (perm)	0	1855	0	0	1853	0	0	1619	0	0	1641	0
Confl. Peds. (#/hr)			4									2
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	597	4	14	461	15	0	1	35	9	0	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	639	0	0	490	0	0	36	0	0	50	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

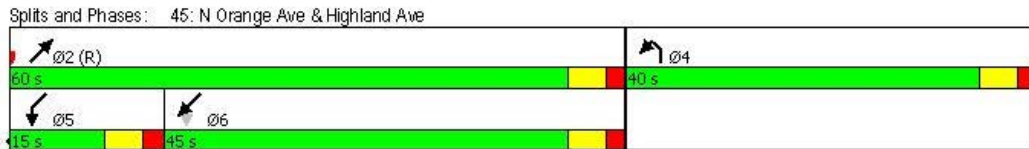
PM Existing Conditions
 45: N Orange Ave & Highland Ave

12/17/2016

Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	54	151	645	58	142	545
Future Volume (vph)	54	151	645	58	142	545
Satd. Flow (prot)	1626	0	3489	0	0	3504
Flt Permitted	0.987					0.653
Satd. Flow (perm)	1624	0	3489	0	0	2309
Satd. Flow (RTOR)	152		15			
Confl. Peds. (#/hr)	3	8		7	7	
Confl. Bikes (#/hr)		4		1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	59	164	701	63	154	592
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	0	764	0	0	746
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2!		5!	6
Permitted Phases					6	
Total Split (s)	40.0		60.0		15.0	45.0
Total Lost Time (s)	5.7		5.7			5.7
Act Effect Green (s)	11.1		77.5			77.5
Actuated g/C Ratio	0.11		0.78			0.78
w/c Ratio	0.71		0.28			0.42
Control Delay	23.1		3.9			5.0
Queue Delay	0.0		0.0			0.0
Total Delay	23.1		3.9			5.0
LOS	C		A			A
Approach Delay	23.1		3.9			5.0
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.71
 Intersection Signal Delay: 6.8
 Intersection LOS: A
 Intersection Capacity Utilization 67.4%
 ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.



PM No Build

1: N Mills Avenue & E Princeton St

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↕	↕↗	
Traffic Volume (vph)	164	781	506	1135	1082	77
Future Volume (vph)	165	781	506	1259	1169	78
Satd. Flow (prot)	1770	2787	3433	3539	3501	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3501	0
Satd. Flow (RTOR)		16			6	
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	224	1061	688	1711	1588	106
Shared Lane Traffic (%)						
Lane Group Flow (vph)	224	1061	688	1711	1694	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	36.4		37.4	113.6	76.2	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	27.8	65.2	30.3	106.5	69.2	
Actuated g/C Ratio	0.19	0.43	0.20	0.71	0.46	
w/c Ratio	0.68	0.87	0.99	0.68	1.05	
Control Delay	66.2	28.5	101.6	3.8	74.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	66.2	28.5	101.6	3.8	74.8	
LOS	E	C	F	A	E	
Approach Delay	35.1			31.8	74.8	
Approach LOS	D			C	E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 54 (36%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.05
 Intersection Signal Delay: 46.2
 Intersection LOS: D
 Intersection Capacity Utilization 88.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



PM No Build

2: N Orange Ave & E Princeton St

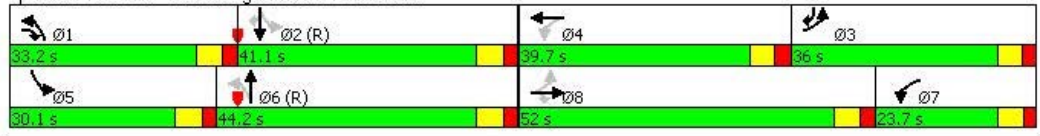
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	233	819	308	52	765	53	264	389	44	198	327	503
Future Volume (vph)	233	828	333	52	769	53	292	433	44	200	353	503
Satd. Flow (prot)	1770	3539	1583	1770	5028	0	1770	3482	0	1770	3539	1583
Flt Permitted	0.101			0.119			0.268			0.259		
Satd. Flow (perm)	188	3539	1664	222	5028	0	499	3482	0	482	3539	1550
Satd. Flow (RTOR)			243		7			7				66
Confl. Peds. (#/hr)						4			5			7
Confl. Bikes (#/hr)			1			3			5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	317	1125	452	71	1045	72	397	588	60	272	480	683
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1125	452	71	1117	0	397	648	0	272	480	683
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	36.0	52.0	33.2	23.7	39.7		33.2	44.2		30.1	41.1	36.0
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	70.0	46.0	72.4	52.0	33.7		67.3	42.0		56.0	35.9	66.7
Actuated g/C Ratio	0.47	0.31	0.48	0.35	0.22		0.45	0.28		0.37	0.24	0.44
w/c Ratio	0.78	1.04	0.51	0.27	0.98		0.89	0.66		0.77	0.57	0.93
Control Delay	65.7	87.3	8.1	32.5	58.2		48.7	52.5		43.2	53.6	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	65.7	87.3	8.1	32.5	58.2		48.7	52.5		43.2	53.6	41.0
LOS	E	F	A	C	E		D	D		D	D	D
Approach Delay		64.8			56.7			51.1			45.6	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 36 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.04
 Intersection Signal Delay: 55.5
 Intersection LOS: E
 Intersection Capacity Utilization 102.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



PM No Build

4: N Mills Avenue & Virginia Drive

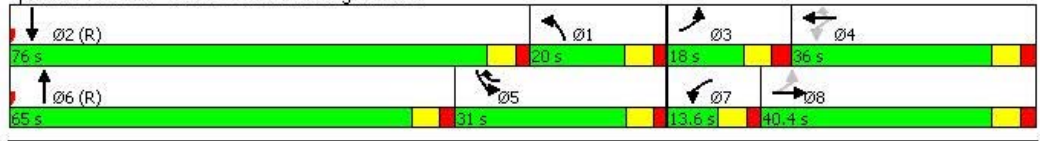
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	126	457	122	108	286	183	109	1064	159	326	1319	80
Future Volume (vph)	188	485	129	108	311	183	159	1126	167	326	1319	167
Satd. Flow (prot)	1770	3408	0	1770	1863	1583	1770	3465	0	1770	3465	0
Flt Permitted	0.119			0.137			0.950			0.950		
Satd. Flow (perm)	222	3408	0	255	1863	1553	1770	3465	0	1770	3465	0
Satd. Flow (RTOR)		21				70		13			12	
Confl. Peds. (#/hr)			11			3			1			5
Confl. Bikes (#/hr)			2			4			4			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	255	659	175	147	423	249	216	1530	227	443	1792	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	834	0	147	423	249	216	1757	0	443	2019	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	18.0	40.4		13.6	36.0	31.0	20.0	65.0		31.0	76.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	44.8	33.7		37.2	29.3	55.0	13.7	58.6		25.0	69.6	
Actuated g/C Ratio	0.30	0.22		0.25	0.20	0.37	0.09	0.39		0.17	0.46	
w/c Ratio	1.41	1.07		1.07	1.17	0.40	1.34	1.29		1.50	1.25	
Control Delay	244.8	103.5		138.6	151.7	17.5	218.1	161.9		273.7	139.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	1.3		0.0	0.2	
Total Delay	244.8	103.5		138.6	151.7	17.6	218.1	163.2		273.7	139.9	
LOS	F	F		F	F	B	F	F		F	F	
Approach Delay		136.6			108.6			169.2			164.0	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 3 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.50
 Intersection Signal Delay: 153.8
 Intersection LOS: F
 Intersection Capacity Utilization 116.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



PM No Build

7: Orange Ave & Virginia Drive

12/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗		↕
Traffic Volume (vph)	199	263	544	232	352	441
Future Volume (vph)	199	299	580	232	375	469
Satd. Flow (prot)	1770	1583	1863	1583	0	3461
Flt Permitted	0.950					0.522
Satd. Flow (perm)	1770	1583	1863	1547	0	1847
Satd. Flow (RTOR)		272		311		
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	270	406	788	315	510	637
Shared Lane Traffic (%)						
Lane Group Flow (vph)	270	406	788	315	0	1147
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	27.0	27.0	35.2	35.2	12.8	48.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	16.4	16.4	47.0	47.0		47.0
Actuated g/C Ratio	0.22	0.22	0.63	0.63		0.63
w/c Ratio	0.70	0.73	0.68	0.29		1.81dl
Control Delay	33.0	15.9	9.8	0.6		49.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	33.0	15.9	9.8	0.6		49.1
LOS	C	B	A	A		D
Approach Delay	22.7		7.2			49.1
Approach LOS	C		A			D

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 39 (52%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.99
 Intersection Signal Delay: 27.2
 Intersection LOS: C
 Intersection Capacity Utilization 92.0%
 ICU Level of Service F
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 7: Orange Ave & Virginia Drive



Orlando 06/01/2016 PM No Build
 Shane

Synchro 9 Report
 Page 4

PM No Build

8: Alden Road & E Princeton St

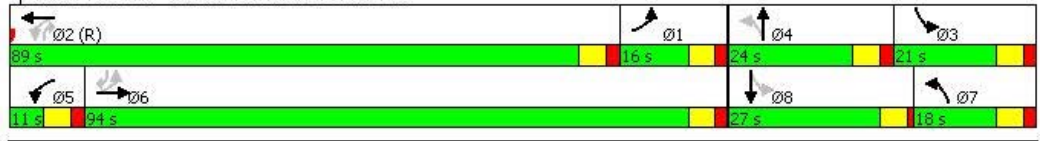
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↙	↕	↔	↖	↗	↘	↙	↕	↔
Traffic Volume (vph)	135	841	148	23	629	22	83	8	29	85	26	233
Future Volume (vph)	135	841	159	24	629	22	87	8	30	85	29	233
Satd. Flow (prot)	1770	3439	0	0	3512	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.270				0.827					0.750		
Satd. Flow (perm)	503	3439	0	0	2910	0	1863	1863	1583	1397	1863	1557
Satd. Flow (RTOR)		25			4				109			317
Confl. Peds. (#/hr)			2									2
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	183	1143	216	33	855	30	118	11	41	115	39	317
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1359	0	0	918	0	118	11	41	115	39	317
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	16.0	94.0		11.0	89.0		18.0	24.0	89.0	21.0	27.0	94.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	113.3	113.3			100.3		16.3	6.5	100.3	23.2	8.5	113.3
Actuated g/C Ratio	0.76	0.76			0.67		0.11	0.04	0.67	0.15	0.06	0.76
w/c Ratio	0.42	0.52			0.47		0.61	0.14	0.04	0.44	0.37	0.25
Control Delay	3.9	2.6			7.4		73.6	72.2	0.1	60.9	77.1	1.1
Queue Delay	0.0	0.2			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.9	2.8			7.4		73.6	72.2	0.1	60.9	77.1	1.1
LOS	A	A			A		E	E	A	E	E	A
Approach Delay		3.0			7.4			55.7			22.0	
Approach LOS		A			A			E			C	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 42 (28%), Referenced to phase 2:WBL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.61	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



PM No Build
 9: North Alden

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↓	
Traffic Volume (vph)	0	0	146	0	131	0
Future Volume (vph)	5	14	172	0	134	12
Satd. Flow (prot)	1667	0	0	1770	1842	0
Flt Permitted	0.987			0.950		
Satd. Flow (perm)	1667	0	0	1770	1842	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	7	19	234	0	182	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	234	198	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 25.4%			ICU Level of Service A			
Analysis Period (min) 15						

PM No Build

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	64	450	33	35	382	55	22	60	80	29	31	32
Future Volume (vph)	64	468	38	113	405	70	35	71	111	40	37	32
Satd. Flow (prot)	0	1835	0	0	1815	0	0	1720	0	0	1768	0
Flt Permitted		0.994			0.990			0.992			0.982	
Satd. Flow (perm)	0	1835	0	0	1815	0	0	1720	0	0	1768	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			2			4				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	87	636	52	154	550	95	48	96	151	54	50	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	775	0	0	799	0	0	295	0	0	147	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

PM No Build

15: Alden Rd & South Alden/Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	13	0	5	0	97	40	8	20	0
Future Volume (vph)	44	26	14	34	0	5	8	108	61	8	86	23
Satd. Flow (prot)	0	1773	0	0	1752	0	0	1774	0	0	1809	0
Flt Permitted		0.974			0.958			0.998			0.997	
Satd. Flow (perm)	0	1773	0	0	1752	0	0	1774	0	0	1809	0
Confl. Peds. (#/hr)									1			
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	60	35	19	46	0	7	11	147	83	11	117	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	114	0	0	53	0	0	241	0	0	159	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 20.1%						ICU Level of Service A						
Analysis Period (min) 15												

PM No Build

22: N Mills Avenue & Nebraska St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	↖
Traffic Volume (vph)	48	42	49	18	31	236	92	1018	14	365	1361	109
Future Volume (vph)	48	42	49	18	31	236	92	1142	14	365	1448	109
Satd. Flow (prot)	1770	1697	0	0	1829	1583	1770	3531	0	1770	3499	0
Flt Permitted	0.714				0.608		0.950			0.950		
Satd. Flow (perm)	1330	1697	0	0	1133	1558	1770	3531	0	1770	3499	0
Satd. Flow (RTOR)		38				321		1			8	
Confl. Peds. (#/hr)			3			2			1			
Confl. Bikes (#/hr)						1			1			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	65	57	67	24	42	321	125	1552	19	496	1967	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	124	0	0	66	321	125	1571	0	496	2115	0
Turn Type	pm+pt	NA		Perm	NA	custom	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		8						
Total Split (s)	9.5	44.0		34.5	34.5	44.0	15.5	64.0		42.0	90.5	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	21.6	19.6			11.6	19.6	18.2	58.6		54.7	95.1	
Actuated g/C Ratio	0.14	0.13			0.08	0.13	0.12	0.39		0.36	0.63	
w/c Ratio	0.31	0.49			0.76	0.67	0.58	1.14		0.77	0.95	
Control Delay	59.6	46.6			113.4	12.7	62.6	88.1		38.6	28.4	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.4		0.0	44.3	
Total Delay	59.6	46.6			113.4	12.7	62.6	88.5		38.6	72.7	
LOS	E	D			F	B	E	F		D	E	
Approach Delay		51.1			29.8			86.6			66.3	
Approach LOS		D			C			F			E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 8 (5%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.14
 Intersection Signal Delay: 69.9
 Intersection LOS: E
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



PM No Build

25: N Mills Avenue & Lake Highland Dr

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	70	34	29	16	3	6	18	1261	19	15	1413	16
Future Volume (vph)	140	38	132	16	3	6	41	1311	19	15	1420	16
Satd. Flow (prot)	0	1705	0	0	1741	0	1770	3531	0	1770	3531	0
Flt Permitted		0.839			0.689		0.043			0.063		
Satd. Flow (perm)	0	1463	0	0	1238	0	80	3531	0	117	3531	0
Satd. Flow (RTOR)		21			8			2			2	
Confl. Peds. (#/hr)			5			2			2			4
Confl. Bikes (#/hr)												6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	190	52	179	22	4	8	56	1781	26	20	1929	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	0	0	34	0	56	1807	0	20	1951	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	44.0	44.0		44.0	44.0		106.0	106.0		106.0	106.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		37.7			37.7		99.8	99.8		99.8	99.8	
Actuated g/C Ratio		0.25			0.25		0.67	0.67		0.67	0.67	
w/c Ratio		1.10			0.11		1.06	0.77		0.26	0.83	
Control Delay		123.8			36.3		154.6	19.1		8.3	12.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.6	
Total Delay		123.8			36.3		154.6	19.1		8.3	12.9	
LOS		F			D		F	B		A	B	
Approach Delay		123.8			36.3			23.1			12.8	
Approach LOS		F			D			C			B	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 12.8 (85%), Referenced to phase 2:NBSB and 6.; Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.10	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



PM No Build

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	74	85	20	2	31	17	7	30	5	9	36	18
Future Volume (vph)	81	191	20	2	54	17	7	30	5	80	36	22
Satd. Flow (prot)	0	1820	0	0	1801	0	0	1816	0	0	1771	0
Flt Permitted		0.996			0.998			0.991			0.972	
Satd. Flow (perm)	0	1820	0	0	1801	0	0	1816	0	0	1771	0
Confl. Peds. (#/hr)	3		3	3		3	15					15
Confl. Bikes (#/hr)			2			1			1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	110	260	27	3	73	23	10	41	7	109	49	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	397	0	0	99	0	0	58	0	0	188	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 34.5%

ICU Level of Service A

Analysis Period (min) 15

PM No Build

28: Highland Ave & Driveway/Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	1	0	1	30	2	23	2	170	117	37	160	3
Future Volume (vph)	20	70	4	34	25	23	8	194	160	37	209	49
Satd. Flow (prot)	0	1833	0	0	1756	0	0	1749	0	0	1809	0
Flt Permitted		0.989			0.980			0.999			0.994	
Satd. Flow (perm)	0	1833	0	0	1756	0	0	1749	0	0	1809	0
Confl. Peds. (#/hr)	8						8		2	2		
Confl. Bikes (#/hr)						6			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	95	5	46	34	31	11	264	217	50	284	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	111	0	0	492	0	0	401	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 51.0%												
ICU Level of Service A												
Analysis Period (min) 15												

PM No Build

29: N Mills Avenue & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕	↕	↖	↗		↖	↗	
Traffic Volume (vph)	183	122	49	9	49	48	45	1004	8	38	1202	60
Future Volume (vph)	183	125	50	9	50	51	46	1074	8	41	1309	60
Satd. Flow (prot)	1770	1775	0	0	1723	0	1770	3535	0	1770	3511	0
Flt Permitted	0.697				0.963		0.094			0.102		
Satd. Flow (perm)	1298	1775	0	0	1665	0	175	3535	0	190	3511	0
Satd. Flow (RTOR)		6			15			1			8	
Confl. Peds. (#/hr)			3			8			7			1
Confl. Bikes (#/hr)			2			2			5			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	249	170	68	12	68	69	63	1459	11	56	1779	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	238	0	0	149	0	63	1470	0	56	1861	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	33.5	33.5		33.5	33.5		41.5	41.5		41.5	41.5	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	19.7	19.7			19.7		42.6	42.6		42.6	42.6	
Actuated g/C Ratio	0.26	0.26			0.26		0.57	0.57		0.57	0.57	
w/c Ratio	0.73	0.51			0.33		0.64	0.73		0.52	0.93	
Control Delay	37.1	25.5			20.3		50.5	16.6		24.6	23.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	37.1	25.5			20.3		50.5	16.6		24.6	23.9	
LOS	D	C			C		D	B		C	C	
Approach Delay		31.4			20.3			18.0			23.9	
Approach LOS		C			C			B			C	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 71 (95%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.93
 Intersection Signal Delay: 22.4
 Intersection LOS: C
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



PM No Build

32: N Orange Ave & Alden Rd

12/17/2016



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	100	19	716	135	15	699
Future Volume (vph)	201	19	752	175	15	727
Satd. Flow (prot)	1770	1583	1863	1583	0	3536
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1583	1863	1583	0	3536
Confl. Peds. (#/hr)		1		3	3	
Confl. Bikes (#/hr)				1		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	273	26	1022	238	20	988
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	26	1022	238	0	1008
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 60.9%			ICU Level of Service B			
Analysis Period (min) 15						

PM No Build

33: Highland Ave & City Site South Drive

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	55	7	8	139	142	46
Satd. Flow (prot)	1756	0	0	1857	1801	0
Flt Permitted	0.958			0.997		
Satd. Flow (perm)	1756	0	0	1857	1801	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	75	10	11	189	193	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	0	200	256	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%				ICU Level of Service A		
Analysis Period (min) 15						

PM No Build

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	138	11	21	77	48	48	223	47	68	104	14
Future Volume (vph)	33	138	11	21	77	50	48	244	47	72	117	14
Satd. Flow (prot)	0	1829	0	0	1749	0	0	1809	0	0	1815	0
Flt Permitted		0.902			0.923			0.913			0.754	
Satd. Flow (perm)	0	1663	0	0	1625	0	0	1663	0	0	1392	0
Satd. Flow (RTOR)		7			57			19			9	
Confl. Peds. (#/hr)	6		1	1		6			1	1		
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	45	188	15	29	105	68	65	332	64	98	159	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	0	0	202	0	0	461	0	0	276	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		12.2			12.2			20.4			20.4	
Actuated g/C Ratio		0.27			0.27			0.46			0.46	
w/c Ratio		0.54			0.42			0.60			0.43	
Control Delay		17.9			12.2			13.6			11.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			12.2			13.6			11.4	
LOS		B			B			B			B	
Approach Delay		17.9			12.2			13.6			11.4	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 44.6	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.60	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



PM No Build

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	18	13	12	7	10	16	8	88	12	3	42	5
Future Volume (vph)	18	34	38	56	31	39	8	88	19	22	42	5
Satd. Flow (prot)	0	1737	0	0	1745	0	0	1816	0	0	1815	0
Flt Permitted		0.990			0.978			0.997			0.984	
Satd. Flow (perm)	0	1737	0	0	1745	0	0	1816	0	0	1815	0
Confl. Peds. (#/hr)			1	1					1	1		
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	46	52	76	42	53	11	120	26	30	57	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	171	0	0	157	0	0	94	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.5%												
ICU Level of Service A												
Analysis Period (min) 15												

PM No Build

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	546	36	48	455	5	34	6	84	6	0	4
Future Volume (vph)	4	587	55	48	548	5	57	6	84	6	0	4
Satd. Flow (prot)	0	1840	0	0	1853	0	0	1687	0	0	1713	0
Flt Permitted					0.996			0.981			0.970	
Satd. Flow (perm)	0	1840	0	0	1853	0	0	1687	0	0	1713	0
Confl. Peds. (#/hr)			5			2			1			
Confl. Bikes (#/hr)			5			3						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	798	75	65	745	7	77	8	114	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	878	0	0	817	0	0	199	0	0	13	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

PM No Build

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	35	576	4	28	444	14	0	1	52	8	0	38
Future Volume (vph)	35	617	4	97	537	14	0	1	108	8	0	38
Satd. Flow (prot)	0	1855	0	0	1844	0	0	1613	0	0	1641	0
Flt Permitted		0.997			0.993						0.991	
Satd. Flow (perm)	0	1855	0	0	1844	0	0	1613	0	0	1641	0
Confl. Peds. (#/hr)			4									2
Confl. Bikes (#/hr)			3			2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	48	838	5	132	730	19	0	1	147	11	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	891	0	0	881	0	0	148	0	0	63	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 69.1%	ICU Level of Service C
Analysis Period (min) 15	

PM No Build

45: N Orange Ave & Highland Ave

12/17/2016



Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations	↔		↔			↔
Traffic Volume (vph)	54	169	744	58	154	598
Future Volume (vph)	56	210	779	60	247	634
Satd. Flow (prot)	1620	0	3494	0	0	3490
Flt Permitted	0.990					0.527
Satd. Flow (perm)	1619	0	3494	0	0	1864
Satd. Flow (RTOR)	83		17			
Confl. Peds. (#/hr)	3	8		7	7	
Confl. Bikes (#/hr)		1		1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	76	285	1058	82	336	861
Shared Lane Traffic (%)						
Lane Group Flow (vph)	361	0	1140	0	0	1197
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2!		5!	6
Permitted Phases					6	
Total Split (s)	27.7		47.3		12.7	34.6
Total Lost Time (s)	5.7		5.7			5.7
Act Effect Green (s)	17.7		45.9			45.9
Actuated g/C Ratio	0.24		0.61			0.61
w/c Ratio	0.81		0.53			1.47dl
Control Delay	34.9		10.1			56.8
Queue Delay	0.0		0.0			0.0
Total Delay	34.9		10.1			56.8
LOS	C		B			E
Approach Delay	34.9		10.1			56.8
Approach LOS	C		B			E

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.05
 Intersection Signal Delay: 34.1
 Intersection LOS: C
 Intersection Capacity Utilization 86.2%
 ICU Level of Service E
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 ! Phase conflict between lane groups.

Splits and Phases: 45: N Orange Ave & Highland Ave



Shane

PM No Build

50: Brookhaven Dr & Vir. Dr. East Mixed Use

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	47	28	11	69	56	93
Satd. Flow (prot)	0	1807	1647	0	1770	1583
Flt Permitted		0.970			0.950	
Satd. Flow (perm)	0	1807	1647	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	64	38	15	94	76	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	102	109	0	76	126
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%			ICU Level of Service A			
Analysis Period (min) 15						

PM Alden #1
 1: N Mills Avenue

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↗	↖↗	↑↑	↑↗	
Traffic Volume (vph)	164	781	506	1135	1082	77
Future Volume (vph)	166	781	506	1231	1111	92
Satd. Flow (prot)	1770	2787	3433	3539	3493	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3493	0
Satd. Flow (RTOR)		18			7	
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	226	1061	688	1673	1510	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	1061	688	1673	1635	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	36.4		38.6	113.6	75.0	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	27.8	66.4	31.5	106.5	68.0	
Actuated g/C Ratio	0.19	0.44	0.21	0.71	0.45	
w/c Ratio	0.69	0.85	0.96	0.67	1.03	
Control Delay	74.8	21.5	84.5	3.5	70.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	74.8	21.5	84.5	3.5	70.6	
LOS	E	C	F	A	E	
Approach Delay	30.9			27.1	70.6	
Approach LOS	C			C	E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 50 (33%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.03
 Intersection Signal Delay: 41.5
 Intersection LOS: D
 Intersection Capacity Utilization 88.8%
 ICU Level of Service E
 Analysis Period (min) 15



PM Alden #1

2: N Orange Ave & E Princeton St

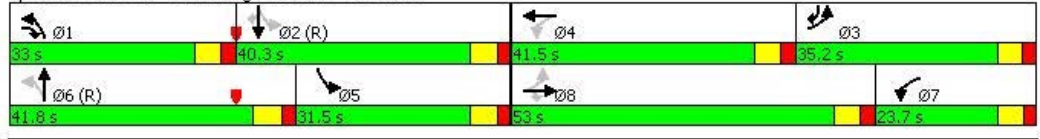
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	233	777	317	52	807	54	264	389	44	198	327	503
Future Volume (vph)	233	834	365	52	817	55	285	422	44	213	377	503
Satd. Flow (prot)	1770	3539	1583	1770	5033	0	1770	3483	0	1770	3539	1583
Flt Permitted	0.096			0.113			0.471			0.455		
Satd. Flow (perm)	179	3539	1583	210	5033	0	877	3483	0	848	3539	1546
Satd. Flow (RTOR)			261		7			7				65
Confl. Peds. (#/hr)						4			5			7
Confl. Bikes (#/hr)						2			2			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	317	1133	496	71	1110	75	387	573	60	289	512	683
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1133	496	71	1185	0	387	633	0	289	512	683
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	35.2	53.0	33.0	23.7	41.5		33.0	41.8		31.5	40.3	35.2
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	71.0	47.0	74.2	53.8	35.5		35.9	35.6		34.2	34.1	64.1
Actuated g/C Ratio	0.47	0.31	0.49	0.36	0.24		0.24	0.24		0.23	0.23	0.43
w/c Ratio	0.80	1.02	0.54	0.27	0.99		1.04	0.76		0.83	0.64	0.97
Control Delay	67.9	83.0	8.3	29.7	59.4		99.3	50.3		77.4	56.5	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	67.9	83.0	8.3	29.7	59.4		99.3	50.3		77.4	56.5	49.3
LOS	E	F	A	C	E		F	D		E	E	D
Approach Delay		61.5			57.7			68.9			57.3	
Approach LOS		E			E			E			E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 36 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.04
 Intersection Signal Delay: 60.9
 Intersection LOS: E
 Intersection Capacity Utilization 103.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: N Orange Ave & E Princeton St



PM Alden #1

4: Virginia Drive & N Mills Avenue

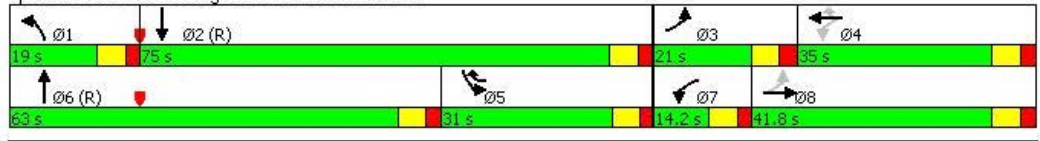
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (vph)	126	457	122	108	243	183	109	1064	158	326	1341	80
Future Volume (vph)	222	501	137	108	299	183	140	1064	158	326	1341	109
Satd. Flow (prot)	1770	3404	0	1770	1863	1583	1770	3465	0	1770	3491	0
Flt Permitted	0.114			0.141			0.950			0.950		
Satd. Flow (perm)	212	3404	0	263	1863	1554	1770	3465	0	1770	3491	0
Satd. Flow (RTOR)		22				116		13			7	
Confl. Peds. (#/hr)			11			3			1			5
Confl. Bikes (#/hr)			2			3			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	302	681	186	147	406	249	190	1446	215	443	1822	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	302	867	0	147	406	249	190	1661	0	443	1970	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	21.0	41.8		14.2	35.0	31.0	19.0	63.0		31.0	75.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	49.2	35.1		36.8	28.3	54.0	12.7	56.6		25.0	68.6	
Actuated g/C Ratio	0.33	0.23		0.25	0.19	0.36	0.08	0.38		0.17	0.46	
w/c Ratio	1.39	1.07		1.02	1.16	0.39	1.28	1.26		1.50	1.23	
Control Delay	235.5	106.1		121.9	149.9	12.8	207.7	158.7		273.0	135.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	1.1		0.0	0.5	
Total Delay	235.5	106.1		121.9	149.9	12.9	207.7	159.8		273.0	136.1	
LOS	F	F		F	F	B	F	F		F	F	
Approach Delay		139.6			102.2			164.7			161.3	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 4 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.50
 Intersection Signal Delay: 150.6
 Intersection LOS: F
 Intersection Capacity Utilization 116.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 4: Virginia Drive & N Mills Avenue



PM Alden #1

7: Orange Ave & Virginia Drive

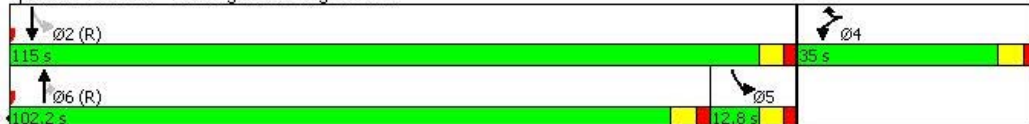
12/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗		↗↘
Traffic Volume (vph)	180	249	544	232	358	461
Future Volume (vph)	208	277	570	254	358	559
Satd. Flow (prot)	1770	1583	1863	1538	0	3472
Flt Permitted	0.950					0.545
Satd. Flow (perm)	1770	1583	1863	1538	0	1929
Satd. Flow (RTOR)		284		295		
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)		2		4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	283	376	774	345	486	760
Shared Lane Traffic (%)						
Lane Group Flow (vph)	283	376	774	345	0	1246
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	35.0	35.0	102.2	102.2	12.8	115.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	27.0	27.0	111.4	111.4		111.4
Actuated g/C Ratio	0.18	0.18	0.74	0.74		0.74
w/c Ratio	0.89	0.73	0.56	0.28		1.19dl
Control Delay	57.2	7.4	10.0	1.8		18.4
Queue Delay	0.0	0.0	0.4	0.0		0.0
Total Delay	57.2	7.4	10.5	1.8		18.4
LOS	E	A	B	A		B
Approach Delay	28.8		7.8			18.4
Approach LOS	C		A			B

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 65 (43%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.89
 Intersection Signal Delay: 16.7
 Intersection LOS: B
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 7: Orange Ave & Virginia Drive



Orlando 06/01/2016 PM Alden #1
 Shane

Synchro 9 Report
 Page 4

PM Alden #1

8: Alden Road & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↖	↖	↖↗	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	135	841	148	23	629	22	83	8	29	85	26	233
Future Volume (vph)	135	841	220	38	629	22	94	8	31	85	27	233
Satd. Flow (prot)	1770	3409	0	0	3508	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.262				0.705					0.750		
Satd. Flow (perm)	488	3409	0	0	2481	0	1863	1863	1563	1397	1863	1555
Satd. Flow (RTOR)		42			4				102			317
Confl. Peds. (#/hr)			2									2
Confl. Bikes (#/hr)						4			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	183	1143	299	52	855	30	128	11	42	115	37	317
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1442	0	0	937	0	128	11	42	115	37	317
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	17.0	100.0		11.0	94.0		16.0	28.0	94.0	11.0	23.0	100.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	112.6	112.6			99.6		17.1	6.5	99.6	23.8	8.4	112.6
Actuated g/C Ratio	0.75	0.75			0.66		0.11	0.04	0.66	0.16	0.06	0.75
w/c Ratio	0.43	0.56			0.57		0.63	0.14	0.04	0.42	0.36	0.25
Control Delay	4.0	2.0			9.8		73.7	72.2	0.1	59.9	76.8	1.2
Queue Delay	0.0	0.3			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	2.3			9.8		73.7	72.2	0.1	59.9	76.8	1.2
LOS	A	A			A		E	E	A	E	E	A
Approach Delay		2.5			9.8			56.5			21.5	
Approach LOS		A			A			E			C	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 52 (35%), Referenced to phase 2:WBL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.63	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



PM Alden #1

9: North Alden Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	146	131	0
Future Volume (vph)	13	29	7	146	216	3
Satd. Flow (prot)	1770	1583	0	1859	1859	0
Flt Permitted	0.950			0.998		
Satd. Flow (perm)	1770	1583	0	1859	1859	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	18	39	10	198	293	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	39	0	208	297	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.9%				ICU Level of Service A		
Analysis Period (min) 15						

PM Alden #1

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	64	429	33	25	392	6	22	76	80	24	31	32
Future Volume (vph)	66	449	33	74	436	10	27	77	158	71	91	39
Satd. Flow (prot)	0	1837	0	0	1844	0	0	1703	0	0	1783	0
Flt Permitted		0.994			0.993			0.995			0.983	
Satd. Flow (perm)	0	1837	0	0	1844	0	0	1703	0	0	1783	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			3			3			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	90	610	45	101	592	14	37	105	215	96	124	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	745	0	0	707	0	0	357	0	0	273	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 77.9%

ICU Level of Service D

Analysis Period (min) 15

PM Alden #1

15: Alden Road/Alden Rd & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	49	0	9	0	102	60	8	30	0
Future Volume (vph)	19	0	11	49	0	9	60	167	60	8	81	58
Satd. Flow (prot)	0	1717	0	0	1749	0	0	1792	0	0	1759	0
Flt Permitted		0.969			0.969			0.990			0.997	
Satd. Flow (perm)	0	1717	0	0	1749	0	0	1792	0	0	1759	0
Confl. Peds. (#/hr)				1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	26	0	15	67	0	12	82	227	82	11	110	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	79	0	0	391	0	0	200	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 23.2% ICU Level of Service A												
Analysis Period (min) 15												

PM Alden #1

16: N Orange Ave & Highlands Ave

12/17/2016

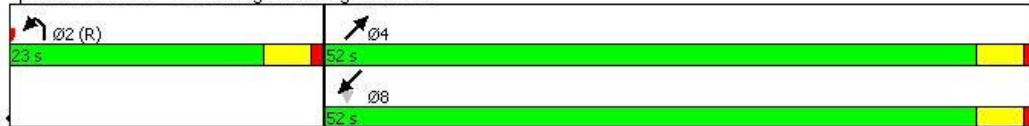


Lane Group	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations	↔		↔			↔
Traffic Volume (vph)	54	151	744	58	154	598
Future Volume (vph)	56	177	766	69	252	626
Satd. Flow (prot)	1651	0	3497	0	0	3490
Flt Permitted	0.988					0.526
Satd. Flow (perm)	1651	0	3497	0	0	1862
Satd. Flow (RTOR)	124		24			
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	76	240	1041	94	342	851
Shared Lane Traffic (%)						
Lane Group Flow (vph)	316	0	1135	0	0	1193
Turn Type	Prot		NA		Perm	NA
Protected Phases	2		4			8
Permitted Phases					8	
Total Split (s)	23.0		52.0		52.0	52.0
Total Lost Time (s)	4.5		4.5			4.5
Act Effect Green (s)	18.5		47.5			47.5
Actuated g/C Ratio	0.25		0.63			0.63
w/c Ratio	0.63		0.51			1.44dl
Control Delay	21.5		8.3			38.7
Queue Delay	0.0		0.0			0.0
Total Delay	21.5		8.3			38.7
LOS	C		A			D
Approach Delay	21.5		8.3			38.7
Approach LOS	C		A			D

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 36 (48%), Referenced to phase 2:NBL and 6:, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.01
 Intersection Signal Delay: 23.6
 Intersection LOS: C
 Intersection Capacity Utilization 80.9%
 ICU Level of Service D
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 16: N Orange Ave & Highlands Ave



PM Alden #1

22: N Mills Avenue & Nebraska St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	
Traffic Volume (vph)	48	42	49	18	31	236	92	1018	14	365	1361	109
Future Volume (vph)	48	42	49	18	31	236	92	1114	14	365	1390	109
Satd. Flow (prot)	1770	1691	0	0	1829	1683	1770	3531	0	1770	3495	0
Flt Permitted	0.714				0.608		0.950			0.950		
Satd. Flow (perm)	1330	1691	0	0	1133	1560	1770	3531	0	1770	3495	0
Satd. Flow (RTOR)		38				321		1			9	
Confl. Peds. (#/hr)			3			2			1			
Confl. Bikes (#/hr)			7						1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	65	57	67	24	42	321	125	1514	19	496	1889	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	124	0	0	66	321	125	1533	0	496	2037	0
Turn Type	pm+pt	NA		Perm	NA	custom	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		8						
Total Split (s)	9.5	44.0		34.5	34.5	44.0	15.5	64.0		42.0	90.5	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	21.6	19.6			11.6	19.6	18.2	58.6		54.7	95.1	
Actuated g/C Ratio	0.14	0.13			0.08	0.13	0.12	0.39		0.36	0.63	
w/c Ratio	0.31	0.49			0.76	0.67	0.58	1.11		0.77	0.92	
Control Delay	59.6	46.7			113.4	12.6	65.2	70.5		40.7	25.7	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.4		0.0	46.3	
Total Delay	59.6	46.7			113.4	12.6	65.2	70.9		40.7	71.9	
LOS	E	D			F	B	E	E		D	E	
Approach Delay		51.1			29.8			70.5			65.8	
Approach LOS		D			C			E			E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 144 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.11
 Intersection Signal Delay: 63.9
 Intersection LOS: E
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



PM Alden #1

25: N Mills Avenue & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (vph)	70	34	29	16	3	6	18	1261	18	15	1413	3
Future Volume (vph)	70	37	108	16	3	6	145	1292	18	15	1428	3
Satd. Flow (prot)	0	1689	0	0	1739	0	1770	3531	0	1770	3539	0
Flt Permitted		0.878			0.516		0.075			0.097		
Satd. Flow (perm)	0	1507	0	0	926	0	140	3531	0	181	3539	0
Satd. Flow (RTOR)		28			8			3				
Confl. Peds. (#/hr)			5			2			2			4
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	95	50	147	22	4	8	197	1755	24	20	1940	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	292	0	0	34	0	197	1779	0	20	1944	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	27.0	27.0		27.0	27.0		123.0	123.0		123.0	123.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		20.7			20.7		116.8	116.8		116.8	116.8	
Actuated g/C Ratio		0.14			0.14		0.78	0.78		0.78	0.78	
w/c Ratio		1.26			0.25		1.81	0.65		0.14	0.71	
Control Delay		191.7			52.3		410.7	6.9		1.4	3.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.6	
Total Delay		191.7			52.3		410.7	6.9		1.4	4.0	
LOS		F			D		F	A		A	A	
Approach Delay		191.7			52.3			47.1			4.0	
Approach LOS		F			D			D			A	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 2:NBSB and 6:, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.81
 Intersection Signal Delay: 37.2
 Intersection Capacity Utilization 69.8%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



PM Alden #1

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	74	106	20	22	32	17	7	30	5	9	36	18
Future Volume (vph)	81	143	20	22	159	17	7	30	5	54	36	22
Satd. Flow (prot)	0	1813	0	0	1829	0	0	1816	0	0	1771	0
Flt Permitted		0.984			0.994			0.991			0.977	
Satd. Flow (perm)	0	1813	0	0	1829	0	0	1816	0	0	1771	0
Confl. Peds. (#/hr)	3		3	3		3	15					15
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	110	194	27	30	216	23	10	41	7	73	49	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	0	0	269	0	0	58	0	0	152	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

PM Alden #1

28: Highland Ave/Highlands Ave & Driveway/Alden Road

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	0	0	9	44	0	20	0	137	96	14	11	0
Future Volume (vph)	14	58	11	75	106	20	19	151	148	17	64	53
Satd. Flow (prot)	0	1815	0	1770	1818	0	0	1740	0	0	1763	0
Flt Permitted		0.992		0.950				0.997			0.994	
Satd. Flow (perm)	0	1815	0	1770	1818	0	0	1740	0	0	1763	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	79	15	102	144	27	26	205	201	23	87	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	0	102	171	0	0	432	0	0	182	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 32.7%	ICU Level of Service A
Analysis Period (min) 15	

PM Alden #1

29: N Mills Avenue & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↗	↖	↗	↖
Traffic Volume (vph)	183	122	49	9	49	48	45	1004	8	38	1202	60
Future Volume (vph)	183	124	50	9	53	55	48	1155	8	40	1294	60
Satd. Flow (prot)	1770	1774	0	0	1715	0	1770	3534	0	1770	3511	0
Flt Permitted	0.555				0.967		0.061			0.103		
Satd. Flow (perm)	1034	1774	0	0	1665	0	114	3534	0	192	3511	0
Satd. Flow (RTOR)		13			29			1			7	
Confl. Peds. (#/hr)			3				8		7			1
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	249	168	68	12	72	75	65	1569	11	54	1758	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	236	0	0	159	0	65	1580	0	54	1840	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	44.0	44.0		44.0	44.0		106.0	106.0		106.0	106.0	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	36.3	36.3			36.3		101.0	101.0		101.0	101.0	
Actuated g/C Ratio	0.24	0.24			0.24		0.67	0.67		0.67	0.67	
w/c Ratio	1.00	0.54			0.37		0.86	0.66		0.42	0.78	
Control Delay	111.8	51.5			40.9		95.3	16.4		11.5	6.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	111.8	51.5			40.9		95.3	16.4		11.5	6.8	
LOS	F	D			D		F	B		B	A	
Approach Delay		82.5			40.9			19.5			7.0	
Approach LOS		F			D			B			A	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 32 (21%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.00
 Intersection Signal Delay: 21.9
 Intersection LOS: C
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



PM Alden #1

33: Highland Ave & City South Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	47	5	26	159	140	78
Satd. Flow (prot)	1770	1583	0	1850	1773	0
Flt Permitted	0.950			0.993		
Satd. Flow (perm)	1770	1583	0	1850	1773	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	64	7	35	216	190	106
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	7	0	251	296	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%				ICU Level of Service A		
Analysis Period (min) 15						

PM Alden #1

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	138	11	21	77	48	48	223	47	68	104	14
Future Volume (vph)	36	138	11	21	77	55	48	274	47	71	114	14
Satd. Flow (prot)	0	1827	0	0	1743	0	0	1815	0	0	1813	0
Flt Permitted		0.898			0.924			0.920			0.740	
Satd. Flow (perm)	0	1655	0	0	1621	0	0	1680	0	0	1364	0
Satd. Flow (RTOR)		7			63			18			9	
Confl. Peds. (#/hr)	6		1	1		6			1	1		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	49	188	15	29	105	75	65	372	64	96	155	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	252	0	0	209	0	0	501	0	0	270	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effct Green (s)		12.3			12.3			20.2			20.2	
Actuated g/C Ratio		0.28			0.28			0.45			0.45	
w/c Ratio		0.55			0.42			0.65			0.43	
Control Delay		18.0			12.0			15.5			11.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.0			12.0			15.5			11.6	
LOS		B			B			B			B	
Approach Delay		18.0			12.0			15.5			11.6	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 44.5	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.65	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



PM Alden #1

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	18	13	12	7	10	16	8	87	12	3	42	5
Future Volume (vph)	18	13	12	56	10	60	8	87	19	49	42	5
Satd. Flow (prot)	0	1758	0	0	1705	0	0	1813	0	0	1803	0
Flt Permitted		0.980			0.978			0.996			0.975	
Satd. Flow (perm)	0	1758	0	0	1705	0	0	1813	0	0	1803	0
Confl. Peds. (#/hr)			1	1					1	1		
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	18	16	76	14	82	11	118	26	67	57	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	172	0	0	155	0	0	131	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.4%						ICU Level of Service A						
Analysis Period (min) 15												

PM Alden #1

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	546	36	28	406	5	18	5	84	6	0	1
Future Volume (vph)	4	645	82	28	459	5	62	5	84	6	0	1
Satd. Flow (prot)	0	1835	0	0	1855	0	0	1689	0	0	1756	0
Flt Permitted					0.997			0.980			0.957	
Satd. Flow (perm)	0	1835	0	0	1855	0	0	1689	0	0	1756	0
Confl. Peds. (#/hr)			5			2			1			
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	876	111	38	624	7	84	7	114	8	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	992	0	0	669	0	0	205	0	0	9	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

PM Alden #1

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	35	576	4	13	424	14	0	1	51	7	0	17
Future Volume (vph)	35	675	4	76	477	14	0	1	107	7	0	17
Satd. Flow (prot)	0	1857	0	0	1844	0	0	1613	0	0	1662	0
Flt Permitted		0.998			0.993						0.985	
Satd. Flow (perm)	0	1857	0	0	1844	0	0	1613	0	0	1662	0
Confl. Peds. (#/hr)			4									2
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	48	917	5	103	648	19	0	1	145	10	0	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	970	0	0	770	0	0	146	0	0	33	0
Sign Control		Free			Free			Stop			Stop	

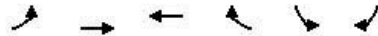
Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

PM Alden #1

48: Brookhaven Dr & East Mixed Use Driveway

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	53	28	11	63	56	93
Satd. Flow (prot)	0	1803	1649	0	1770	1583
Flt Permitted		0.968			0.950	
Satd. Flow (perm)	0	1803	1649	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	72	38	15	86	76	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	101	0	76	126
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%			ICU Level of Service A			
Analysis Period (min) 15						

PM Alden #1

50: Alden Road & Lake Highlands Drive

12/17/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	R	R	L
Traffic Volume (vph)	65	27	178	123	41	159
Future Volume (vph)	150	73	257	157	51	211
Satd. Flow (prot)	1722	0	1768	0	0	1844
Flt Permitted	0.967					0.990
Satd. Flow (perm)	1722	0	1768	0	0	1844
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	204	99	349	213	69	287
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	0	562	0	0	356
Sign Control	Stop		Stop			Stop

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 51.0%	ICU Level of Service A
Analysis Period (min) 15	
Description: Alden at Lake Highland	

PM Alden #2

1: N Mills Avenue & E Princeton St

12/17/2016

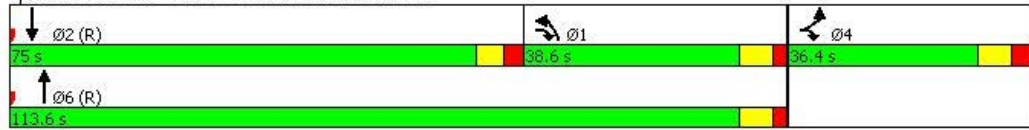


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↖↖	↖↖	↖↖	↖↖	↖↖
Traffic Volume (vph)	164	781	506	1135	1082	77
Future Volume (vph)	165	781	506	1252	1116	87
Satd. Flow (prot)	1770	2787	3433	3539	3494	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	3433	3539	3494	0
Satd. Flow (RTOR)		18			7	
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	224	1061	688	1701	1516	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	224	1061	688	1701	1634	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases						
Total Split (s)	36.4		38.6	113.6	75.0	
Total Lost Time (s)	8.6		7.1	7.1	7.0	
Act Effect Green (s)	26.7	65.3	31.5	107.6	69.1	
Actuated g/C Ratio	0.18	0.44	0.21	0.72	0.46	
w/c Ratio	0.71	0.87	0.96	0.67	1.01	
Control Delay	70.5	46.8	62.4	3.7	65.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.5	46.8	62.4	3.7	65.4	
LOS	E	D	E	A	E	
Approach Delay	50.9			20.6	65.4	
Approach LOS	D			C	E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 132 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.01
 Intersection Signal Delay: 41.7
 Intersection LOS: D
 Intersection Capacity Utilization 88.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: N Mills Avenue & E Princeton St



PM Alden #2

2: N Orange Ave & E Princeton St

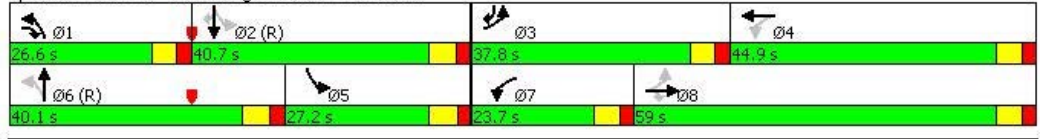
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖↖		↖	↖↖		↖	↖↖	↖
Traffic Volume (vph)	233	819	318	52	765	54	264	389	44	198	327	503
Future Volume (vph)	233	952	318	52	771	54	291	430	44	230	327	503
Satd. Flow (prot)	1770	3539	1583	1770	5028	0	1770	3483	0	1770	3539	1583
Flt Permitted	0.085			0.097			0.303			0.407		
Satd. Flow (perm)	158	3539	1583	181	5028	0	564	3483	0	758	3539	1546
Satd. Flow (RTOR)			275		7			7				65
Confl. Peds. (#/hr)						4			5			7
Confl. Bikes (#/hr)						2			2			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	317	1293	432	71	1048	73	395	584	60	313	444	683
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1293	432	71	1121	0	395	644	0	313	444	683
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6		5	2	3
Permitted Phases	8		8	4			6			2		2
Total Split (s)	37.8	59.0	26.6	23.7	44.9		26.6	40.1		27.2	40.7	37.8
Total Lost Time (s)	5.7	6.0	5.9	5.7	6.0		5.9	6.2		6.1	6.2	5.7
Act Effect Green (s)	77.0	62.2	88.9	50.5	41.4		34.2	33.9		34.6	34.5	64.6
Actuated g/C Ratio	0.51	0.41	0.59	0.34	0.28		0.23	0.23		0.23	0.23	0.43
w/c Ratio	0.79	0.88	0.41	0.46	0.81		1.34	0.81		0.99	0.55	0.96
Control Delay	54.8	48.9	6.8	34.1	35.5		209.2	58.2		107.0	53.8	60.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	54.8	48.9	6.8	34.1	35.5		209.2	58.2		107.0	53.8	60.1
LOS	D	D	A	C	D		F	E		F	D	E
Approach Delay		40.9			35.4			115.6			68.4	
Approach LOS		D			D			F			E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 45 (30%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.34
 Intersection Signal Delay: 60.3
 Intersection Capacity Utilization 102.4%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 2: N Orange Ave & E Princeton St



PM Alden #2

4: N Mills Avenue & Virginia Drive

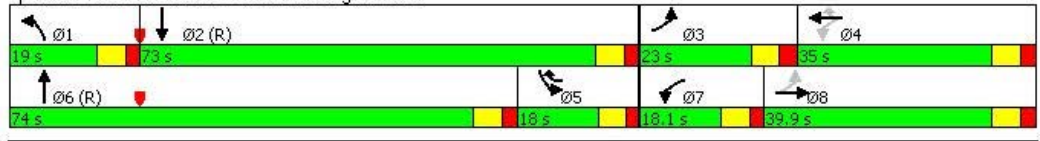
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖	↖	↖	↖↗		↖	↖↗	
Traffic Volume (vph)	113	329	116	133	227	100	91	987	159	104	1319	50
Future Volume (vph)	231	364	125	133	263	100	141	987	159	104	1319	85
Satd. Flow (prot)	1770	3379	0	1770	1863	1583	1770	3458	0	1770	3500	0
Flt Permitted	0.120			0.165			0.950			0.950		
Satd. Flow (perm)	224	3379	0	307	1863	1553	1770	3458	0	1770	3500	0
Satd. Flow (RTOR)		29				116		16			6	
Confl. Peds. (#/hr)			11			3			1			5
Confl. Bikes (#/hr)			2			3			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	314	496	170	181	357	136	192	1341	216	141	1792	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	314	665	0	181	357	136	192	1557	0	141	1907	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Total Split (s)	23.0	39.9		18.1	35.0	18.0	19.0	74.0		18.0	73.0	
Total Lost Time (s)	6.8	6.7		6.2	6.7	6.0	6.3	6.4		6.0	6.4	
Act Effect Green (s)	49.3	33.2		40.7	28.3	41.0	12.7	67.6		12.0	66.6	
Actuated g/C Ratio	0.33	0.22		0.27	0.19	0.27	0.08	0.45		0.08	0.44	
w/c Ratio	1.31	0.86		0.91	1.02	0.27	1.29	0.99		1.00	1.22	
Control Delay	198.5	66.1		83.0	111.3	7.4	211.4	54.4		115.9	134.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	21.6		0.0	0.2	
Total Delay	198.5	66.1		83.0	111.3	7.4	211.4	76.0		115.9	134.8	
LOS	F	E		F	F	A	F	E		F	F	
Approach Delay		108.6			82.7			90.9			133.5	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 144 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.31
 Intersection Signal Delay: 109.1 Intersection LOS: F
 Intersection Capacity Utilization 103.4% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: N Mills Avenue & Virginia Drive



PM Alden #2

7: Orange Ave & Virginia Drive

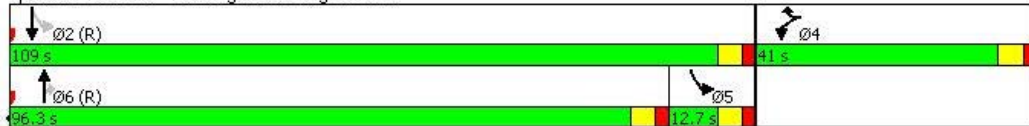
12/17/2016

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑	↗		↘↙
Traffic Volume (vph)	199	263	544	232	352	441
Future Volume (vph)	199	331	544	232	352	441
Satd. Flow (prot)	1770	1583	1863	1533	0	3461
Flt Permitted	0.950					0.543
Satd. Flow (perm)	1770	1583	1863	1533	0	1922
Satd. Flow (RTOR)		281		254		
Confl. Peds. (#/hr)				2		
Confl. Bikes (#/hr)		2		4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	270	450	739	315	478	599
Shared Lane Traffic (%)						
Lane Group Flow (vph)	270	450	739	315	0	1077
Turn Type	Prot	Prot	NA	Pem	pm+pt	NA
Protected Phases	4	4	6		5	2
Permitted Phases				6	2	
Total Split (s)	41.0	41.0	96.3	96.3	12.7	109.0
Total Lost Time (s)	5.9	5.9	5.7	5.7		5.7
Act Effect Green (s)	28.1	28.1	110.3	110.3		110.3
Actuated g/C Ratio	0.19	0.19	0.74	0.74		0.74
w/c Ratio	0.82	0.86	0.54	0.26		1.13dl
Control Delay	64.9	27.8	11.3	2.2		14.4
Queue Delay	0.0	0.0	0.7	0.0		0.0
Total Delay	64.9	27.8	11.9	2.2		14.4
LOS	E	C	B	A		B
Approach Delay	41.7		9.0			14.4
Approach LOS	D		A			B

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 78 (52%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.86
 Intersection Signal Delay: 19.3
 Intersection LOS: B
 Intersection Capacity Utilization 92.0%
 ICU Level of Service F
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 7: Orange Ave & Virginia Drive



Orlando 06/01/2016 PM Alden #2
 Shane

Synchro 9 Report
 Page 4

PM Alden #2

8: Alden Road & E Princeton St

12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗			↖↗		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	135	841	148	23	629	22	83	8	29	85	26	233
Future Volume (vph)	135	841	313	33	629	22	89	8	30	85	29	233
Satd. Flow (prot)	1770	3368	0	0	3512	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.273				0.732		0.784			0.453		
Satd. Flow (perm)	509	3368	0	0	2576	0	1460	1863	1563	844	1863	1555
Satd. Flow (RTOR)		71			5				109			317
Confl. Peds. (#/hr)			2									2
Confl. Bikes (#/hr)						4			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	183	1143	425	45	855	30	121	11	41	115	39	317
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1568	0	0	930	0	121	11	41	115	39	317
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6			2			4		2	8		6
Total Split (s)	13.0	102.0		11.0	100.0		14.0	26.0	100.0	11.0	23.0	102.0
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	5.0	6.0
Act Effect Green (s)	118.6	118.6			105.6		13.1	8.6	105.6	15.8	8.5	118.6
Actuated g/C Ratio	0.79	0.79			0.70		0.09	0.06	0.70	0.11	0.06	0.79
w/c Ratio	0.40	0.59			0.51		0.85	0.10	0.04	0.71	0.37	0.24
Control Delay	2.5	1.6			8.5		106.6	66.6	0.1	83.9	77.1	0.9
Queue Delay	0.0	0.2			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.5	1.8			8.5		106.6	66.6	0.1	83.9	77.1	0.9
LOS	A	A			A		F	E	A	F	E	A
Approach Delay		1.8			8.5			78.8			27.5	
Approach LOS		A			A			E			C	

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 75 (50%), Referenced to phase 2:WBL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.85	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Alden Road & E Princeton St



PM Alden #2

9: Alden Road & Alden North Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	0	0	0	146	131	0
Future Volume (vph)	7	12	22	146	293	16
Satd. Flow (prot)	1676	0	0	1850	1850	0
Flt Permitted	0.981			0.993		
Satd. Flow (perm)	1676	0	0	1850	1850	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	10	16	30	198	398	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	228	420	0
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.9%				ICU Level of Service A		
Analysis Period (min) 15						

PM Alden #2

14: Alden Rd & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	61	450	33	31	382	55	22	60	80	165	31	32
Future Volume (vph)	61	450	33	57	410	73	62	64	167	208	162	32
Satd. Flow (prot)	0	1837	0	0	1820	0	0	1702	0	0	1796	0
Flt Permitted		0.994			0.995			0.990			0.975	
Satd. Flow (perm)	0	1837	0	0	1820	0	0	1702	0	0	1796	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)			3			3			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	83	611	45	77	557	99	84	87	227	283	220	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	739	0	0	733	0	0	398	0	0	546	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 92.8%	ICU Level of Service F
Analysis Period (min) 15	

PM Alden #2

15: Alden Rd & South Alden Driveway/Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	0	0	13	0	5	0	97	40	8	20	0
Future Volume (vph)	19	0	12	13	0	5	57	209	40	8	118	59
Satd. Flow (prot)	0	1715	0	0	1729	0	0	1813	0	0	1779	0
Flt Permitted		0.970			0.965			0.991			0.998	
Satd. Flow (perm)	0	1715	0	0	1729	0	0	1813	0	0	1779	0
Confl. Peds. (#/hr)				1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	26	0	16	18	0	7	77	284	54	11	160	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	25	0	0	415	0	0	261	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 21.4%	ICU Level of Service A
Analysis Period (min) 15	

PM Alden #2

16: N Orange Ave & Lake Highland Drive

12/17/2016

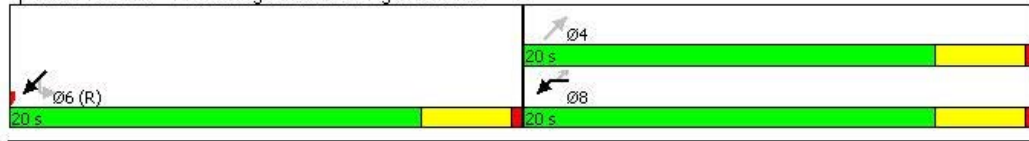


Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↖	↗	↕	↕	↙	↘
Traffic Volume (vph)	65	0	722	74	177	622
Future Volume (vph)	69	0	722	80	177	622
Satd. Flow (prot)	1770	1863	3478	0	1770	3539
Flt Permitted	0.950				0.245	
Satd. Flow (perm)	1770	1863	3478	0	456	3539
Satd. Flow (RTOR)			35			
Confl. Peds. (#/hr)		1		3	3	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	94	0	981	109	240	845
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	1090	0	240	845
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	§					6
Permitted Phases		§	4		6	
Total Split (s)	20.0	20.0	20.0		20.0	20.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Act Effct Green (s)	15.7		15.7		16.3	16.3
Actuated g/C Ratio	0.39		0.39		0.41	0.41
w/c Ratio	0.14		0.79		1.29	0.59
Control Delay	8.3		15.8		18.5	11.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	8.3		15.8		18.5	11.4
LOS	A		B		F	B
Approach Delay	8.3		15.8			50.6
Approach LOS	A		B			D

Intersection Summary

Cycle Length: 40
 Actuated Cycle Length: 40
 Offset: 0 (0%), Referenced to phase 6:SWTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.29
 Intersection Signal Delay: 32.1
 Intersection LOS: C
 Intersection Capacity Utilization 55.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 16: N Orange Ave & Lake Highland Drive



PM Alden #2

22: N Mills Avenue & Nebraska St

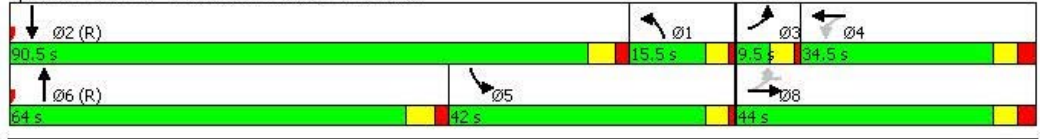
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	
Traffic Volume (vph)	48	42	49	18	31	236	92	1018	14	365	1361	109
Future Volume (vph)	48	42	49	19	31	236	92	1135	15	365	1395	109
Satd. Flow (prot)	1770	1691	0	0	1827	1583	1770	3531	0	1770	3495	0
Flt Permitted	0.516				0.821		0.950			0.950		
Satd. Flow (perm)	961	1691	0	0	1529	1560	1770	3531	0	1770	3495	0
Satd. Flow (RTOR)		38				321		1			9	
Confl. Peds. (#/hr)			3			2			1			
Confl. Bikes (#/hr)			7						1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	65	57	67	26	42	321	125	1542	20	496	1895	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	124	0	0	68	321	125	1562	0	496	2043	0
Turn Type	pm+pt	NA		Perm	NA	custom	Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4		8						
Total Split (s)	9.5	44.0		34.5	34.5	44.0	15.5	64.0		42.0	90.5	
Total Lost Time (s)	4.5	6.5			6.5	6.5	4.5	6.1		4.5	6.1	
Act Effect Green (s)	21.4	19.4			11.8	19.4	11.0	76.0		37.5	102.5	
Actuated g/C Ratio	0.14	0.13			0.08	0.13	0.07	0.51		0.25	0.68	
w/c Ratio	0.40	0.49			0.57	0.67	0.97	0.87		1.12	0.85	
Control Delay	62.4	47.0			84.1	12.8	96.6	14.8		115.0	15.9	
Queue Delay	0.0	0.0			0.0	0.0	0.0	5.9		0.0	46.9	
Total Delay	62.4	47.0			84.1	12.8	96.6	20.6		115.0	62.8	
LOS	E	D			F	B	F	C		F	E	
Approach Delay		52.3			25.2			26.3			73.0	
Approach LOS		D			C			C			E	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 144 (96%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.12
 Intersection Signal Delay: 51.9
 Intersection LOS: D
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: N Mills Avenue & Nebraska St



PM Alden #2

25: N Mills Avenue & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (vph)	70	40	29	16	3	22	115	1261	19	15	1413	25
Future Volume (vph)	70	44	125	16	3	23	161	1310	19	15	1422	25
Satd. Flow (prot)	0	1637	0	0	1677	0	1770	3531	0	1770	3526	0
Flt Permitted		0.893			0.608		0.069			0.090		
Satd. Flow (perm)	0	1528	0	0	1039	0	129	3531	0	168	3526	0
Satd. Flow (RTOR)		31			31			3			3	
Confl. Peds. (#/hr)			5			2			2			4
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	95	60	170	22	4	31	219	1780	26	20	1932	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	0	0	57	0	219	1806	0	20	1966	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Total Split (s)	29.0	29.0		29.0	29.0		121.0	121.0		121.0	121.0	
Total Lost Time (s)		6.3			6.3		6.2	6.2		6.2	6.2	
Act Effect Green (s)		22.7			22.7		114.8	114.8		114.8	114.8	
Actuated g/C Ratio		0.15			0.15		0.77	0.77		0.77	0.77	
w/c Ratio		1.26			0.31		2.23	0.67		0.16	0.73	
Control Delay		190.9			34.6		600.4	7.2		2.3	4.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	1.4	
Total Delay		190.9			34.6		600.4	7.2		2.3	6.2	
LOS		F			C		F	A		A	A	
Approach Delay		190.9			34.6			71.4			6.2	
Approach LOS		F			C			E			A	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 136 (91%), Referenced to phase 2:NBSB and 6.; Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 2.23
 Intersection Signal Delay: 50.3
 Intersection Capacity Utilization 87.4%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 25: N Mills Avenue & Lake Highland Dr



PM Alden #2

27: Ferris Ave & Lake Highland Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	74	85	20	2	31	17	7	30	5	9	36	18
Future Volume (vph)	82	130	20	2	77	17	7	30	5	64	36	23
Satd. Flow (prot)	0	1809	0	0	1816	0	0	1816	0	0	1771	0
Flt Permitted		0.983			0.999			0.991			0.975	
Satd. Flow (perm)	0	1809	0	0	1816	0	0	1816	0	0	1771	0
Confl. Peds. (#/hr)	3		3	3		3	15					15
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	111	177	27	3	105	23	10	41	7	87	49	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	315	0	0	131	0	0	58	0	0	167	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 34.5%	ICU Level of Service A
Analysis Period (min) 15	

PM Alden #2

28: Highland Ave & Driveway

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	0	0	0	0
Traffic Volume (vph)	1	1	0	0	0	0
Future Volume (vph)	90	4	0	79	109	0
Satd. Flow (prot)	1763	0	0	1863	1863	0
Flt Permitted	0.954					
Satd. Flow (perm)	1763	0	0	1863	1863	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	122	5	0	107	148	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	0	0	107	148	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%			ICU Level of Service A			
Analysis Period (min) 15						

PM Alden #2

29: N Mills Avenue & E Marks St

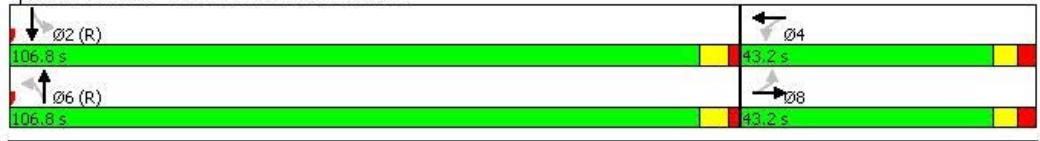
12/17/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	↖
Traffic Volume (vph)	183	122	49	9	49	48	45	1004	8	38	1202	60
Future Volume (vph)	183	125	50	9	53	53	48	1094	8	41	1304	60
Satd. Flow (prot)	1770	1774	0	0	1719	0	1770	3534	0	1770	3511	0
Flt Permitted	0.563				0.966		0.058			0.118		
Satd. Flow (perm)	1049	1774	0	0	1668	0	108	3534	0	220	3511	0
Satd. Flow (RTOR)		13			27			1			7	
Confl. Peds. (#/hr)			3				8		7			1
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	249	170	68	12	72	72	65	1486	11	56	1772	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	238	0	0	156	0	65	1497	0	56	1854	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	43.2	43.2		43.2	43.2		106.8	106.8		106.8	106.8	
Total Lost Time (s)	6.5	6.5			6.5		6.2	6.2		6.2	6.2	
Act Effect Green (s)	36.7	36.7			36.7		100.6	100.6		100.6	100.6	
Actuated g/C Ratio	0.24	0.24			0.24		0.67	0.67		0.67	0.67	
w/c Ratio	0.97	0.54			0.36		0.90	0.63		0.38	0.79	
Control Delay	105.1	51.6			41.4		109.1	15.6		7.9	5.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	105.1	51.6			41.4		109.1	15.6		7.9	5.3	
LOS	F	D			D		F	B		A	A	
Approach Delay		79.0			41.4			19.5			5.4	
Approach LOS		E			D			B			A	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 24 (16%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.97
 Intersection Signal Delay: 20.8
 Intersection LOS: C
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 29: N Mills Avenue & E Marks St



PM Alden #2

33: Highland Ave & South City Site

12/17/2016



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	
Traffic Volume (vph)	0	0	0	121	132	0
Future Volume (vph)	57	7	25	143	142	102
Satd. Flow (prot)	1756	0	0	1850	1757	0
Flt Permitted	0.958			0.993		
Satd. Flow (perm)	1756	0	0	1850	1757	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	77	10	34	194	193	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	0	0	228	332	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 12.0%			ICU Level of Service A			
Analysis Period (min) 15						

PM Alden #2

34: Highland Ave & E Marks St

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	138	11	21	77	48	48	223	47	68	104	14
Future Volume (vph)	34	138	11	21	77	55	48	259	47	72	116	15
Satd. Flow (prot)	0	1829	0	0	1743	0	0	1811	0	0	1813	0
Flt Permitted		0.902			0.924			0.916			0.746	
Satd. Flow (perm)	0	1663	0	0	1621	0	0	1671	0	0	1375	0
Satd. Flow (RTOR)		7			63			18			9	
Confl. Peds. (#/hr)	6		1	1		6			1	1		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	188	15	29	105	75	65	352	64	98	158	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	0	0	209	0	0	481	0	0	276	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		§			4			6			2	
Permitted Phases	§			4			6			2		
Total Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Act Effect Green (s)		12.2			12.2			20.2			20.2	
Actuated g/C Ratio		0.27			0.27			0.45			0.45	
w/c Ratio		0.54			0.43			0.63			0.44	
Control Delay		17.9			12.0			14.5			11.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			12.0			14.5			11.5	
LOS		B			B			B			B	
Approach Delay		17.9			12.0			14.5			11.5	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 44.5	
Control Type: Semi Act-Uncoord	
Maximum w/c Ratio: 0.63	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 34: Highland Ave & E Marks St



PM Alden #2

37: Ferris Ave & Brookhaven Dr

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	18	13	12	7	10	16	8	88	12	3	42	5
Future Volume (vph)	18	13	12	67	10	44	8	88	20	35	42	5
Satd. Flow (prot)	0	1758	0	0	1724	0	0	1814	0	0	1809	0
Flt Permitted		0.980			0.973			0.997			0.979	
Satd. Flow (perm)	0	1758	0	0	1724	0	0	1814	0	0	1809	0
Confl. Peds. (#/hr)			1	1					1	1		
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	18	16	91	14	60	11	120	27	48	57	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	165	0	0	158	0	0	112	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 22.5%						ICU Level of Service A						
Analysis Period (min) 15												

PM Alden #2

38: Ferris Ave & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	546	36	46	457	5	24	6	84	6	0	4
Future Volume (vph)	4	644	68	46	501	5	52	6	84	6	0	4
Satd. Flow (prot)	0	1839	0	0	1853	0	0	1683	0	0	1713	0
Flt Permitted					0.996			0.982			0.970	
Satd. Flow (perm)	0	1839	0	0	1853	0	0	1683	0	0	1713	0
Confl. Peds. (#/hr)			5			2			1			
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	875	92	63	681	7	71	8	114	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	972	0	0	751	0	0	193	0	0	13	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

PM Alden #2

41: Brookhaven Dr & Virginia Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	30	670	4	18	444	96	0	1	52	127	0	62
Future Volume (vph)	30	768	4	95	488	96	0	1	116	127	0	62
Satd. Flow (prot)	0	1857	0	0	1815	0	0	1613	0	0	1722	0
Flt Permitted		0.998			0.993						0.967	
Satd. Flow (perm)	0	1857	0	0	1815	0	0	1613	0	0	1722	0
Confl. Peds. (#/hr)			4									2
Confl. Bikes (#/hr)			5									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	1043	5	129	663	130	0	1	158	173	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1089	0	0	922	0	0	159	0	0	267	0
Sign Control		Free			Free			Stop			Stop	

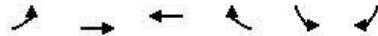
Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 87.2%	ICU Level of Service E
Analysis Period (min) 15	

PM Alden #2

48: Brookhaven Dr & Vir. Dr. East Mixed Use Drive

12/17/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Volume (vph)	0	28	11	0	0	0
Future Volume (vph)	40	28	11	77	64	88
Satd. Flow (prot)	0	1809	1643	0	1770	1583
Flt Permitted		0.971			0.950	
Satd. Flow (perm)	0	1809	1643	0	1770	1583
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	54	38	15	105	87	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	92	120	0	87	120
Sign Control		Stop	Stop		Stop	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 6.7%				ICU Level of Service A		
Analysis Period (min) 15						

PM Alden #2

50: Lake Highland Drive

12/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	21	122	127	40	16	23	12	137	57	57	33	13
Future Volume (vph)	22	122	132	45	16	69	16	259	99	68	132	13
Satd. Flow (prot)	0	1737	0	0	1699	0	0	1792	0	0	1818	0
Flt Permitted		0.996			0.983			0.998			0.984	
Satd. Flow (perm)	0	1737	0	0	1699	0	0	1792	0	0	1818	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	30	166	179	61	22	94	22	352	135	92	179	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	0	177	0	0	509	0	0	289	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												
Intersection Capacity Utilization 52.3%												
ICU Level of Service A												
Analysis Period (min) 15												