

# Pine Ridge Road Corridor Congestion Study

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## TECHNICAL REPORT - APPENDICES

MARCH 27, 2018



*Collier County Capital Projects, Planning, Impact Fees & Program Management*

STANTEC CONSULTING SERVICES INCORPORATED

## **Appendix A**

Peak-Season Factors and Turning Movement Counts

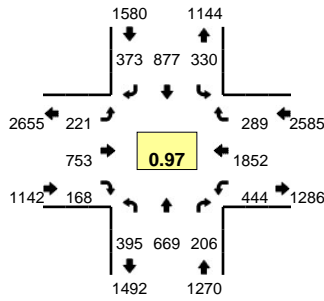
2015 Peak Season Factor Category Report - Report Type: ALL  
 Category: 0300 COLLIER COUNTYWIDE

Week	Dates	SF	MOCF: 0.90 PSCF
1	01/01/2015 - 01/03/2015	0.96	1.07
2	01/04/2015 - 01/10/2015	0.94	1.04
* 3	01/11/2015 - 01/17/2015	0.93	1.03
* 4	01/18/2015 - 01/24/2015	0.92	1.02
* 5	01/25/2015 - 01/31/2015	0.91	1.01
* 6	02/01/2015 - 02/07/2015	0.89	0.99
* 7	02/08/2015 - 02/14/2015	0.88	0.98
* 8	02/15/2015 - 02/21/2015	0.88	0.98
* 9	02/22/2015 - 02/28/2015	0.88	0.98
*10	03/01/2015 - 03/07/2015	0.88	0.98
<b>*11</b>	<b>03/08/2015 - 03/14/2015</b>	<b>0.88</b>	<b>0.98</b>
*12	03/15/2015 - 03/21/2015	0.89	0.99
*13	03/22/2015 - 03/28/2015	0.90	1.00
*14	03/29/2015 - 04/04/2015	0.91	1.01
*15	04/05/2015 - 04/11/2015	0.92	1.02
16	04/12/2015 - 04/18/2015	0.94	1.04
17	04/19/2015 - 04/25/2015	0.96	1.07
18	04/26/2015 - 05/02/2015	0.98	1.09
19	05/03/2015 - 05/09/2015	1.00	1.11
20	05/10/2015 - 05/16/2015	1.02	1.13
21	05/17/2015 - 05/23/2015	1.05	1.17
22	05/24/2015 - 05/30/2015	1.08	1.20
23	05/31/2015 - 06/06/2015	1.11	1.23
24	06/07/2015 - 06/13/2015	1.14	1.27
25	06/14/2015 - 06/20/2015	1.15	1.28
26	06/21/2015 - 06/27/2015	1.16	1.29
27	06/28/2015 - 07/04/2015	1.16	1.29
28	07/05/2015 - 07/11/2015	1.17	1.30
29	07/12/2015 - 07/18/2015	1.16	1.29
30	07/19/2015 - 07/25/2015	1.15	1.28
31	07/26/2015 - 08/01/2015	1.13	1.26
32	08/02/2015 - 08/08/2015	1.12	1.24
33	08/09/2015 - 08/15/2015	1.11	1.23
34	08/16/2015 - 08/22/2015	1.11	1.23
35	08/23/2015 - 08/29/2015	1.12	1.24
36	08/30/2015 - 09/05/2015	1.12	1.24
37	09/06/2015 - 09/12/2015	1.13	1.26
38	09/13/2015 - 09/19/2015	1.11	1.23
39	09/20/2015 - 09/26/2015	1.10	1.22
40	09/27/2015 - 10/03/2015	1.08	1.20
41	10/04/2015 - 10/10/2015	1.07	1.19
42	10/11/2015 - 10/17/2015	1.06	1.18
43	10/18/2015 - 10/24/2015	1.04	1.16
44	10/25/2015 - 10/31/2015	1.02	1.13
45	11/01/2015 - 11/07/2015	1.00	1.11
46	11/08/2015 - 11/14/2015	0.99	1.10
47	11/15/2015 - 11/21/2015	0.98	1.09
48	11/22/2015 - 11/28/2015	0.97	1.08
49	11/29/2015 - 12/05/2015	0.96	1.07
50	12/06/2015 - 12/12/2015	0.96	1.07
51	12/13/2015 - 12/19/2015	0.95	1.06
52	12/20/2015 - 12/26/2015	0.94	1.04
53	12/27/2015 - 12/31/2015	0.93	1.03

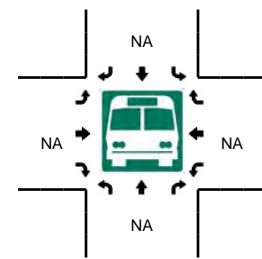
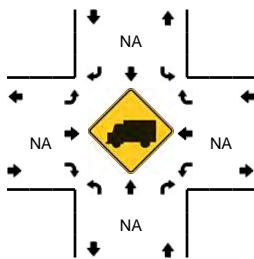
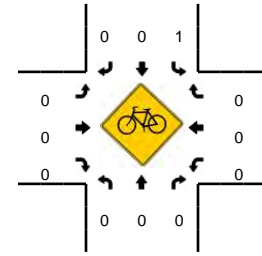
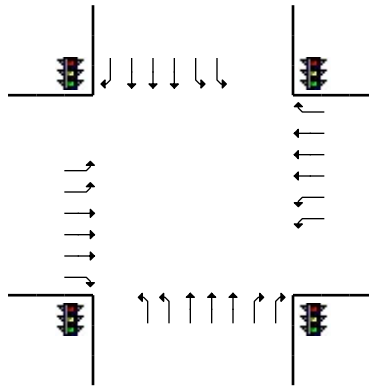
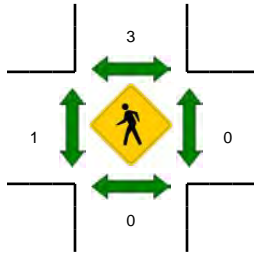
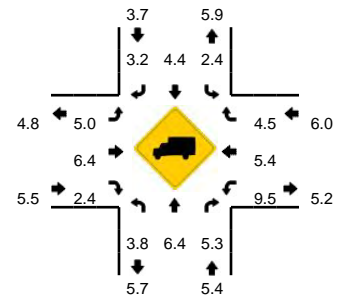
\* Peak Season

**LOCATION:** Livingston Rd -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739803  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:30 AM -- 8:30 AM**  
**Peak 15-Min: 7:45 AM -- 8:00 AM**



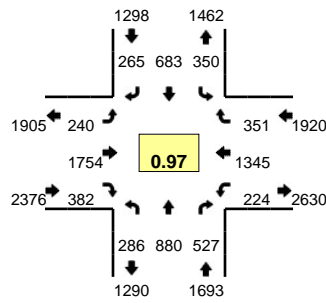
R\* = RTOR

15-Min Count Period Beginning At	Livingston Rd (Northbound)					Livingston Rd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	53	42	15	0	17	42	121	8	0	22	21	144	15	4	14	86	409	32	0	37	1082	
7:15 AM	47	121	26	0	26	53	214	26	0	25	26	126	20	6	10	149	455	40	0	44	1414	
7:30 AM	83	190	23	1	28	70	236	42	0	33	43	171	20	12	12	115	425	47	0	37	1588	
7:45 AM	102	157	23	0	35	71	225	62	1	43	49	158	20	9	18	111	528	39	0	38	1689	5773
8:00 AM	95	163	27	1	18	94	226	74	2	47	48	173	25	9	23	113	432	34	0	37	1641	6332
8:15 AM	112	159	31	1	21	92	190	34	0	38	43	251	29	8	21	105	467	25	0	32	1659	6577
8:30 AM	81	151	48	0	29	53	217	47	0	36	47	184	25	14	13	113	464	33	0	30	1585	6574
8:45 AM	97	156	45	1	20	85	178	45	1	49	48	182	32	5	10	94	425	30	0	40	1543	6428
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	408	628	92	0	140	284	900	248	4	172	196	632	80	36	72	444	2112	156	0	152	6756	
Heavy Trucks	4	40	12			0	28	8			8	56	12			36	88	12			304	
Pedestrians		0					0					0					0				0	
Bicycles		0	0				0	0	0			0	0	0			0	0	0		0	
Railroad																						
Stopped Buses																						

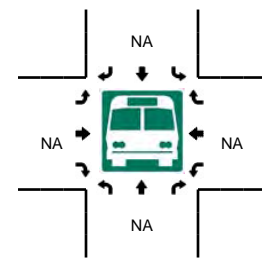
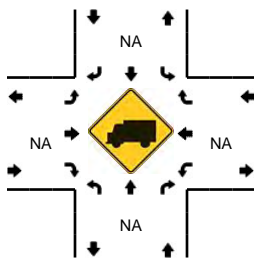
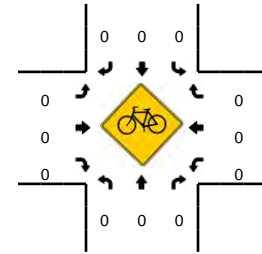
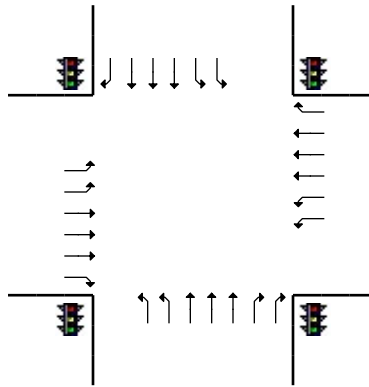
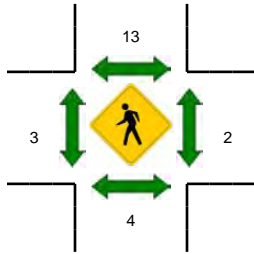
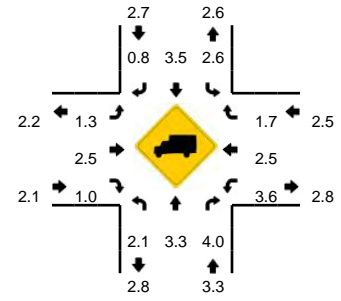
Comments:

**LOCATION:** Livingston Rd -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739804  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:45 PM -- 5:45 PM**  
**Peak 15-Min: 5:15 PM -- 5:30 PM**



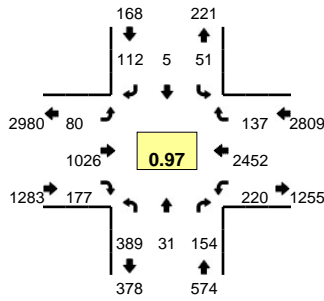
R\* = RTOR

15-Min Count Period Beginning At	Livingston Rd (Northbound)					Livingston Rd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	60	171	95	0	17	92	152	14	0	43	66	442	38	2	63	61	332	52	0	15	1715	
4:15 PM	79	216	80	0	24	105	163	38	0	36	57	402	41	5	54	64	326	43	0	33	1766	
4:30 PM	74	153	84	1	22	93	160	14	0	49	67	521	46	5	36	45	305	48	0	27	1750	
4:45 PM	69	226	102	1	15	73	177	33	0	31	37	409	43	3	46	60	383	66	0	30	1804	7035
5:00 PM	59	237	107	0	26	94	153	24	0	46	63	472	62	2	42	59	280	57	0	34	1817	7137
5:15 PM	67	205	122	0	20	86	145	16	0	50	64	493	55	2	44	60	372	40	0	40	1881	7252
5:30 PM	90	212	110	0	25	96	208	43	1	22	66	380	39	3	51	45	310	43	0	41	1785	7287
5:45 PM	76	138	62	1	18	98	135	23	0	37	68	502	59	2	45	55	303	47	0	29	1698	7181
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	268	820	488	0	80	344	580	64	0	200	256	1972	220	8	176	240	1488	160	0	160	7524	
Heavy Trucks	0	12	16			12	32	0			8	48	0			4	52	4			188	
Pedestrians		8					8					4					0				20	
Bicycles		0	0				0	0				0	0				0	0			0	
Railroad																					0	
Stopped Buses																					0	

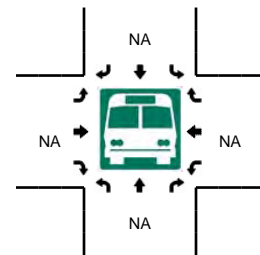
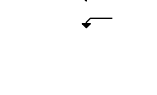
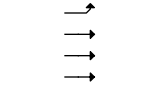
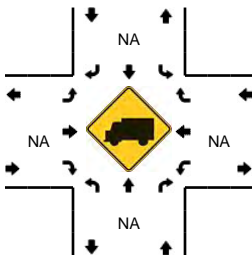
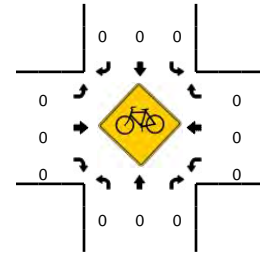
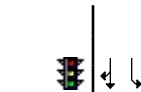
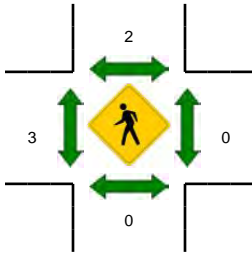
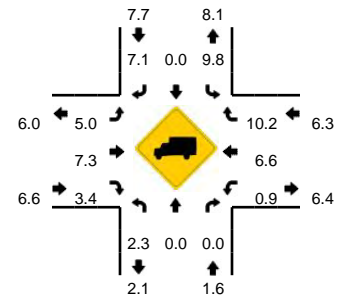
Comments:

**LOCATION:** Whippoorwill Ln -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739805  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:45 AM -- 8:45 AM**  
**Peak 15-Min: 8:30 AM -- 8:45 AM**



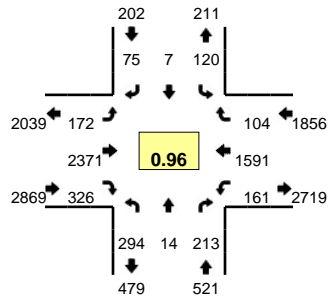
R\* = RTOR

15-Min Count Period Beginning At	Whippoorwill Ln (Northbound)					Whippoorwill Ln (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	70	1	10	0	22	13	0	14	0	13	8	188	20	3	14	30	488	31	4	6	935	
7:15 AM	66	2	13	0	26	15	0	7	0	11	7	224	21	6	7	32	731	37	6	5	1216	
7:30 AM	81	25	25	0	25	9	2	13	0	28	6	239	14	6	2	22	611	24	6	10	1148	
7:45 AM	111	21	21	0	19	10	1	18	0	22	16	223	18	6	6	43	607	22	4	8	1176	4475
8:00 AM	87	6	12	0	33	12	2	19	0	10	6	252	28	10	16	50	622	26	8	8	1207	4747
8:15 AM	101	4	4	0	31	10	0	14	0	12	17	261	37	8	14	53	585	32	10	8	1201	4732
8:30 AM	90	0	2	0	32	19	2	9	0	8	14	290	40	3	18	50	638	30	2	3	1250	4834
8:45 AM	64	6	14	0	25	13	3	16	0	17	17	271	32	14	17	27	567	23	5	8	1139	4797
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	360	0	8	0	128	76	8	36	0	32	56	1160	160	12	72	200	2552	120	8	12	5000	
Heavy Trucks	8	0	0			4	0	0			4	108	12			4	160	20			320	
Pedestrians	0					0					4					0					4	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																						
Stopped Buses																						

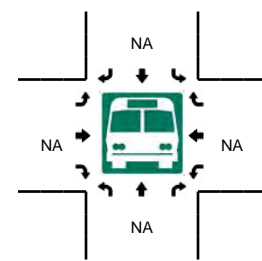
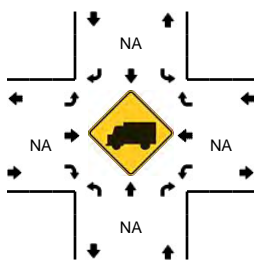
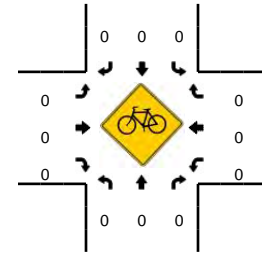
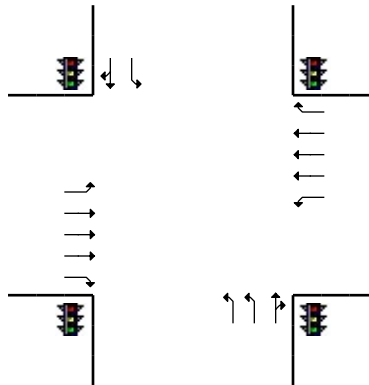
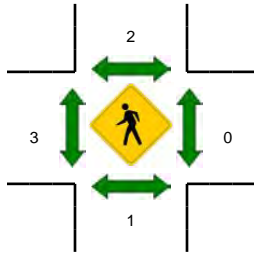
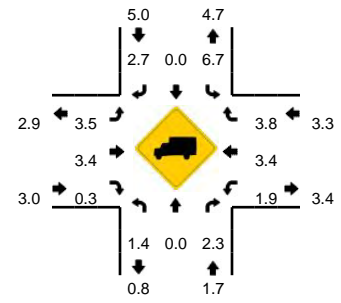
Comments:

**LOCATION:** Whippoorwill Ln -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739806  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 5:00 PM -- 5:15 PM**



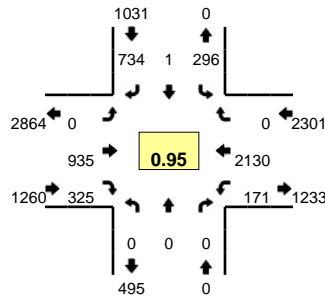
R\* = RTOR

15-Min Count Period Beginning At	Whippoorwill Ln (Northbound)					Whippoorwill Ln (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	61	1	10	0	19	26	1	5	0	13	24	496	47	14	40	31	376	17	2	11	1194	
4:15 PM	58	2	18	0	19	32	2	10	0	17	24	557	42	16	43	33	378	15	3	7	1276	
4:30 PM	65	2	21	0	17	23	2	6	0	15	18	638	52	20	33	33	402	26	3	6	1382	
4:45 PM	83	5	22	0	18	33	0	2	0	18	24	510	43	25	30	32	390	13	8	4	1260	5112
5:00 PM	83	4	45	0	25	33	1	5	0	13	24	625	56	15	40	30	386	25	3	7	1420	5338
5:15 PM	63	3	45	0	20	31	4	11	0	5	27	598	59	19	13	51	413	17	1	6	1386	5448
5:30 PM	64	1	29	0	19	24	1	2	0	21	27	566	51	19	43	39	336	19	4	6	1271	5337
5:45 PM	49	2	22	0	15	23	2	10	0	14	41	602	45	19	38	31	389	10	4	7	1323	5400
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	332	16	180	0	100	132	4	20	0	52	96	2500	224	60	160	120	1544	100	12	28	5680	
Heavy Trucks	0	0	4			16	0	4			4	80	0			4	20	8			140	
Pedestrians	0	0	0			0	0	0			0	0	0			0	0	0			4	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																					0	
Stopped Buses																					0	

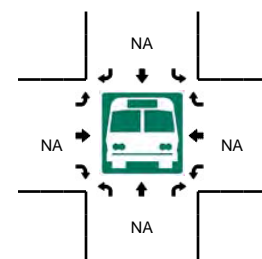
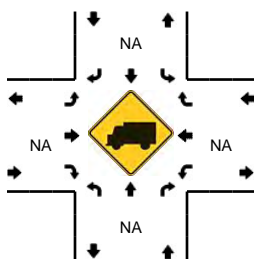
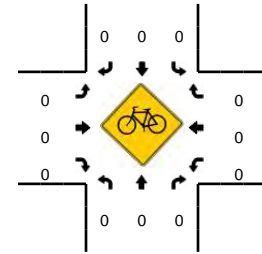
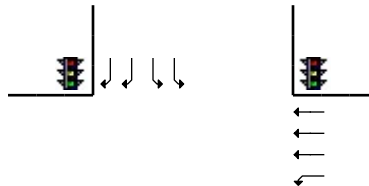
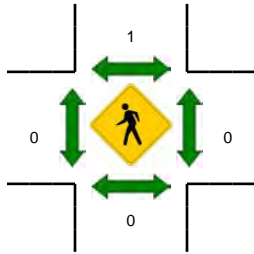
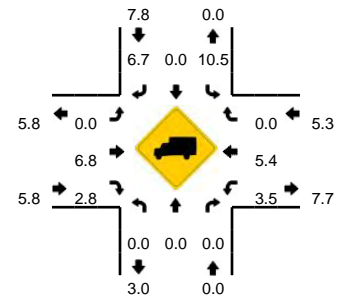
Comments:

**LOCATION:** I-75 SB Ramps -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739807  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:30 AM -- 8:30 AM**  
**Peak 15-Min: 7:30 AM -- 7:45 AM**



R\* = RTOR

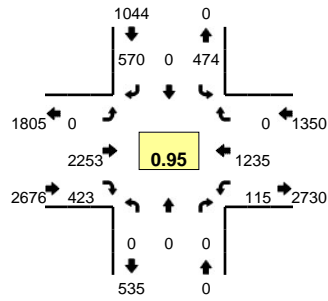
15-Min Count Period Beginning At	I-75 SB Ramps (Northbound)					I-75 SB Ramps (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	0	0	0	0	0	68	0	123	0	40	0	185	65	0	0	27	403	0	0	0	911	
7:15 AM	0	0	0	0	0	73	0	135	0	45	0	181	77	0	0	38	609	0	0	0	1158	
7:30 AM	0	0	0	0	0	80	0	164	0	31	0	231	82	0	0	43	583	0	0	0	1214	
7:45 AM	0	0	0	0	0	77	1	114	0	10	0	212	71	0	0	36	527	0	0	0	1048	4331
8:00 AM	0	0	0	0	0	56	0	145	0	31	0	236	82	0	0	45	539	0	1	0	1135	4555
8:15 AM	0	0	0	0	0	83	0	195	0	44	0	256	90	0	0	45	481	0	1	0	1195	4592
8:30 AM	0	0	0	0	0	80	0	185	0	43	0	242	73	0	0	47	420	0	2	0	1092	4470
8:45 AM	0	0	0	0	0	75	0	94	0	68	0	284	59	0	0	37	442	0	0	0	1059	4481
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	0	0	0	0	0	320	0	656	0	124	0	924	328	0	0	172	2332	0	0	0	4856	
Heavy Trucks	0	0	0	0	0	16	0	48	0	0	0	76	8	0	0	8	124	0	0	0	280	
Pedestrians	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

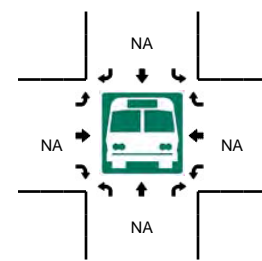
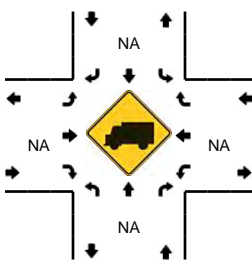
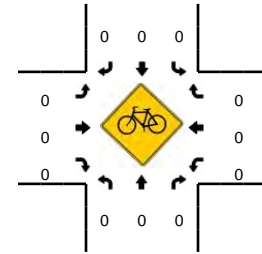
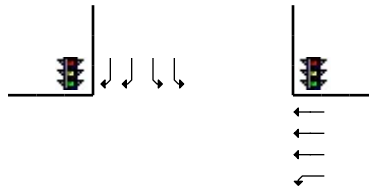
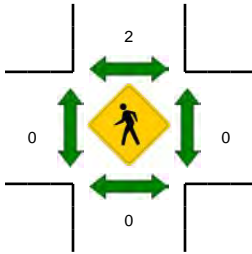
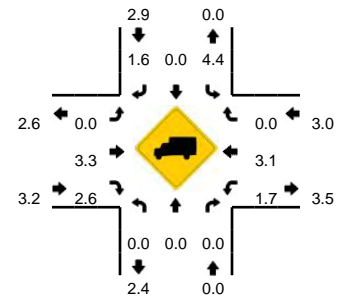


**LOCATION:** I-75 SB Ramps -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739808  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 5:15 PM -- 5:30 PM**



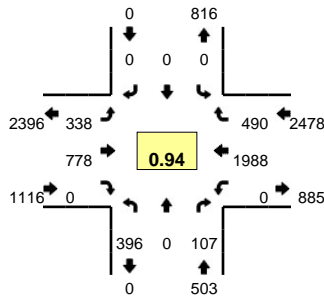
R\* = RTOR

15-Min Count Period Beginning At	I-75 SB Ramps (Northbound)					I-75 SB Ramps (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	0	0	0	0	94	0	103	0	51	0	502	93	0	0	20	290	0	0	0	1153	
4:15 PM	0	0	0	0	0	100	0	60	0	82	0	538	113	0	0	23	296	0	0	0	1212	
4:30 PM	0	0	0	0	0	113	0	83	0	71	0	552	102	0	0	23	304	0	1	0	1249	4831
4:45 PM	0	0	0	0	0	93	0	69	0	66	0	526	110	0	0	20	333	0	0	0	1217	
5:00 PM	0	0	0	0	0	124	0	71	0	64	0	594	112	0	0	33	272	0	0	0	1270	4948
5:15 PM	0	0	0	0	0	144	0	72	0	74	0	581	99	0	0	36	326	0	2	0	1334	5070
5:30 PM	0	0	0	0	0	101	0	50	0	64	0	610	88	0	0	25	310	0	1	0	1249	5070
5:45 PM	0	0	0	0	0	106	0	56	0	66	0	535	77	0	0	19	284	0	1	0	1144	4997
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	0	0	0	0	0	576	0	288	0	296	0	2324	396	0	0	144	1304	0	8	0	5336	
Heavy Trucks	0	0	0	0	0	40	0	8	0	0	0	92	16	0	0	4	28	0	0	0	188	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

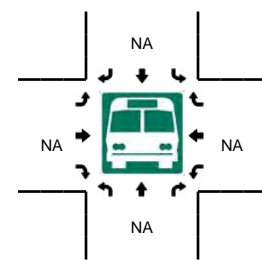
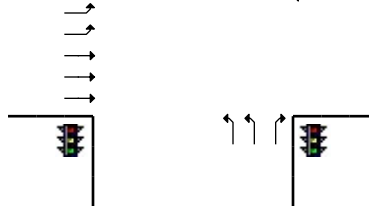
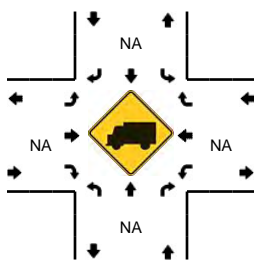
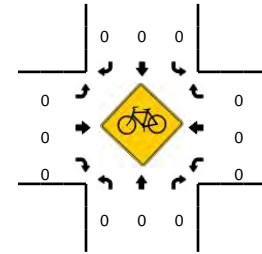
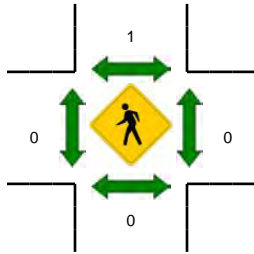
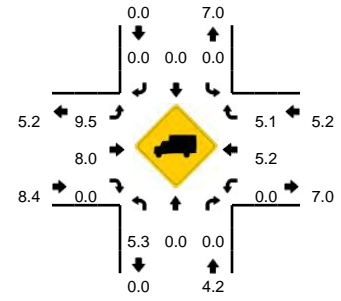
Comments:

**LOCATION:** I-75 NB Ramps -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739809  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:15 AM -- 8:15 AM**  
**Peak 15-Min: 7:30 AM -- 7:45 AM**



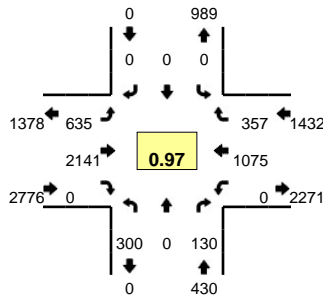
R\* = RTOR

15-Min Count Period Beginning At	I-75 NB Ramps (Northbound)					I-75 NB Ramps (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	68	0	5	0	7	0	0	0	0	0	78	177	0	0	0	0	385	75	0	0	795	
7:15 AM	103	0	3	0	17	0	0	0	0	0	69	179	0	0	0	0	532	115	0	0	1018	
7:30 AM	102	0	9	0	17	0	0	0	0	0	96	210	0	4	0	0	518	138	0	0	1094	
7:45 AM	117	0	6	0	29	0	0	0	0	0	85	200	0	4	0	0	470	120	0	0	1031	3938
8:00 AM	74	0	8	0	18	0	0	0	0	0	76	189	0	4	0	0	468	117	0	0	954	4097
8:15 AM	81	0	6	0	17	0	0	0	0	0	101	241	0	1	0	1	450	106	0	0	1004	4083
8:30 AM	83	0	5	0	15	0	0	0	0	0	99	222	0	1	0	0	375	102	0	0	902	3891
8:45 AM	62	0	10	0	24	0	0	0	0	0	86	254	0	2	0	0	388	97	0	0	923	3783
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	408	0	36	0	68	0	0	0	0	0	384	840	0	16	0	0	2072	552	0	0	4376	
Heavy Trucks	32	0	0			0	0	0			48	76	0			0	80	32			268	
Pedestrians							4					0					0				4	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																						
Stopped Buses																						

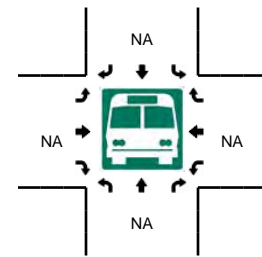
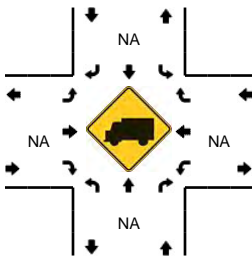
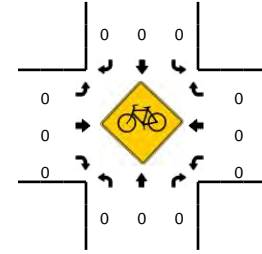
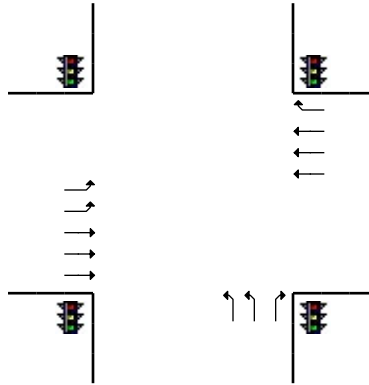
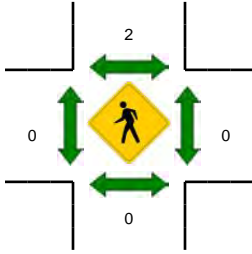
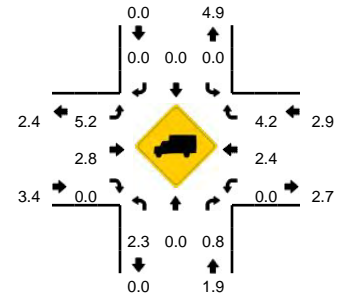
Comments:

**LOCATION:** I-75 NB Ramps -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739810  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:45 PM -- 5:45 PM**  
**Peak 15-Min: 5:15 PM -- 5:30 PM**



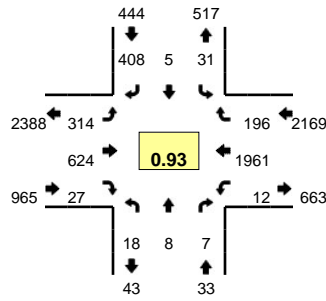
R\* = RTOR

15-Min Count Period Beginning At	I-75 NB Ramps (Northbound)					I-75 NB Ramps (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	49	0	12	0	25	0	0	0	0	0	128	457	0	0	0	0	260	64	0	0	995	
4:15 PM	82	0	7	0	21	0	0	0	0	0	159	465	0	1	0	0	232	76	0	0	1043	
4:30 PM	70	0	11	0	24	0	0	0	0	0	164	499	0	1	0	0	262	81	0	0	1112	
4:45 PM	67	0	12	0	23	0	0	0	0	0	140	479	0	3	0	0	287	97	0	0	1108	4258
5:00 PM	73	0	9	0	22	0	0	0	0	0	196	518	0	0	0	0	248	105	0	0	1171	4434
5:15 PM	83	0	12	0	18	0	0	0	0	0	140	580	0	0	0	0	284	78	0	0	1195	4586
5:30 PM	77	0	10	0	24	0	0	0	0	0	156	564	0	0	0	0	256	77	0	0	1164	4638
5:45 PM	57	0	3	0	23	0	0	0	0	0	138	491	0	1	0	0	241	80	0	0	1034	4564
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	332	0	48	0	72	0	0	0	0	0	560	2320	0	0	0	0	1136	312	0	0	4780	
Heavy Trucks	8	0	0			0	0	0			60	88	0			0	36	12			204	
Pedestrians	0					0					0					0					0	
Bicycles	0					0					0					0					0	
Railroad																						
Stopped Buses																						

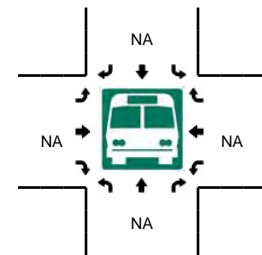
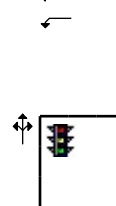
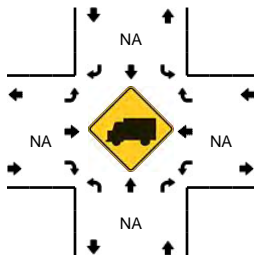
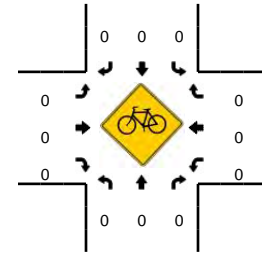
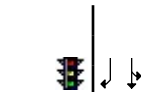
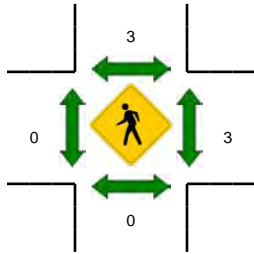
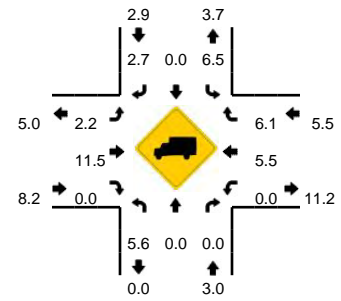
Comments:

**LOCATION:** Napa Blvd -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739811  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:30 AM -- 8:30 AM**  
**Peak 15-Min: 7:30 AM -- 7:45 AM**



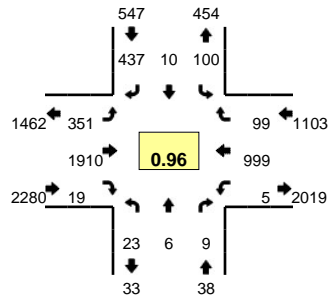
R\* = RTOR

15-Min Count Period Beginning At	Napa Blvd (Northbound)					Napa Blvd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	3	1	0	0	0	6	2	37	1	33	42	149	0	0	0	2	451	37	0	11	775	
7:15 AM	3	1	1	0	0	11	1	51	0	48	50	132	6	0	0	1	517	42	0	11	875	
7:30 AM	5	0	0	0	2	7	0	36	0	53	72	159	7	0	0	1	573	43	1	7	966	
7:45 AM	1	3	0	0	1	10	2	45	0	62	89	129	6	0	0	5	467	39	0	12	871	3487
8:00 AM	9	3	2	0	1	8	0	47	0	48	70	155	8	0	0	3	470	40	0	5	869	3581
8:15 AM	3	2	0	0	1	6	3	50	0	67	82	181	4	1	2	2	451	39	0	11	905	3611
8:30 AM	3	3	1	0	0	19	5	57	0	66	65	175	4	1	2	12	376	29	0	10	828	3473
8:45 AM	2	2	0	0	0	4	2	22	0	73	72	217	11	2	0	9	393	44	0	3	856	3458
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	20	0	0	0	8	28	0	144	0	212	288	636	28	0	0	4	2292	172	4	28	3864	
Heavy Trucks	4	0	0			4	0	12			12	64	0			0	100	24			220	
Pedestrians		0					4					0					4				8	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																					0	
Stopped Buses																					0	

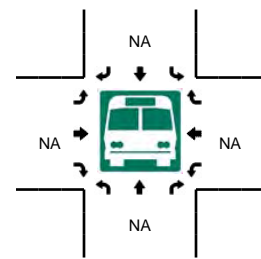
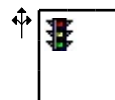
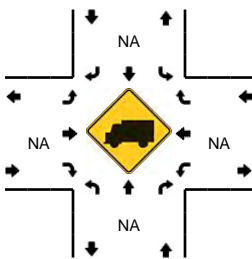
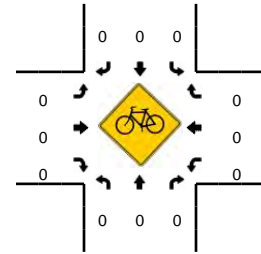
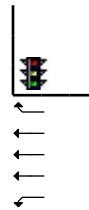
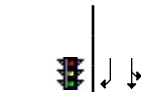
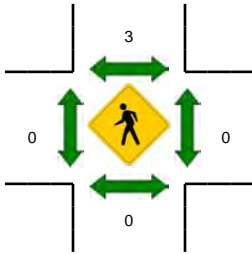
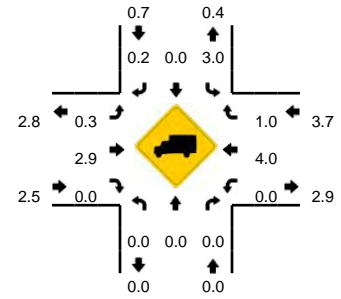
Comments:

**LOCATION:** Napa Blvd -- Pine Ridge Rd  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739812  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:45 PM -- 5:45 PM**  
**Peak 15-Min: 5:15 PM -- 5:30 PM**



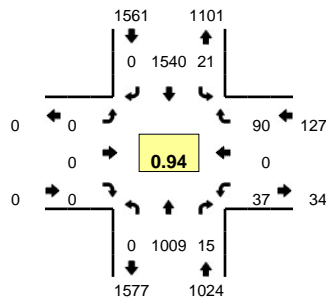
R\* = RTOR

15-Min Count Period Beginning At	Napa Blvd (Northbound)					Napa Blvd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	6	3	0	0	0	18	1	23	1	79	67	424	3	4	0	0	223	17	0	3	872	
4:15 PM	5	0	0	0	2	16	2	29	0	64	78	413	3	5	0	2	228	13	0	8	868	
4:30 PM	4	5	3	0	0	20	4	56	1	55	99	446	5	0	2	0	219	17	0	4	940	
4:45 PM	5	1	0	0	0	15	2	31	0	67	71	427	5	2	0	2	274	26	0	7	935	3615
5:00 PM	10	1	3	0	2	30	2	59	1	72	78	467	5	1	0	2	239	16	0	1	989	3732
5:15 PM	5	1	0	0	4	26	4	39	0	66	99	514	6	0	0	0	241	25	0	3	1033	3897
5:30 PM	3	3	0	0	0	28	2	39	0	64	100	502	3	0	0	0	245	19	1	2	1011	3968
5:45 PM	5	0	2	0	0	12	0	59	0	46	87	434	3	2	0	1	218	22	1	2	894	3927
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	20	4	0	0	16	104	16	156	0	264	396	2056	24	0	0	0	964	100	0	12	4132	
Heavy Trucks	0	0	0			0	0	0			0	80	0			0	40	4			124	
Pedestrians						0					0					0					0	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																					0	
Stopped Buses																					0	

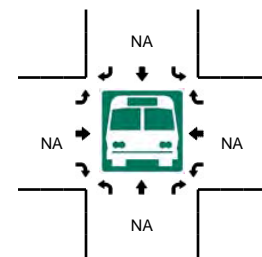
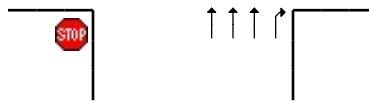
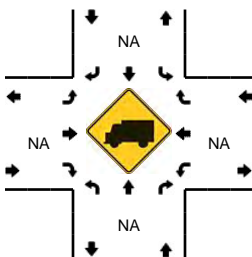
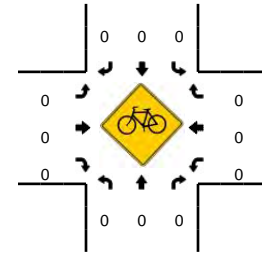
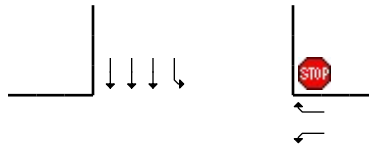
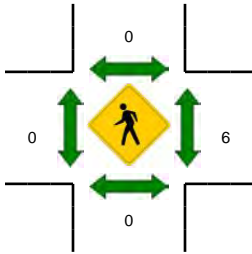
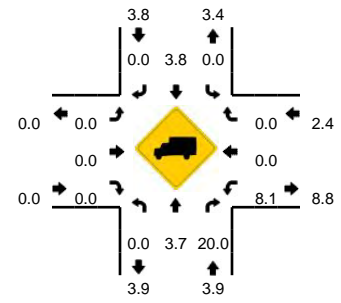
Comments:

**LOCATION:** Livingston Rd -- Marbella Lakes Dr  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739801  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 7:30 AM -- 8:30 AM**  
**Peak 15-Min: 7:30 AM -- 7:45 AM**



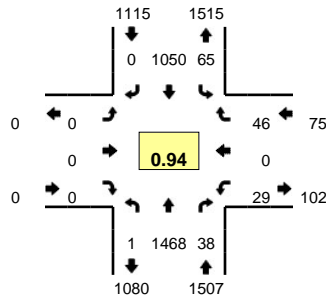
R\* = RTOR

15-Min Count Period Beginning At	Livingston Rd (Northbound)					Livingston Rd (Southbound)					Marbella Lakes Dr (Eastbound)					Marbella Lakes Dr (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	0	130	2	0	0	2	269	0	0	0	0	0	0	0	0	9	0	11	0	0	423	
7:15 AM	0	188	3	0	0	5	329	0	0	0	0	0	0	0	0	18	0	11	0	0	554	
7:30 AM	0	254	3	0	0	5	417	0	1	0	0	0	0	0	0	13	0	26	0	0	719	
7:45 AM	0	257	3	0	0	2	405	0	0	0	0	0	0	0	0	6	0	26	0	0	699	2395
8:00 AM	0	241	4	0	0	4	351	0	0	0	0	0	0	0	0	11	0	20	0	0	631	2603
8:15 AM	0	257	5	0	0	8	367	0	1	0	0	0	0	0	0	7	0	18	0	0	663	2712
8:30 AM	0	244	8	0	0	6	324	0	0	0	0	0	0	0	0	8	0	15	0	0	605	2598
8:45 AM	0	237	4	0	0	11	315	0	0	0	0	0	0	0	0	12	0	13	0	0	592	2491
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	0	1016	12	0	0	20	1668	0	4	0	0	0	0	0	0	52	0	104	0	0		2876
Heavy Trucks	0	32	8			0	64	0			0	0	0			4	0	0			108	
Pedestrians	0					0					0					8					8	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																					0	
Stopped Buses																						

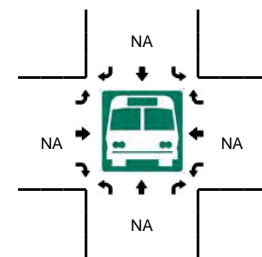
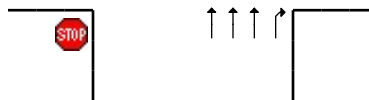
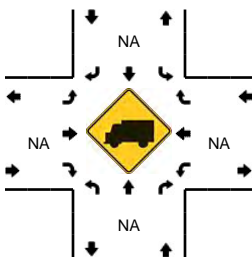
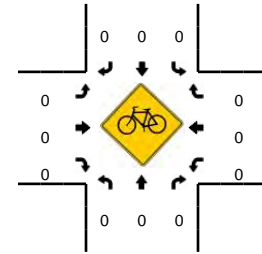
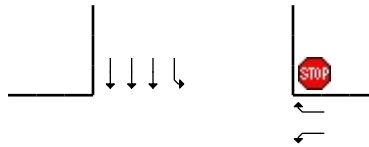
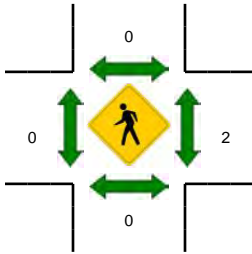
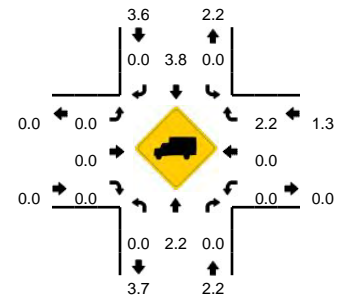
Comments:

**LOCATION:** Livingston Rd -- Marbella Lakes Dr  
**CITY/STATE:** Naples, FL

**QC JOB #:** 13739802  
**DATE:** Thu, Mar 10 2016



**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 5:00 PM -- 5:15 PM**



R\* = RTOR

15-Min Count Period Beginning At	Livingston Rd (Northbound)					Livingston Rd (Southbound)					Marbella Lakes Dr (Eastbound)					Marbella Lakes Dr (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	317	5	0	0	22	268	0	0	0	0	0	0	0	0	5	0	12	0	0	629	
4:15 PM	0	307	8	0	0	22	267	0	0	0	0	0	0	0	0	7	0	8	0	0	619	
4:30 PM	0	360	5	0	0	14	268	0	0	0	0	0	0	0	0	7	0	14	0	0	668	
4:45 PM	0	319	8	1	0	12	264	0	0	0	0	0	0	0	0	6	0	11	0	0	621	2537
5:00 PM	0	395	15	0	0	16	272	0	1	0	0	0	0	0	0	6	0	14	0	0	719	2627
5:15 PM	0	394	10	0	0	22	246	0	0	0	0	0	0	0	0	10	0	7	0	0	689	2697
5:30 PM	0	318	9	0	0	14	267	0	0	0	0	0	0	0	0	6	0	23	0	0	637	2666
5:45 PM	0	241	7	0	0	14	249	0	0	0	0	0	0	0	0	5	0	14	0	0	530	2575
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	0	1580	60	0	0	64	1088	0	4	0	0	0	0	0	0	24	0	56	0	0	2876	
Heavy Trucks	0	20	0			0	56	0			0	0	0			0	0	0			76	
Pedestrians	0					0					0					0					0	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Railroad																						
Stopped Buses																						

Comments:

## **Appendix B**

### 24-Hour Machine Counts



<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				58		58			58	
12:15 AM				43		43			43	
12:30 AM				55		55			55	
12:45 AM				35		35			35	
1:00 AM				41		41			41	
1:15 AM				24		24			24	
1:30 AM				12		12			12	
1:45 AM				17		17			17	
2:00 AM				24		24			24	
2:15 AM				24		24			24	
2:30 AM				11		11			11	
2:45 AM				20		20			20	
3:00 AM				15		15			15	
3:15 AM				9		9			9	
3:30 AM				10		10			10	
3:45 AM				12		12			12	
4:00 AM				12		12			12	
4:15 AM				16		16			16	
4:30 AM				16		16			16	
4:45 AM				21		21			21	
5:00 AM				29		29			29	
5:15 AM				24		24			24	
5:30 AM				45		45			45	
5:45 AM				63		63			63	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				54		54			54	
6:15 AM				113		113			113	
6:30 AM				131		131			131	
6:45 AM				173		173			173	
7:00 AM				177		177			177	
7:15 AM				209		209			209	
7:30 AM				224		224			224	
7:45 AM				219		219			219	
8:00 AM				251		251			251	
8:15 AM				257		257			257	
8:30 AM				258		258			258	
8:45 AM				<b>299</b>		<b>299</b>			<b>299</b>	
9:00 AM				232		232			232	
9:15 AM				239		239			239	
9:30 AM				258		258			258	
9:45 AM				242		242			242	
10:00 AM				280		280			280	
10:15 AM				273		273			273	
10:30 AM				254		254			254	
10:45 AM				257		257			257	
11:00 AM				269		269			269	
11:15 AM				283		283			283	
11:30 AM				284		284			284	
11:45 AM				272		272			272	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				293		293			293	
12:15 PM				311		311			311	
12:30 PM				345		345			345	
12:45 PM				353		353			353	
1:00 PM				308		308			308	
1:15 PM				319		319			319	
1:30 PM				340		340			340	
1:45 PM				336		336			336	
2:00 PM				352		352			352	
2:15 PM				335		335			335	
2:30 PM				399		399			399	
2:45 PM				413		413			413	
3:00 PM				376		376			376	
3:15 PM				449		449			449	
3:30 PM				427		427			427	
3:45 PM				488		488			488	
4:00 PM				472		472			472	
4:15 PM				482		482			482	
4:30 PM				525		525			525	
4:45 PM				490		490			490	
5:00 PM				513		513			513	
5:15 PM				<b>624</b>		<b>624</b>			<b>624</b>	
5:30 PM				565		565			565	
5:45 PM				492		492			492	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				517		517			517	
6:15 PM				427		427			427	
6:30 PM				393		393			393	
6:45 PM				358		358			358	
7:00 PM				343		343			343	
7:15 PM				363		363			363	
7:30 PM				341		341			341	
7:45 PM				273		273			273	
8:00 PM				250		250			250	
8:15 PM				257		257			257	
8:30 PM				283		283			283	
8:45 PM				229		229			229	
9:00 PM				244		244			244	
9:15 PM				229		229			229	
9:30 PM				206		206			206	
9:45 PM				165		165			165	
10:00 PM				159		159			159	
10:15 PM				175		175			175	
10:30 PM				146		146			146	
10:45 PM				141		141			141	
11:00 PM				99		99			99	
11:15 PM				120		120			120	
11:30 PM				76		76			76	
11:45 PM				53		53			53	
<b>Day Total</b>				21998		21998			21998	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				8:45 AM 299		8:45 AM 299			8:45 AM 299	
PM Peak Volume				5:15 PM 624		5:15 PM 624			5:15 PM 624	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				17		17			17	
12:15 AM				17		17			17	
12:30 AM				24		24			24	
12:45 AM				21		21			21	
1:00 AM				10		10			10	
1:15 AM				9		9			9	
1:30 AM				9		9			9	
1:45 AM				7		7			7	
2:00 AM				13		13			13	
2:15 AM				11		11			11	
2:30 AM				14		14			14	
2:45 AM				15		15			15	
3:00 AM				16		16			16	
3:15 AM				13		13			13	
3:30 AM				41		41			41	
3:45 AM				32		32			32	
4:00 AM				33		33			33	
4:15 AM				29		29			29	
4:30 AM				56		56			56	
4:45 AM				91		91			91	
5:00 AM				79		79			79	
5:15 AM				88		88			88	
5:30 AM				127		127			127	
5:45 AM				149		149			149	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				181		181			181	
6:15 AM				329		329			329	
6:30 AM				414		414			414	
6:45 AM				533		533			533	
7:00 AM				469		469			469	
7:15 AM				<b>627</b>		<b>627</b>			<b>627</b>	
7:30 AM				605		605			605	
7:45 AM				623		623			623	
8:00 AM				563		563			563	
8:15 AM				524		524			524	
8:30 AM				497		497			497	
8:45 AM				472		472			472	
9:00 AM				364		364			364	
9:15 AM				405		405			405	
9:30 AM				406		406			406	
9:45 AM				369		369			369	
10:00 AM				352		352			352	
10:15 AM				329		329			329	
10:30 AM				331		331			331	
10:45 AM				318		318			318	
11:00 AM				308		308			308	
11:15 AM				373		373			373	
11:30 AM				359		359			359	
11:45 AM				316		316			316	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				310		310			310	
12:15 PM				322		322			322	
12:30 PM				311		311			311	
12:45 PM				338		338			338	
1:00 PM				303		303			303	
1:15 PM				297		297			297	
1:30 PM				306		306			306	
1:45 PM				294		294			294	
2:00 PM				303		303			303	
2:15 PM				295		295			295	
2:30 PM				332		332			332	
2:45 PM				334		334			334	
3:00 PM				337		337			337	
3:15 PM				333		333			333	
3:30 PM				353		353			353	
3:45 PM				331		331			331	
4:00 PM				311		311			311	
4:15 PM				312		312			312	
4:30 PM				336		336			336	
4:45 PM				355		355			355	
5:00 PM				353		353			353	
5:15 PM				<b>363</b>		<b>363</b>			<b>363</b>	
5:30 PM				309		309			309	
5:45 PM				348		348			348	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				306		306			306	
6:15 PM				284		284			284	
6:30 PM				264		264			264	
6:45 PM				272		272			272	
7:00 PM				261		261			261	
7:15 PM				257		257			257	
7:30 PM				228		228			228	
7:45 PM				161		161			161	
8:00 PM				128		128			128	
8:15 PM				154		154			154	
8:30 PM				142		142			142	
8:45 PM				117		117			117	
9:00 PM				104		104			104	
9:15 PM				104		104			104	
9:30 PM				115		115			115	
9:45 PM				108		108			108	
10:00 PM				89		89			89	
10:15 PM				92		92			92	
10:30 PM				63		63			63	
10:45 PM				55		55			55	
11:00 PM				42		42			42	
11:15 PM				41		41			41	
11:30 PM				38		38			38	
11:45 PM				30		30			30	
<b>Day Total</b>				22229		22229			22229	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:15 AM		7:15 AM			7:15 AM	
Volume				627		627			627	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				363		363			363	
<i>Comments:</i>										



<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				75		75			75	
12:15 AM				60		60			60	
12:30 AM				79		79			79	
12:45 AM				56		56			56	
1:00 AM				51		51			51	
1:15 AM				33		33			33	
1:30 AM				21		21			21	
1:45 AM				24		24			24	
2:00 AM				37		37			37	
2:15 AM				35		35			35	
2:30 AM				25		25			25	
2:45 AM				35		35			35	
3:00 AM				31		31			31	
3:15 AM				22		22			22	
3:30 AM				51		51			51	
3:45 AM				44		44			44	
4:00 AM				45		45			45	
4:15 AM				45		45			45	
4:30 AM				72		72			72	
4:45 AM				112		112			112	
5:00 AM				108		108			108	
5:15 AM				112		112			112	
5:30 AM				172		172			172	
5:45 AM				212		212			212	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				235		235			235	
6:15 AM				442		442			442	
6:30 AM				545		545			545	
6:45 AM				706		706			706	
7:00 AM				646		646			646	
7:15 AM				836		836			836	
7:30 AM				829		829			829	
7:45 AM				<b>842</b>		<b>842</b>			<b>842</b>	
8:00 AM				814		814			814	
8:15 AM				781		781			781	
8:30 AM				755		755			755	
8:45 AM				771		771			771	
9:00 AM				596		596			596	
9:15 AM				644		644			644	
9:30 AM				664		664			664	
9:45 AM				611		611			611	
10:00 AM				632		632			632	
10:15 AM				602		602			602	
10:30 AM				585		585			585	
10:45 AM				575		575			575	
11:00 AM				577		577			577	
11:15 AM				656		656			656	
11:30 AM				643		643			643	
11:45 AM				588		588			588	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				603		603			603	
12:15 PM				633		633			633	
12:30 PM				656		656			656	
12:45 PM				691		691			691	
1:00 PM				611		611			611	
1:15 PM				616		616			616	
1:30 PM				646		646			646	
1:45 PM				630		630			630	
2:00 PM				655		655			655	
2:15 PM				630		630			630	
2:30 PM				731		731			731	
2:45 PM				747		747			747	
3:00 PM				713		713			713	
3:15 PM				782		782			782	
3:30 PM				780		780			780	
3:45 PM				819		819			819	
4:00 PM				783		783			783	
4:15 PM				794		794			794	
4:30 PM				861		861			861	
4:45 PM				845		845			845	
5:00 PM				866		866			866	
5:15 PM				<b>987</b>		<b>987</b>			<b>987</b>	
5:30 PM				874		874			874	
5:45 PM				840		840			840	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Btwn Napa Blvd & I-75 NB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739813 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				823		823			823	
6:15 PM				711		711			711	
6:30 PM				657		657			657	
6:45 PM				630		630			630	
7:00 PM				604		604			604	
7:15 PM				620		620			620	
7:30 PM				569		569			569	
7:45 PM				434		434			434	
8:00 PM				378		378			378	
8:15 PM				411		411			411	
8:30 PM				425		425			425	
8:45 PM				346		346			346	
9:00 PM				348		348			348	
9:15 PM				333		333			333	
9:30 PM				321		321			321	
9:45 PM				273		273			273	
10:00 PM				248		248			248	
10:15 PM				267		267			267	
10:30 PM				209		209			209	
10:45 PM				196		196			196	
11:00 PM				141		141			141	
11:15 PM				161		161			161	
11:30 PM				114		114			114	
11:45 PM				83		83			83	
<b>Day Total</b>				44227		44227			44227	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				842		842			842	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				987		987			987	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				62		62			62	
12:15 AM				43		43			43	
12:30 AM				65		65			65	
12:45 AM				47		47			47	
1:00 AM				46		46			46	
1:15 AM				31		31			31	
1:30 AM				14		14			14	
1:45 AM				33		33			33	
2:00 AM				35		35			35	
2:15 AM				24		24			24	
2:30 AM				13		13			13	
2:45 AM				17		17			17	
3:00 AM				13		13			13	
3:15 AM				14		14			14	
3:30 AM				22		22			22	
3:45 AM				13		13			13	
4:00 AM				17		17			17	
4:15 AM				29		29			29	
4:30 AM				39		39			39	
4:45 AM				32		32			32	
5:00 AM				40		40			40	
5:15 AM				43		43			43	
5:30 AM				72		72			72	
5:45 AM				86		86			86	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				91		91			91	
6:15 AM				139		139			139	
6:30 AM				174		174			174	
6:45 AM				163		163			163	
7:00 AM				228		228			228	
7:15 AM				275		275			275	
7:30 AM				277		277			277	
7:45 AM				307		307			307	
8:00 AM				329		329			329	
8:15 AM				314		314			314	
8:30 AM				341		341			341	
8:45 AM				335		335			335	
9:00 AM				291		291			291	
9:15 AM				310		310			310	
9:30 AM				326		326			326	
9:45 AM				366		366			366	
10:00 AM				331		331			331	
10:15 AM				401		401			401	
10:30 AM				375		375			375	
10:45 AM				406		406			406	
11:00 AM				373		373			373	
11:15 AM				385		385			385	
11:30 AM				<b>442</b>		<b>442</b>			<b>442</b>	
11:45 AM				420		420			420	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				422		422			422	
12:15 PM				434		434			434	
12:30 PM				453		453			453	
12:45 PM				498		498			498	
1:00 PM				431		431			431	
1:15 PM				443		443			443	
1:30 PM				454		454			454	
1:45 PM				447		447			447	
2:00 PM				457		457			457	
2:15 PM				521		521			521	
2:30 PM				522		522			522	
2:45 PM				521		521			521	
3:00 PM				550		550			550	
3:15 PM				521		521			521	
3:30 PM				608		608			608	
3:45 PM				620		620			620	
4:00 PM				552		552			552	
4:15 PM				632		632			632	
4:30 PM				616		616			616	
4:45 PM				577		577			577	
5:00 PM				<b>716</b>		<b>716</b>			<b>716</b>	
5:15 PM				674		674			674	
5:30 PM				632		632			632	
5:45 PM				619		619			619	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				602		602			602	
6:15 PM				511		511			511	
6:30 PM				458		458			458	
6:45 PM				441		441			441	
7:00 PM				403		403			403	
7:15 PM				443		443			443	
7:30 PM				398		398			398	
7:45 PM				330		330			330	
8:00 PM				324		324			324	
8:15 PM				307		307			307	
8:30 PM				316		316			316	
8:45 PM				306		306			306	
9:00 PM				269		269			269	
9:15 PM				292		292			292	
9:30 PM				258		258			258	
9:45 PM				223		223			223	
10:00 PM				182		182			182	
10:15 PM				195		195			195	
10:30 PM				155		155			155	
10:45 PM				151		151			151	
11:00 PM				123		123			123	
11:15 PM				143		143			143	
11:30 PM				95		95			95	
11:45 PM				69		69			69	
<b>Day Total</b>				28163		28163			28163	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				11:30 AM 442		11:30 AM 442			11:30 AM 442	
PM Peak Volume				5:00 PM 716		5:00 PM 716			5:00 PM 716	
<i>Comments:</i>										



<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				50		50			50	
12:15 AM				36		36			36	
12:30 AM				39		39			39	
12:45 AM				26		26			26	
1:00 AM				27		27			27	
1:15 AM				34		34			34	
1:30 AM				24		24			24	
1:45 AM				16		16			16	
2:00 AM				13		13			13	
2:15 AM				11		11			11	
2:30 AM				15		15			15	
2:45 AM				24		24			24	
3:00 AM				21		21			21	
3:15 AM				13		13			13	
3:30 AM				41		41			41	
3:45 AM				33		33			33	
4:00 AM				29		29			29	
4:15 AM				34		34			34	
4:30 AM				50		50			50	
4:45 AM				105		105			105	
5:00 AM				71		71			71	
5:15 AM				102		102			102	
5:30 AM				130		130			130	
5:45 AM				165		165			165	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				214		214			214	
6:15 AM				316		316			316	
6:30 AM				447		447			447	
6:45 AM				619		619			619	
7:00 AM				511		511			511	
7:15 AM				742		742			742	
7:30 AM				<b>749</b>		<b>749</b>			<b>749</b>	
7:45 AM				663		663			663	
8:00 AM				646		646			646	
8:15 AM				722		722			722	
8:30 AM				619		619			619	
8:45 AM				614		614			614	
9:00 AM				423		423			423	
9:15 AM				427		427			427	
9:30 AM				411		411			411	
9:45 AM				369		369			369	
10:00 AM				382		382			382	
10:15 AM				432		432			432	
10:30 AM				446		446			446	
10:45 AM				441		441			441	
11:00 AM				430		430			430	
11:15 AM				480		480			480	
11:30 AM				488		488			488	
11:45 AM				464		464			464	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				413		413			413	
12:15 PM				448		448			448	
12:30 PM				422		422			422	
12:45 PM				466		466			466	
1:00 PM				398		398			398	
1:15 PM				433		433			433	
1:30 PM				388		388			388	
1:45 PM				406		406			406	
2:00 PM				382		382			382	
2:15 PM				392		392			392	
2:30 PM				401		401			401	
2:45 PM				427		427			427	
3:00 PM				413		413			413	
3:15 PM				434		434			434	
3:30 PM				427		427			427	
3:45 PM				442		442			442	
4:00 PM				414		414			414	
4:15 PM				421		421			421	
4:30 PM				437		437			437	
4:45 PM				448		448			448	
5:00 PM				409		409			409	
5:15 PM				<b>467</b>		<b>467</b>			<b>467</b>	
5:30 PM				412		412			412	
5:45 PM				390		390			390	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				362		362			362	
6:15 PM				328		328			328	
6:30 PM				278		278			278	
6:45 PM				272		272			272	
7:00 PM				248		248			248	
7:15 PM				202		202			202	
7:30 PM				234		234			234	
7:45 PM				190		190			190	
8:00 PM				150		150			150	
8:15 PM				172		172			172	
8:30 PM				173		173			173	
8:45 PM				175		175			175	
9:00 PM				164		164			164	
9:15 PM				162		162			162	
9:30 PM				145		145			145	
9:45 PM				135		135			135	
10:00 PM				127		127			127	
10:15 PM				118		118			118	
10:30 PM				88		88			88	
10:45 PM				110		110			110	
11:00 PM				93		93			93	
11:15 PM				74		74			74	
11:30 PM				57		57			57	
11:45 PM				53		53			53	
<b>Day Total</b>				27364		27364			27364	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				749		749			749	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				467		467			467	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				112		112			112	
12:15 AM				79		79			79	
12:30 AM				104		104			104	
12:45 AM				73		73			73	
1:00 AM				73		73			73	
1:15 AM				65		65			65	
1:30 AM				38		38			38	
1:45 AM				49		49			49	
2:00 AM				48		48			48	
2:15 AM				35		35			35	
2:30 AM				28		28			28	
2:45 AM				41		41			41	
3:00 AM				34		34			34	
3:15 AM				27		27			27	
3:30 AM				63		63			63	
3:45 AM				46		46			46	
4:00 AM				46		46			46	
4:15 AM				63		63			63	
4:30 AM				89		89			89	
4:45 AM				137		137			137	
5:00 AM				111		111			111	
5:15 AM				145		145			145	
5:30 AM				202		202			202	
5:45 AM				251		251			251	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				305		305			305	
6:15 AM				455		455			455	
6:30 AM				621		621			621	
6:45 AM				782		782			782	
7:00 AM				739		739			739	
7:15 AM				1017		1017			1017	
7:30 AM				1026		1026			1026	
7:45 AM				970		970			970	
8:00 AM				975		975			975	
8:15 AM				<b>1036</b>		<b>1036</b>			<b>1036</b>	
8:30 AM				960		960			960	
8:45 AM				949		949			949	
9:00 AM				714		714			714	
9:15 AM				737		737			737	
9:30 AM				737		737			737	
9:45 AM				735		735			735	
10:00 AM				713		713			713	
10:15 AM				833		833			833	
10:30 AM				821		821			821	
10:45 AM				847		847			847	
11:00 AM				803		803			803	
11:15 AM				865		865			865	
11:30 AM				930		930			930	
11:45 AM				884		884			884	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				835		835			835	
12:15 PM				882		882			882	
12:30 PM				875		875			875	
12:45 PM				964		964			964	
1:00 PM				829		829			829	
1:15 PM				876		876			876	
1:30 PM				842		842			842	
1:45 PM				853		853			853	
2:00 PM				839		839			839	
2:15 PM				913		913			913	
2:30 PM				923		923			923	
2:45 PM				948		948			948	
3:00 PM				963		963			963	
3:15 PM				955		955			955	
3:30 PM				1035		1035			1035	
3:45 PM				1062		1062			1062	
4:00 PM				966		966			966	
4:15 PM				1053		1053			1053	
4:30 PM				1053		1053			1053	
4:45 PM				1025		1025			1025	
5:00 PM				1125		1125			1125	
5:15 PM				<b>1141</b>		<b>1141</b>			<b>1141</b>	
5:30 PM				1044		1044			1044	
5:45 PM				1009		1009			1009	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of I-75 SB Ramps <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739814 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				964		964			964	
6:15 PM				839		839			839	
6:30 PM				736		736			736	
6:45 PM				713		713			713	
7:00 PM				651		651			651	
7:15 PM				645		645			645	
7:30 PM				632		632			632	
7:45 PM				520		520			520	
8:00 PM				474		474			474	
8:15 PM				479		479			479	
8:30 PM				489		489			489	
8:45 PM				481		481			481	
9:00 PM				433		433			433	
9:15 PM				454		454			454	
9:30 PM				403		403			403	
9:45 PM				358		358			358	
10:00 PM				309		309			309	
10:15 PM				313		313			313	
10:30 PM				243		243			243	
10:45 PM				261		261			261	
11:00 PM				216		216			216	
11:15 PM				217		217			217	
11:30 PM				152		152			152	
11:45 PM				122		122			122	
<b>Day Total</b>				55527		55527			55527	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:15 AM		8:15 AM			8:15 AM	
Volume				1036		1036			1036	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				1141		1141			1141	
<i>Comments:</i>										



<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				56		56			56	
12:15 AM				51		51			51	
12:30 AM				47		47			47	
12:45 AM				36		36			36	
1:00 AM				33		33			33	
1:15 AM				24		24			24	
1:30 AM				21		21			21	
1:45 AM				26		26			26	
2:00 AM				48		48			48	
2:15 AM				24		24			24	
2:30 AM				13		13			13	
2:45 AM				15		15			15	
3:00 AM				14		14			14	
3:15 AM				7		7			7	
3:30 AM				23		23			23	
3:45 AM				9		9			9	
4:00 AM				25		25			25	
4:15 AM				30		30			30	
4:30 AM				26		26			26	
4:45 AM				28		28			28	
5:00 AM				34		34			34	
5:15 AM				44		44			44	
5:30 AM				79		79			79	
5:45 AM				65		65			65	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				110		110			110	
6:15 AM				130		130			130	
6:30 AM				157		157			157	
6:45 AM				202		202			202	
7:00 AM				244		244			244	
7:15 AM				244		244			244	
7:30 AM				287		287			287	
7:45 AM				290		290			290	
8:00 AM				302		302			302	
8:15 AM				380		380			380	
8:30 AM				334		334			334	
8:45 AM				342		342			342	
9:00 AM				334		334			334	
9:15 AM				298		298			298	
9:30 AM				390		390			390	
9:45 AM				358		358			358	
10:00 AM				344		344			344	
10:15 AM				394		394			394	
10:30 AM				389		389			389	
10:45 AM				398		398			398	
11:00 AM				404		404			404	
11:15 AM				441		441			441	
11:30 AM				430		430			430	
11:45 AM				<b>448</b>		<b>448</b>			<b>448</b>	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klafth Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klafth Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				456		456			456	
12:15 PM				482		482			482	
12:30 PM				482		482			482	
12:45 PM				498		498			498	
1:00 PM				469		469			469	
1:15 PM				456		456			456	
1:30 PM				505		505			505	
1:45 PM				464		464			464	
2:00 PM				450		450			450	
2:15 PM				552		552			552	
2:30 PM				543		543			543	
2:45 PM				516		516			516	
3:00 PM				558		558			558	
3:15 PM				590		590			590	
3:30 PM				600		600			600	
3:45 PM				656		656			656	
4:00 PM				576		576			576	
4:15 PM				636		636			636	
4:30 PM				698		698			698	
4:45 PM				578		578			578	
5:00 PM				<b>702</b>		<b>702</b>			<b>702</b>	
5:15 PM				686		686			686	
5:30 PM				618		618			618	
5:45 PM				662		662			662	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				577		577			577	
6:15 PM				549		549			549	
6:30 PM				472		472			472	
6:45 PM				482		482			482	
7:00 PM				448		448			448	
7:15 PM				450		450			450	
7:30 PM				408		408			408	
7:45 PM				349		349			349	
8:00 PM				344		344			344	
8:15 PM				352		352			352	
8:30 PM				316		316			316	
8:45 PM				312		312			312	
9:00 PM				299		299			299	
9:15 PM				293		293			293	
9:30 PM				260		260			260	
9:45 PM				220		220			220	
10:00 PM				176		176			176	
10:15 PM				204		204			204	
10:30 PM				160		160			160	
10:45 PM				138		138			138	
11:00 PM				139		139			139	
11:15 PM				122		122			122	
11:30 PM				90		90			90	
11:45 PM				80		80			80	
<b>Day Total</b>				29101		29101			29101	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:45 AM		11:45 AM			11:45 AM	
Volume				448		448			448	
PM Peak				5:00 PM		5:00 PM			5:00 PM	
Volume				702		702			702	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				45		45			45	
12:15 AM				35		35			35	
12:30 AM				37		37			37	
12:45 AM				30		30			30	
1:00 AM				31		31			31	
1:15 AM				24		24			24	
1:30 AM				15		15			15	
1:45 AM				14		14			14	
2:00 AM				15		15			15	
2:15 AM				8		8			8	
2:30 AM				22		22			22	
2:45 AM				22		22			22	
3:00 AM				20		20			20	
3:15 AM				15		15			15	
3:30 AM				44		44			44	
3:45 AM				36		36			36	
4:00 AM				28		28			28	
4:15 AM				30		30			30	
4:30 AM				52		52			52	
4:45 AM				102		102			102	
5:00 AM				75		75			75	
5:15 AM				106		106			106	
5:30 AM				143		143			143	
5:45 AM				182		182			182	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				208		208			208	
6:15 AM				358		358			358	
6:30 AM				502		502			502	
6:45 AM				644		644			644	
7:00 AM				601		601			601	
7:15 AM				742		742			742	
7:30 AM				<b>787</b>		<b>787</b>			<b>787</b>	
7:45 AM				750		750			750	
8:00 AM				758		758			758	
8:15 AM				732		732			732	
8:30 AM				686		686			686	
8:45 AM				752		752			752	
9:00 AM				515		515			515	
9:15 AM				578		578			578	
9:30 AM				556		556			556	
9:45 AM				591		591			591	
10:00 AM				508		508			508	
10:15 AM				478		478			478	
10:30 AM				492		492			492	
10:45 AM				470		470			470	
11:00 AM				498		498			498	
11:15 AM				550		550			550	
11:30 AM				559		559			559	
11:45 AM				516		516			516	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				479		479			479	
12:15 PM				502		502			502	
12:30 PM				476		476			476	
12:45 PM				518		518			518	
1:00 PM				445		445			445	
1:15 PM				474		474			474	
1:30 PM				462		462			462	
1:45 PM				453		453			453	
2:00 PM				415		415			415	
2:15 PM				448		448			448	
2:30 PM				448		448			448	
2:45 PM				465		465			465	
3:00 PM				484		484			484	
3:15 PM				464		464			464	
3:30 PM				486		486			486	
3:45 PM				498		498			498	
4:00 PM				433		433			433	
4:15 PM				484		484			484	
4:30 PM				489		489			489	
4:45 PM				502		502			502	
5:00 PM				500		500			500	
5:15 PM				510		510			510	
5:30 PM				457		457			457	
5:45 PM				454		454			454	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				392		392			392	
6:15 PM				378		378			378	
6:30 PM				346		346			346	
6:45 PM				360		360			360	
7:00 PM				308		308			308	
7:15 PM				291		291			291	
7:30 PM				276		276			276	
7:45 PM				214		214			214	
8:00 PM				168		168			168	
8:15 PM				229		229			229	
8:30 PM				181		181			181	
8:45 PM				160		160			160	
9:00 PM				172		172			172	
9:15 PM				164		164			164	
9:30 PM				156		156			156	
9:45 PM				134		134			134	
10:00 PM				117		117			117	
10:15 PM				98		98			98	
10:30 PM				86		86			86	
10:45 PM				92		92			92	
11:00 PM				94		94			94	
11:15 PM				64		64			64	
11:30 PM				56		56			56	
11:45 PM				62		62			62	
<b>Day Total</b>				30906		30906			30906	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				787		787			787	
PM Peak				12:45 PM		12:45 PM			12:45 PM	
Volume				518		518			518	
<i>Comments:</i>										



<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				101		101			101	
12:15 AM				86		86			86	
12:30 AM				84		84			84	
12:45 AM				66		66			66	
1:00 AM				64		64			64	
1:15 AM				48		48			48	
1:30 AM				36		36			36	
1:45 AM				40		40			40	
2:00 AM				63		63			63	
2:15 AM				32		32			32	
2:30 AM				35		35			35	
2:45 AM				37		37			37	
3:00 AM				34		34			34	
3:15 AM				22		22			22	
3:30 AM				67		67			67	
3:45 AM				45		45			45	
4:00 AM				53		53			53	
4:15 AM				60		60			60	
4:30 AM				78		78			78	
4:45 AM				130		130			130	
5:00 AM				109		109			109	
5:15 AM				150		150			150	
5:30 AM				222		222			222	
5:45 AM				247		247			247	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Kluft Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				318		318			318	
6:15 AM				488		488			488	
6:30 AM				659		659			659	
6:45 AM				846		846			846	
7:00 AM				845		845			845	
7:15 AM				986		986			986	
7:30 AM				1074		1074			1074	
7:45 AM				1040		1040			1040	
8:00 AM				1060		1060			1060	
8:15 AM				<b>1112</b>		<b>1112</b>			<b>1112</b>	
8:30 AM				1020		1020			1020	
8:45 AM				1094		1094			1094	
9:00 AM				849		849			849	
9:15 AM				876		876			876	
9:30 AM				946		946			946	
9:45 AM				949		949			949	
10:00 AM				852		852			852	
10:15 AM				872		872			872	
10:30 AM				881		881			881	
10:45 AM				868		868			868	
11:00 AM				902		902			902	
11:15 AM				991		991			991	
11:30 AM				989		989			989	
11:45 AM				964		964			964	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				935		935			935	
12:15 PM				984		984			984	
12:30 PM				958		958			958	
12:45 PM				1016		1016			1016	
1:00 PM				914		914			914	
1:15 PM				930		930			930	
1:30 PM				967		967			967	
1:45 PM				917		917			917	
2:00 PM				865		865			865	
2:15 PM				1000		1000			1000	
2:30 PM				991		991			991	
2:45 PM				981		981			981	
3:00 PM				1042		1042			1042	
3:15 PM				1054		1054			1054	
3:30 PM				1086		1086			1086	
3:45 PM				1154		1154			1154	
4:00 PM				1009		1009			1009	
4:15 PM				1120		1120			1120	
4:30 PM				1187		1187			1187	
4:45 PM				1080		1080			1080	
5:00 PM				<b>1202</b>		<b>1202</b>			<b>1202</b>	
5:15 PM				1196		1196			1196	
5:30 PM				1075		1075			1075	
5:45 PM				1116		1116			1116	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of Klauf Rd <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739815 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				969		969			969	
6:15 PM				927		927			927	
6:30 PM				818		818			818	
6:45 PM				842		842			842	
7:00 PM				756		756			756	
7:15 PM				741		741			741	
7:30 PM				684		684			684	
7:45 PM				563		563			563	
8:00 PM				512		512			512	
8:15 PM				581		581			581	
8:30 PM				497		497			497	
8:45 PM				472		472			472	
9:00 PM				471		471			471	
9:15 PM				457		457			457	
9:30 PM				416		416			416	
9:45 PM				354		354			354	
10:00 PM				293		293			293	
10:15 PM				302		302			302	
10:30 PM				246		246			246	
10:45 PM				230		230			230	
11:00 PM				233		233			233	
11:15 PM				186		186			186	
11:30 PM				146		146			146	
11:45 PM				142		142			142	
<b>Day Total</b>				60007		60007			60007	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:15 AM		8:15 AM			8:15 AM	
Volume				1112		1112			1112	
PM Peak				5:00 PM		5:00 PM			5:00 PM	
Volume				1202		1202			1202	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				45		45			45	
12:15 AM				34		34			34	
12:30 AM				41		41			41	
12:45 AM				37		37			37	
1:00 AM				19		19			19	
1:15 AM				18		18			18	
1:30 AM				31		31			31	
1:45 AM				22		22			22	
2:00 AM				50		50			50	
2:15 AM				19		19			19	
2:30 AM				9		9			9	
2:45 AM				16		16			16	
3:00 AM				11		11			11	
3:15 AM				10		10			10	
3:30 AM				19		19			19	
3:45 AM				16		16			16	
4:00 AM				18		18			18	
4:15 AM				28		28			28	
4:30 AM				19		19			19	
4:45 AM				27		27			27	
5:00 AM				27		27			27	
5:15 AM				45		45			45	
5:30 AM				66		66			66	
5:45 AM				60		60			60	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				80		80			80	
6:15 AM				88		88			88	
6:30 AM				118		118			118	
6:45 AM				180		180			180	
7:00 AM				211		211			211	
7:15 AM				193		193			193	
7:30 AM				239		239			239	
7:45 AM				231		231			231	
8:00 AM				311		311			311	
8:15 AM				333		333			333	
8:30 AM				274		274			274	
8:45 AM				258		258			258	
9:00 AM				286		286			286	
9:15 AM				309		309			309	
9:30 AM				353		353			353	
9:45 AM				309		309			309	
10:00 AM				324		324			324	
10:15 AM				390		390			390	
10:30 AM				381		381			381	
10:45 AM				396		396			396	
11:00 AM				409		409			409	
11:15 AM				433		433			433	
11:30 AM				<b>442</b>		<b>442</b>			<b>442</b>	
11:45 AM				429		429			429	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				489		489			489	
12:15 PM				457		457			457	
12:30 PM				502		502			502	
12:45 PM				448		448			448	
1:00 PM				474		474			474	
1:15 PM				489		489			489	
1:30 PM				473		473			473	
1:45 PM				460		460			460	
2:00 PM				490		490			490	
2:15 PM				529		529			529	
2:30 PM				567		567			567	
2:45 PM				512		512			512	
3:00 PM				552		552			552	
3:15 PM				563		563			563	
3:30 PM				555		555			555	
3:45 PM				556		556			556	
4:00 PM				636		636			636	
4:15 PM				603		603			603	
4:30 PM				553		553			553	
4:45 PM				576		576			576	
5:00 PM				615		615			615	
5:15 PM				551		551			551	
5:30 PM				619		619			619	
5:45 PM				<b>649</b>		<b>649</b>			<b>649</b>	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				536		536			536	
6:15 PM				516		516			516	
6:30 PM				464		464			464	
6:45 PM				424		424			424	
7:00 PM				440		440			440	
7:15 PM				467		467			467	
7:30 PM				392		392			392	
7:45 PM				352		352			352	
8:00 PM				319		319			319	
8:15 PM				334		334			334	
8:30 PM				318		318			318	
8:45 PM				286		286			286	
9:00 PM				321		321			321	
9:15 PM				270		270			270	
9:30 PM				238		238			238	
9:45 PM				193		193			193	
10:00 PM				175		175			175	
10:15 PM				191		191			191	
10:30 PM				153		153			153	
10:45 PM				118		118			118	
11:00 PM				121		121			121	
11:15 PM				96		96			96	
11:30 PM				92		92			92	
11:45 PM				65		65			65	
<b>Day Total</b>				27463		27463			27463	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				11:30 AM 442		11:30 AM 442			11:30 AM 442	
PM Peak Volume				5:45 PM 649		5:45 PM 649			5:45 PM 649	
<i>Comments:</i>										



<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				36		36			36	
12:15 AM				38		38			38	
12:30 AM				32		32			32	
12:45 AM				24		24			24	
1:00 AM				27		27			27	
1:15 AM				21		21			21	
1:30 AM				12		12			12	
1:45 AM				14		14			14	
2:00 AM				7		7			7	
2:15 AM				9		9			9	
2:30 AM				18		18			18	
2:45 AM				19		19			19	
3:00 AM				20		20			20	
3:15 AM				10		10			10	
3:30 AM				31		31			31	
3:45 AM				26		26			26	
4:00 AM				26		26			26	
4:15 AM				31		31			31	
4:30 AM				45		45			45	
4:45 AM				97		97			97	
5:00 AM				72		72			72	
5:15 AM				75		75			75	
5:30 AM				114		114			114	
5:45 AM				148		148			148	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				151		151			151	
6:15 AM				222		222			222	
6:30 AM				364		364			364	
6:45 AM				490		490			490	
7:00 AM				478		478			478	
7:15 AM				478		478			478	
7:30 AM				599		599			599	
7:45 AM				<b>700</b>		<b>700</b>			<b>700</b>	
8:00 AM				604		604			604	
8:15 AM				610		610			610	
8:30 AM				540		540			540	
8:45 AM				642		642			642	
9:00 AM				495		495			495	
9:15 AM				485		485			485	
9:30 AM				512		512			512	
9:45 AM				584		584			584	
10:00 AM				473		473			473	
10:15 AM				456		456			456	
10:30 AM				512		512			512	
10:45 AM				475		475			475	
11:00 AM				494		494			494	
11:15 AM				522		522			522	
11:30 AM				538		538			538	
11:45 AM				496		496			496	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				457		457			457	
12:15 PM				472		472			472	
12:30 PM				456		456			456	
12:45 PM				495		495			495	
1:00 PM				436		436			436	
1:15 PM				440		440			440	
1:30 PM				415		415			415	
1:45 PM				444		444			444	
2:00 PM				438		438			438	
2:15 PM				390		390			390	
2:30 PM				411		411			411	
2:45 PM				443		443			443	
3:00 PM				446		446			446	
3:15 PM				456		456			456	
3:30 PM				444		444			444	
3:45 PM				428		428			428	
4:00 PM				411		411			411	
4:15 PM				412		412			412	
4:30 PM				444		444			444	
4:45 PM				463		463			463	
5:00 PM				423		423			423	
5:15 PM				474		474			474	
5:30 PM				400		400			400	
5:45 PM				446		446			446	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				352		352			352	
6:15 PM				388		388			388	
6:30 PM				338		338			338	
6:45 PM				344		344			344	
7:00 PM				317		317			317	
7:15 PM				252		252			252	
7:30 PM				240		240			240	
7:45 PM				204		204			204	
8:00 PM				186		186			186	
8:15 PM				194		194			194	
8:30 PM				186		186			186	
8:45 PM				154		154			154	
9:00 PM				170		170			170	
9:15 PM				142		142			142	
9:30 PM				142		142			142	
9:45 PM				116		116			116	
10:00 PM				104		104			104	
10:15 PM				82		82			82	
10:30 PM				82		82			82	
10:45 PM				91		91			91	
11:00 PM				78		78			78	
11:15 PM				68		68			68	
11:30 PM				49		49			49	
11:45 PM				38		38			38	
<b>Day Total</b>				27733		27733			27733	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				700		700			700	
PM Peak				12:45 PM		12:45 PM			12:45 PM	
Volume				495		495			495	
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				81		81			81	
12:15 AM				72		72			72	
12:30 AM				73		73			73	
12:45 AM				61		61			61	
1:00 AM				46		46			46	
1:15 AM				39		39			39	
1:30 AM				43		43			43	
1:45 AM				36		36			36	
2:00 AM				57		57			57	
2:15 AM				28		28			28	
2:30 AM				27		27			27	
2:45 AM				35		35			35	
3:00 AM				31		31			31	
3:15 AM				20		20			20	
3:30 AM				50		50			50	
3:45 AM				42		42			42	
4:00 AM				44		44			44	
4:15 AM				59		59			59	
4:30 AM				64		64			64	
4:45 AM				124		124			124	
5:00 AM				99		99			99	
5:15 AM				120		120			120	
5:30 AM				180		180			180	
5:45 AM				208		208			208	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL										<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				231		231			231	
6:15 AM				310		310			310	
6:30 AM				482		482			482	
6:45 AM				670		670			670	
7:00 AM				689		689			689	
7:15 AM				671		671			671	
7:30 AM				838		838			838	
7:45 AM				931		931			931	
8:00 AM				915		915			915	
8:15 AM				943		943			943	
8:30 AM				814		814			814	
8:45 AM				900		900			900	
9:00 AM				781		781			781	
9:15 AM				794		794			794	
9:30 AM				865		865			865	
9:45 AM				893		893			893	
10:00 AM				797		797			797	
10:15 AM				846		846			846	
10:30 AM				893		893			893	
10:45 AM				871		871			871	
11:00 AM				903		903			903	
11:15 AM				955		955			955	
11:30 AM				<b>980</b>		<b>980</b>			<b>980</b>	
11:45 AM				925		925			925	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				946		946			946	
12:15 PM				929		929			929	
12:30 PM				958		958			958	
12:45 PM				943		943			943	
1:00 PM				910		910			910	
1:15 PM				929		929			929	
1:30 PM				888		888			888	
1:45 PM				904		904			904	
2:00 PM				928		928			928	
2:15 PM				919		919			919	
2:30 PM				978		978			978	
2:45 PM				955		955			955	
3:00 PM				998		998			998	
3:15 PM				1019		1019			1019	
3:30 PM				999		999			999	
3:45 PM				984		984			984	
4:00 PM				1047		1047			1047	
4:15 PM				1015		1015			1015	
4:30 PM				997		997			997	
4:45 PM				1039		1039			1039	
5:00 PM				1038		1038			1038	
5:15 PM				1025		1025			1025	
5:30 PM				1019		1019			1019	
5:45 PM				1095		1095			1095	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>SPECIFIC LOCATION:</b> Pine Ridge Rd Just West of La Costa Cir <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739816 <b>DIRECTION:</b> EB/WB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				888		888			888	
6:15 PM				904		904			904	
6:30 PM				802		802			802	
6:45 PM				768		768			768	
7:00 PM				757		757			757	
7:15 PM				719		719			719	
7:30 PM				632		632			632	
7:45 PM				556		556			556	
8:00 PM				505		505			505	
8:15 PM				528		528			528	
8:30 PM				504		504			504	
8:45 PM				440		440			440	
9:00 PM				491		491			491	
9:15 PM				412		412			412	
9:30 PM				380		380			380	
9:45 PM				309		309			309	
10:00 PM				279		279			279	
10:15 PM				273		273			273	
10:30 PM				235		235			235	
10:45 PM				209		209			209	
11:00 PM				199		199			199	
11:15 PM				164		164			164	
11:30 PM				141		141			141	
11:45 PM				103		103			103	
<b>Day Total</b>				55196		55196			55196	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				11:30 AM 980		11:30 AM 980			11:30 AM 980	
PM Peak Volume				5:45 PM 1095		5:45 PM 1095			5:45 PM 1095	
<i>Comments:</i>										



<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				14		14			14	
12:15 AM				10		10			10	
12:30 AM				13		13			13	
12:45 AM				10		10			10	
1:00 AM				6		6			6	
1:15 AM				7		7			7	
1:30 AM				4		4			4	
1:45 AM				4		4			4	
2:00 AM				5		5			5	
2:15 AM				3		3			3	
2:30 AM				7		7			7	
2:45 AM				6		6			6	
3:00 AM				12		12			12	
3:15 AM				2		2			2	
3:30 AM				11		11			11	
3:45 AM				7		7			7	
4:00 AM				5		5			5	
4:15 AM				6		6			6	
4:30 AM				10		10			10	
4:45 AM				22		22			22	
5:00 AM				19		19			19	
5:15 AM				25		25			25	
5:30 AM				44		44			44	
5:45 AM				49		49			49	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				56		56			56	
6:15 AM				64		64			64	
6:30 AM				103		103			103	
6:45 AM				181		181			181	
7:00 AM				144		144			144	
7:15 AM				212		212			212	
7:30 AM				284		284			284	
7:45 AM				<b>350</b>		<b>350</b>			<b>350</b>	
8:00 AM				292		292			292	
8:15 AM				295		295			295	
8:30 AM				286		286			286	
8:45 AM				292		292			292	
9:00 AM				241		241			241	
9:15 AM				258		258			258	
9:30 AM				266		266			266	
9:45 AM				221		221			221	
10:00 AM				228		228			228	
10:15 AM				247		247			247	
10:30 AM				246		246			246	
10:45 AM				245		245			245	
11:00 AM				226		226			226	
11:15 AM				250		250			250	
11:30 AM				268		268			268	
11:45 AM				248		248			248	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				229		229			229	
12:15 PM				255		255			255	
12:30 PM				249		249			249	
12:45 PM				236		236			236	
1:00 PM				240		240			240	
1:15 PM				256		256			256	
1:30 PM				256		256			256	
1:45 PM				248		248			248	
2:00 PM				265		265			265	
2:15 PM				260		260			260	
2:30 PM				290		290			290	
2:45 PM				330		330			330	
3:00 PM				274		274			274	
3:15 PM				342		342			342	
3:30 PM				316		316			316	
3:45 PM				334		334			334	
4:00 PM				357		357			357	
4:15 PM				308		308			308	
4:30 PM				348		348			348	
4:45 PM				384		384			384	
5:00 PM				334		334			334	
5:15 PM				<b>436</b>		<b>436</b>			<b>436</b>	
5:30 PM				384		384			384	
5:45 PM				243		243			243	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				279		279			279	
6:15 PM				224		224			224	
6:30 PM				206		206			206	
6:45 PM				202		202			202	
7:00 PM				172		172			172	
7:15 PM				186		186			186	
7:30 PM				138		138			138	
7:45 PM				102		102			102	
8:00 PM				106		106			106	
8:15 PM				114		114			114	
8:30 PM				91		91			91	
8:45 PM				112		112			112	
9:00 PM				76		76			76	
9:15 PM				104		104			104	
9:30 PM				71		71			71	
9:45 PM				72		72			72	
10:00 PM				56		56			56	
10:15 PM				46		46			46	
10:30 PM				56		56			56	
10:45 PM				34		34			34	
11:00 PM				35		35			35	
11:15 PM				34		34			34	
11:30 PM				19		19			19	
11:45 PM				13		13			13	
<b>Day Total</b>				15526		15526			15526	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				350		350			350	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				436		436			436	
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				20		20			20	
12:15 AM				12		12			12	
12:30 AM				9		9			9	
12:45 AM				7		7			7	
1:00 AM				15		15			15	
1:15 AM				11		11			11	
1:30 AM				5		5			5	
1:45 AM				4		4			4	
2:00 AM				8		8			8	
2:15 AM				5		5			5	
2:30 AM				7		7			7	
2:45 AM				11		11			11	
3:00 AM				4		4			4	
3:15 AM				4		4			4	
3:30 AM				16		16			16	
3:45 AM				17		17			17	
4:00 AM				4		4			4	
4:15 AM				4		4			4	
4:30 AM				11		11			11	
4:45 AM				18		18			18	
5:00 AM				27		27			27	
5:15 AM				32		32			32	
5:30 AM				53		53			53	
5:45 AM				58		58			58	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL							<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016			
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				76		76			76	
6:15 AM				154		154			154	
6:30 AM				206		206			206	
6:45 AM				260		260			260	
7:00 AM				250		250			250	
7:15 AM				307		307			307	
7:30 AM				<b>400</b>		<b>400</b>			<b>400</b>	
7:45 AM				360		360			360	
8:00 AM				384		384			384	
8:15 AM				362		362			362	
8:30 AM				298		298			298	
8:45 AM				335		335			335	
9:00 AM				295		295			295	
9:15 AM				254		254			254	
9:30 AM				284		284			284	
9:45 AM				272		272			272	
10:00 AM				223		223			223	
10:15 AM				170		170			170	
10:30 AM				242		242			242	
10:45 AM				226		226			226	
11:00 AM				239		239			239	
11:15 AM				241		241			241	
11:30 AM				278		278			278	
11:45 AM				233		233			233	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				247		247			247	
12:15 PM				252		252			252	
12:30 PM				256		256			256	
12:45 PM				244		244			244	
1:00 PM				218		218			218	
1:15 PM				248		248			248	
1:30 PM				252		252			252	
1:45 PM				252		252			252	
2:00 PM				239		239			239	
2:15 PM				259		259			259	
2:30 PM				248		248			248	
2:45 PM				264		264			264	
3:00 PM				292		292			292	
3:15 PM				272		272			272	
3:30 PM				<b>344</b>		<b>344</b>			<b>344</b>	
3:45 PM				304		304			304	
4:00 PM				272		272			272	
4:15 PM				308		308			308	
4:30 PM				283		283			283	
4:45 PM				266		266			266	
5:00 PM				305		305			305	
5:15 PM				275		275			275	
5:30 PM				298		298			298	
5:45 PM				273		273			273	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				214		214			214	
6:15 PM				230		230			230	
6:30 PM				192		192			192	
6:45 PM				187		187			187	
7:00 PM				166		166			166	
7:15 PM				179		179			179	
7:30 PM				148		148			148	
7:45 PM				122		122			122	
8:00 PM				136		136			136	
8:15 PM				170		170			170	
8:30 PM				116		116			116	
8:45 PM				113		113			113	
9:00 PM				96		96			96	
9:15 PM				108		108			108	
9:30 PM				94		94			94	
9:45 PM				76		76			76	
10:00 PM				65		65			65	
10:15 PM				69		69			69	
10:30 PM				51		51			51	
10:45 PM				34		34			34	
11:00 PM				40		40			40	
11:15 PM				50		50			50	
11:30 PM				36		36			36	
11:45 PM				26		26			26	
<b>Day Total</b>				15900		15900			15900	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				400		400			400	
PM Peak				3:30 PM		3:30 PM			3:30 PM	
Volume				344		344			344	
<i>Comments:</i>										



<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB/SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				34		34			34	
12:15 AM				22		22			22	
12:30 AM				22		22			22	
12:45 AM				17		17			17	
1:00 AM				21		21			21	
1:15 AM				18		18			18	
1:30 AM				9		9			9	
1:45 AM				8		8			8	
2:00 AM				13		13			13	
2:15 AM				8		8			8	
2:30 AM				14		14			14	
2:45 AM				17		17			17	
3:00 AM				16		16			16	
3:15 AM				6		6			6	
3:30 AM				27		27			27	
3:45 AM				24		24			24	
4:00 AM				9		9			9	
4:15 AM				10		10			10	
4:30 AM				21		21			21	
4:45 AM				40		40			40	
5:00 AM				46		46			46	
5:15 AM				57		57			57	
5:30 AM				97		97			97	
5:45 AM				107		107			107	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB/SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				132		132			132	
6:15 AM				218		218			218	
6:30 AM				309		309			309	
6:45 AM				441		441			441	
7:00 AM				394		394			394	
7:15 AM				519		519			519	
7:30 AM				684		684			684	
7:45 AM				<b>710</b>		<b>710</b>			<b>710</b>	
8:00 AM				676		676			676	
8:15 AM				657		657			657	
8:30 AM				584		584			584	
8:45 AM				627		627			627	
9:00 AM				536		536			536	
9:15 AM				512		512			512	
9:30 AM				550		550			550	
9:45 AM				493		493			493	
10:00 AM				451		451			451	
10:15 AM				417		417			417	
10:30 AM				488		488			488	
10:45 AM				471		471			471	
11:00 AM				465		465			465	
11:15 AM				491		491			491	
11:30 AM				546		546			546	
11:45 AM				481		481			481	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB/SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				476		476			476	
12:15 PM				507		507			507	
12:30 PM				505		505			505	
12:45 PM				480		480			480	
1:00 PM				458		458			458	
1:15 PM				504		504			504	
1:30 PM				508		508			508	
1:45 PM				500		500			500	
2:00 PM				504		504			504	
2:15 PM				519		519			519	
2:30 PM				538		538			538	
2:45 PM				594		594			594	
3:00 PM				566		566			566	
3:15 PM				614		614			614	
3:30 PM				660		660			660	
3:45 PM				638		638			638	
4:00 PM				629		629			629	
4:15 PM				616		616			616	
4:30 PM				631		631			631	
4:45 PM				650		650			650	
5:00 PM				639		639			639	
5:15 PM				711		711			711	
5:30 PM				682		682			682	
5:45 PM				516		516			516	
<b>Day Total</b>										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

<b>LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>SPECIFIC LOCATION:</b> Livingston Rd Just North of Eatonwood Ln <b>CITY/STATE:</b> Naples, FL						<b>QC JOB #:</b> 13739817 <b>DIRECTION:</b> NB/SB <b>DATE:</b> Mar 10 2016 - Mar 10 2016				
Start Time	Mon	Tue	Wed	Thu 10-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				493		493			493	
6:15 PM				454		454			454	
6:30 PM				398		398			398	
6:45 PM				389		389			389	
7:00 PM				338		338			338	
7:15 PM				365		365			365	
7:30 PM				286		286			286	
7:45 PM				224		224			224	
8:00 PM				242		242			242	
8:15 PM				284		284			284	
8:30 PM				207		207			207	
8:45 PM				225		225			225	
9:00 PM				172		172			172	
9:15 PM				212		212			212	
9:30 PM				165		165			165	
9:45 PM				148		148			148	
10:00 PM				121		121			121	
10:15 PM				115		115			115	
10:30 PM				107		107			107	
10:45 PM				68		68			68	
11:00 PM				75		75			75	
11:15 PM				84		84			84	
11:30 PM				55		55			55	
11:45 PM				39		39			39	
<b>Day Total</b>				31426		31426			31426	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				710		710			710	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				711		711			711	
<i>Comments:</i>										

## **Appendix C**

### Traffic Signal Timing Data

# Programmed EPAC Data

3/30/2016  
12:40:52PM

**Intersection Name: Pine Ridge @ Livingston Rd**

**Intersection Alias: PR@Livingstn**

Access Code: 9999 Channel: 49 Address: 55 Revision: 3.33e

**Access Data**

Port 2 Comm :19200 Baud  
Port 3 Comm :19200 Baud

**Phase Data**

Vehical Basic Timings							Vehical Density Timings			Time B4	Cars	Time To	
Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red	Added Initial	Max_Initial	Reduction	Before	Reduce	Min_Gap	
1	7	3.0	20	0	4.8	2.3	0.0	0	0	0	0	0.0	
2	20	5.0	40	0	4.8	2.4	0.0	0	0	0	0	0.0	
3	7	3.0	20	0	4.8	5.1	0.0	0	0	0	0	0.0	
4	10	4.0	25	0	4.8	2.4	0.0	0	0	0	0	0.0	
5	7	3.0	25	0	4.8	2.3	0.0	0	0	0	0	0.0	
6	20	5.0	40	0	4.8	5.0	0.0	0	0	0	0	0.0	
7	7	3.0	20	0	4.8	2.4	0.0	0	0	0	0	0.0	
8	10	4.0	25	0	4.8	2.4	0.0	0	0	0	0	0.0	

Pedestrian Timing			Extended	Actuated	General Control					Miscellaneous				
Phase	Ped Walk	Flashing Clear	Ped Clear	Rest in Walk	Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
1	0	0	No	0	Inactive	None	None	None	0	Yes	No	No	No	No
2	7	41	No	0	Green	NonActI	Min	None	0	Yes	No	No	No	No
3	0	0	No	0	Inactive	None	None	None	0	Yes	No	No	No	No
4	7	35	No	0	Inactive	None	None	None	0	Yes	Yes	No	No	No
5	0	0	No	0	Inactive	None	None	None	0	Yes	No	No	No	No
6	7	35	No	0	Green	NonActI	Min	None	0	Yes	No	No	No	No
7	0	0	No	0	Inactive	None	None	None	0	Yes	No	No	No	No
8	7	42	No	0	Inactive	NonActII	None	None	0	Yes	Yes	No	No	No

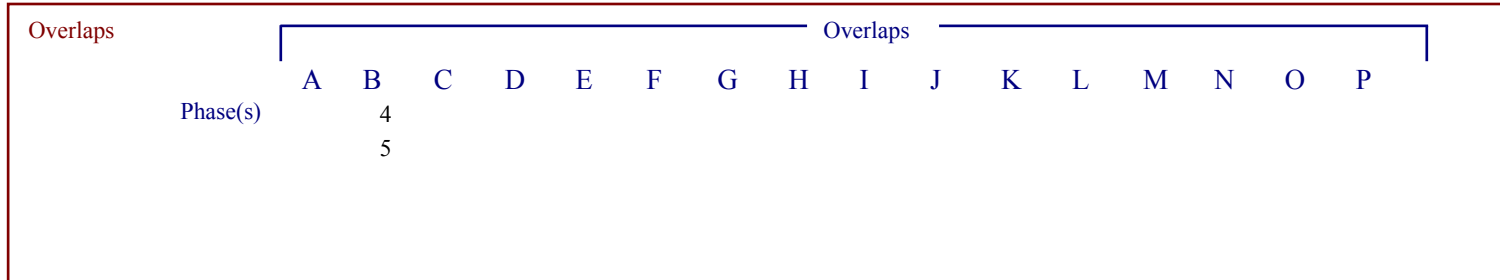
Special Sequence	Vehical Detector Phase Assignment				
Default Data	Assigned Phase	Mode	Switched Phase	Extend	Delay
	Vehical Detector Channel :33	4	Veh	0	0.0

Pedestrian Detector	Special Detector Phase Assignment				
Default Data	Assign Phase	Mode	Switched Phase	Extend	Delay

**Unit Data**

General Control		
Startup Time: 6sec	Startup State: All Red	Red Revert: 4sec
Auto Ped Clear: No	Stop Time Reset: No	Alternate Sequence: 0
ABC connector Input Modes: 0	Input	Output
ABC connector Output Modes: 0	Ring Respons	Selection
D connector Input Modes: 0	1 Ring 1	Ring 1
D connector Output Modes: 0	2 Ring 2	Ring 2
	3 None	None
	4 None	None

Remote Flash			Flash	Flash
Test A = Flash	Yes	Channel	Color	Alternat
		1	Red	Yes
	Flash Entry	2	Yellow	Yes
	Flash Exit	3	Red	No
Phase	Phase	4	Red	No
2	No	5	Red	Yes
4	Yes	6	Yellow	Yes
6	No	7	Red	No
8	Yes	8	Red	No
		14	Red	No



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Trail Red	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Plus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring			Phase(s)															
Phase	Ring	Next Phase	Concurrent Phases															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	3	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
2	1	1	5	5	7	7	2	2	4	4								
3	1	4	6	6	8	8	5	6	7	8								
4	1	2																
5	2	6																
6	2	7																
7	2	8																
8	2	5																

**Alternate Sequences**

Alternate Sequences

Phase  
Pair(s)

No Alternate  
Sequences  
Programmed

**Port 1 Data**

BIU Addr	Port Status	Message
0	Used	No
1	Used	No
8	Used	No
9	Used	No
10	Used	No
16	Used	No
18	Used	No

<b>Channel Assignment</b>											
Control	Channel	Hardware Pin Set		Control	Channel	Hardware Pin Set		Control	Channel	Hardware Pin Set	
Ph.1 Veh	1	1 - Ph.1 RYG	1	Ph.2 Veh	2	2 - Ph.2 RYG	2	Ph.3 Veh	3	3 - Ph.3 RYG	3
Ph.4 Veh	4	4 - Ph.4 RYG	4	Ph.5 Veh	5	5 - Ph.5 RYG	5	Ph.6 Veh	6	6 - Ph.6 RYG	6
Ph.7 Veh	7	7 - Ph.7 RYG	7	Ph.8 Veh	8	8 - Ph.8 RYG	8	Ph.2 Ped	9	10 - Ph.2 DPW	10
Ph.4 Ped	10	12 - Ph.4 DPW	12	Ph.6 Ped	11	14 - Ph.6 DPW	14	Ph.8 Ped	12	16 - Ph.8 DPW	16
Ph.1 OLP	13	17 - Ph.1 RYG	17	Ph.2 OLP	14	18 - Ph.2 RYG	18	Ph.3 OLP	15	19 - Ph.3 RYG	19
Ph.4 OLP	16	20 - Ph.4 RYG	20	Ph.1 Ped	17	9 - Ph.1 DPW	9	Ph.3 Ped	18	11 - Ph.3 DPW	11
Ph.5 Ped	19	13 - Ph.5 DPW	13	Ph.7 Ped	20	15 - Ph.7 DPW	15				

**Coordination Data**

General Coordination Data

Operation Mode: 1=Auto  
Coordination Mode: 2=Permissive  
Yield  
Maximum Mode: 0=Inhibit  
Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn  
Force Mode: 0=Plan  
Max Dwell Time: 0  
Yield Period: 0

Manual Dial: 0  
Manual Split: 0  
Manual Offset: 0

Dial/Split	Cycle
1/1	120
2/3	150
2/4	160
3/1	160
3/2	150
3/3	150
3/4	160
4/1	140
4/2	160
4/3	160
4/4	160

## Split Times and Phase Mode

### Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	18	0=Actuated	2	55	1=Coordinate	3	25	0=Actuated	4	22	0=Actuated
5	20	0=Actuated	6	53	1=Coordinate	7	25	0=Actuated	8	22	0=Actuated

### Dial 2 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	68	1=Coordinate	3	27	0=Actuated	4	30	0=Actuated
5	35	0=Actuated	6	58	1=Coordinate	7	23	0=Actuated	8	34	0=Actuated

### Dial 2 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	70	1=Coordinate	3	27	0=Actuated	4	38	0=Actuated
5	30	0=Actuated	6	65	1=Coordinate	7	35	0=Actuated	8	30	0=Actuated

### Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	75	1=Coordinate	3	31	0=Actuated	4	29	0=Actuated
5	40	0=Actuated	6	60	1=Coordinate	7	25	0=Actuated	8	35	0=Actuated

### Dial 3 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	22	0=Actuated	2	68	1=Coordinate	3	30	0=Actuated	4	30	0=Actuated
5	30	0=Actuated	6	60	1=Coordinate	7	30	0=Actuated	8	30	0=Actuated

### Dial 3 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	22	0=Actuated	2	68	1=Coordinate	3	30	0=Actuated	4	30	0=Actuated
5	30	0=Actuated	6	60	1=Coordinate	7	30	0=Actuated	8	30	0=Actuated

### Dial 3 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	74	1=Coordinate	3	30	0=Actuated	4	31	0=Actuated
5	35	0=Actuated	6	64	1=Coordinate	7	28	0=Actuated	8	33	0=Actuated

### Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	60	1=Coordinate	3	28	0=Actuated	4	32	0=Actuated
5	30	0=Actuated	6	50	1=Coordinate	7	28	0=Actuated	8	32	0=Actuated

### Dial 4 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	70	1=Coordinate	3	31	0=Actuated	4	34	0=Actuated
5	30	0=Actuated	6	65	1=Coordinate	7	35	0=Actuated	8	30	0=Actuated

### Dial 4 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	31	0=Actuated	2	70	1=Coordinate	3	27	0=Actuated	4	32	0=Actuated
5	31	0=Actuated	6	70	1=Coordinate	7	31	0=Actuated	8	28	0=Actuated

### Dial 4 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	70	1=Coordinate	3	32	0=Actuated	4	33	0=Actuated
5	30	0=Actuated	6	65	1=Coordinate	7	35	0=Actuated	8	30	0=Actuated



**Traffic Plan Data**

Plan: <b>1/1/1</b>	Offset Time: 64	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/3/1</b>	Offset Time: 43	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/4/1</b>	Offset Time: 133	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/1/1</b>	Offset Time: 41	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/2/1</b>	Offset Time: 1	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/3/1</b>	Offset Time: 8	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/4/1</b>	Offset Time: 43	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/1/1</b>	Offset Time: 5	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/2/1</b>	Offset Time: 140	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/3/1</b>	Offset Time: 145	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/4/1</b>	Offset Time: 140	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

**Local TBC Data**

Start of Daylight Saving    Month: 3    Week: 2    Cycle Zero Reference    Hours: 24    Min: 0  
 End of Daylight Saving    Month: 11    Week: 1

Source Day	Equate Days						
	1	2	3	4	5	6	7
1	11	21	0	0	0	0	0
2	3	4	5	6	0	0	0
7	17	27	0	0	0	0	0
12	13	14	15	16	0	0	0
22	23	24	25	26	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	1	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	1	6:30	2/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	1	9:0	4/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	1	14:0	2/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	1	18:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	1	21:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	2	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	2	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	2	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	2	8:25	3/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	2	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	2	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	2	15:45	4/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	2	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	2	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	2	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	7	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	7	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	7	6:30	2/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	7	9:30	4/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22	7	11:30	3/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23	7	14:0	2/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24	7	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25	7	21:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26	12	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27	12	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28	12	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29	12	8:25	3/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30	12	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31	12	12:45	4/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32	12	13:30	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33	12	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34	12	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35	12	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36	12	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37	22	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38	22	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39	22	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40	22	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41	22	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42	22	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43	22	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44	22	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

AUX. Events

Event	Program		Min.	Aux Outputs			Det.	Det.	Det.	Dimming	Special Function Outputs							
	Day	Hour		1	2	3	Diag. D1	Rpt. D2	Mult100 D3		1	2	3	4	5	6	7	8
1	1	0	1				X	X										
2	1	6	0					X										
3	1	18	0				X	X										
4	2	0	1				X	X										
5	2	6	0					X										
6	2	18	0				X	X										
7	7	0	1				X	X										
8	7	6	0					X										
9	7	18	0				X	X										
10	12	0	1				X	X										
11	12	6	0					X										
12	12	18	0				X	X										
13	22	0	1				X	X										
14	22	6	0					X										
15	22	18	0				X	X										

Event	Month	Day	Year	Special Day	Special Week
1	1	1	15	0	0
2	6	8	15	0	2
3	8	17	15	0	0
4	1	1	100	22	0
5	1	4	100	22	0
6	1	5	100	22	0
7	1	18	100	22	0
8	2	15	100	22	0
9	3	11	100	22	0
10	3	14	100	22	0
11	3	15	100	22	0
12	3	16	100	22	0
13	3	17	100	22	0
14	3	18	100	22	0
15	3	25	100	22	0
16	4	12	100	12	0
17	5	12	100	12	0
18	5	27	100	22	0
19	5	30	100	22	0
20	6	6	100	12	0
21	6	7	100	12	0
22	9	7	100	22	0
23	9	14	100	12	0
24	9	23	100	12	0
25	10	19	100	22	0
26	10	20	100	22	0
27	11	11	100	22	0
28	11	23	100	22	0
29	11	24	100	22	0
30	11	25	100	22	0
31	11	26	100	22	0
32	11	27	100	22	0
33	12	17	100	12	0
34	12	18	100	12	0
35	12	21	100	22	0
36	12	22	100	22	0
37	12	23	100	22	0
38	12	24	100	22	0
39	12	25	100	22	0
40	12	28	100	22	0
41	12	29	100	22	0
42	12	30	100	22	0
43	12	31	100	22	0

### Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Function 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Function 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Function 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Function 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Function 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Special Function 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 2 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 3 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 4 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 5 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 6 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 7 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Phase 8 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Dimming Data

Channel Red Yellow Green Alternate

Default Data - No Dimming Programmed

### Preemption Data

#### General Preemption Data

Ring Min Grn/Walk Time

1 7  
2 7  
3 7  
4 7

Flash = Preempt 1      Preempt 2 = Preempt 3      Preempt 4 = Preempt 5  
Preempt 1 = Preempt 2      Preempt 3 = Preempt 4      Preempt 5 = Preempt 6

Preempt	Preempt Timers								Select			Track				Dwell Green	Return		
	Non-Locking	Link to Preempt	Delay	Extend	Duration	MaxCall	Lock-Out	Ped Clear	Yel	Red	Grn	Ped	Yel	Red	Ped Clear		Yel	Red	
1	Yes	0	0	0	0	90	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	
2	Yes	0	0	0	0	90	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	
3	Yes	0	0	0	0	90	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	
4	Yes	0	0	0	0	90	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	
5	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	
6	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
2	Yes	No	4	Yes	No	2	Yes	No	4	Yes	No	1	No	Yes	1	No	Yes
6	Yes	No	8	Yes	No	6	Yes	No	8	Yes	No	2	No	Yes	2	No	Yes
												3	No	Yes	3	No	Yes
												4	No	Yes	4	No	Yes
												5	No	Yes	5	No	Yes
												6	No	Yes	6	No	Yes
												7	No	Yes	7	No	Yes
												8	No	Yes	8	No	Yes

Priority Timers										
Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases		
1	No	0	0	0	0	0	0	0=Do not Skip Phases		
2	No	0	0	0	0	0	0	0=Do not Skip Phases		
3	No	0	0	0	0	0	0	0=Do not Skip Phases		
4	No	0	0	0	0	0	0	0=Do not Skip Phases		
5	No	0	0	0	0	0	0	0=Do not Skip Phases		
6	No	0	0	0	0	0	0	0=Do not Skip Phases		

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls

Preempt 1											
Vehical Phases			Pedestrian Phases						Overlaps		
Ph.	Track	Dwell	Cycle	Ph	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle
1	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	
6	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	

Preempt 2											
Vehical Phases			Pedestrian Phases						Overlaps		
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
3	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	
8	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	

Preempt 3											
Vehical Phases			Pedestrian Phases						Overlaps		
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
2	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	
5	Red	Green	No	<b>Default Data</b>						<b>Default Data</b>	

Preempt 4													
Vehical Phases			Pedestrian Phases						Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle		
4	Red	Green	No	<b>Default Data</b>						2	Red	Grn	No
7	Red	Green	No	<b>Default Data</b>									

Preempt 5

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

Default Data

Default Data

Default Data

Preempt 6

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

Default Data

Default Data

Default Data

System/Detectors Data

Local Critical Alarms

Local Free: No    Cycle Failure: No    Coord Failure: No    Conflict Flash: Yes    Remote Flash: No    Revert to Backup: 15    1st Phone: 2395135428  
 Local Flash: No    Cycle Fault: No    Coord Fault: No    Preemption: No    Voltage Monitor:    2nd Phone:  
 Special Status 1: No    Special Status 2: Yes    Special Status 3: No    Special Status 4: No    Special Status 5: No    Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Average Veh/Hr	Occupancy Time(mins)	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor
1	17	1,200	11	10	50					
2	18	1,200	11	10	50	<b>Default Data</b>		<b>Default Data</b>		
3	19	1,200	11	10	50					
4	20	1,200	11	10	50					
5	21	1,200	11	10	50					
6	22	1,200	11	10	50					
7	23	1,200	11	10	50					
8	24	1,200	11	10	50					

Sample Interval:

**Queue: 1**    Input Selection: 0=Average    **Queue:**  
 Detector Failed Level : 0    Level    Enter    Leave    Dial / Split / Offset  
**Queue: 2**    Input Selection: 0=Average    / /  
 Detector Failed Level : 0    **Default Data**

**Vehicle Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	60	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	60	180	60
7	30	180	60
8	30	180	60
17	30	180	60
18	30	180	60
19	30	180	60
20	30	180	60
21	30	180	60
22	30	180	60
23	30	180	60
24	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60
37	30	180	60
38	30	180	60
39	30	180	60
40	30	180	60
41	30	180	60
42	30	180	60
43	30	180	60
44	30	180	60
45	30	180	60
46	30	180	60
47	30	180	60
48	30	180	60

**Vehicle Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	30	180	60
7	30	180	60
8	30	180	60
17	30	180	60
18	30	180	60
19	30	180	60
20	30	180	60
21	30	180	60
22	30	180	60
23	30	180	60
24	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	0	60
29	30	180	60
37	30	180	60
38	30	180	60
39	30	180	60
40	30	180	60
41	30	180	60
42	30	180	60
43	30	180	60
44	30	180	60
45	30	180	60
46	30	180	60
47	30	180	60
48	30	180	60

**Special Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
----------	--------------	-------------	---------------

**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 0 Values**

**Pedestrian Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 1 Values**

**Special Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
----------	--------------	-------------	---------------

**Default Data - No Diag 1 Values**

**Speed Trap Data**

Speed Trap:

Measurement:

Detector 1    Detector\_2    Distance :

Dial/Split/Offset  
//

**Default Data**

Speed Trap  
Low Threshold

Speed Trap  
High Threshold

**Default Data**

## Volume Detector Data

Report Interval 30

Volume Detector Number	Controller Detector Channel
1	17
2	18
3	19
4	20
5	21
6	22
7	23
8	37
9	25
10	26
11	27
12	28
13	29
14	38
15	39
16	40
17	41
18	42
19	43
20	44
21	45
22	46
23	47
24	48



# Programmed EPAC Data

3/30/2016  
12:42:11PM

**Intersection Name: Pine Ridge @ Whipoorwill**

**Intersection Alias: PR@Whipwill**

Access Code: 9999 Channel: 49 Address: 65 Revision: 3.34g

**Access Data**

Port 2 Comm :19200 Baud  
Port 3 Comm :19200 Baud

**Phase Data**

Vehical Basic Timings							Vehical Density Timings			Time B4	Cars	Time To	
Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red	Added Initial	Max_Initial	Reduction	Before	Reduce	Min_Gap	
1	7	2.0	20	0	4.8	2.0	0.0	0	0	0	0	0.0	
2	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
3	5	1.0	20	0	4.4	2.3	0.0	0	0	0	0	0.0	
4	8	1.0	25	0	4.4	2.3	0.0	0	0	0	0	0.0	
5	7	2.0	32	0	4.8	2.0	0.0	0	0	0	0	0.0	
6	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
7	5	1.0	20	0	4.4	2.3	0.0	0	0	0	0	0.0	
8	8	1.0	20	0	4.4	2.3	0.0	0	0	0	0	0.0	

Pedestrian Timing			Extended	Actuated	General Control					Miscellaneous				
Phase	Ped Walk	Flashing Clear	Ped Clear	Rest in Walk	Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
1	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No
2	7	22	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No
3	0	0	No	0	No	Inactive	None	Min	None	0	Yes	No	No	No
4	0	0	No	0	No	Inactive	NonActII	None	None	0	Yes	Yes	No	No
5	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No
6	7	22	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No
7	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No
8	7	33	No	0	No	Inactive	NonActII	None	None	0	Yes	Yes	No	No

Special Sequence				Vehical Detector Phase Assignment					
Phase	Phase Omit	Minus Yellow Phase	Omit Call	Assigned Phase	Mode	Switched Phase	Extend	Delay	
1	6	0	0	Vehical Detector Channel :1	1	Veh	6	0.0	0
2	0	0	0	Vehical Detector Channel :2	2	Veh	0	0.0	0
3	0	0	0	Vehical Detector Channel :3	3	Veh	0	0.0	0
4	0	0	0	Vehical Detector Channel :4	4	Veh	0	0.0	0
5	2	0	0	Vehical Detector Channel :5	5	Veh	2	0.0	0
6	0	0	0	Vehical Detector Channel :6	6	Veh	0	0.0	0
7	0	0	0	Vehical Detector Channel :7	7	Veh	0	0.0	0
8	0	0	0	Vehical Detector Channel :8	8	Veh	0	0.0	0

Pedestrian Detector Default Data		Special Detector Phase Assignment				
Assign Phase	Mode	Switched Phase	Extend	Delay		
: Default Data						

**Unit Data**

General Control			
Startup Time: 5sec	Startup State: Flash	Red Revert: 4sec	
Auto Ped Clear: No	Stop Time Reset: No	Alternate Sequence: 0	
ABC connector Input Modes: 0		Input	Output
ABC connector Output Modes: 0		Ring	Respons Selection
D connector Input Modes: 0		1	Ring 1 Ring 1
D connector Output Modes: 6		2	Ring 2 Ring 2
		3	None None
		4	None None

Remote Flash			Flash	Flash
Phase	Flash Entry Phase	Flash Exit Phase	Channel Color	Alternat
1	Yes	Yes	1 Red	No
2	No	Yes	2 Yellow	No
3	Yes	No	3 Red	Yes
4	Yes	No	4 Red	Yes
5	No	Yes	5 Red	No
6	No	Yes	6 Yellow	No
7	Yes	No	7 Red	Yes
8	Yes	No	8 Red	Yes

Overlaps	Overlaps															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Trail Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Plus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring			Phase(s)																
Phase	Ring	Next Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	1	2	Concurrent Phases	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
2	1	3		5	5	7	7	2	2	4	4								
3	1	4		6	6	8	8	5	6	7	8								
4	1	1																	
5	2	6																	
6	2	7																	
7	2	8																	
8	2	5																	

**Alternate Sequences**

Alternate Sequences

Phase Pair(s)

No Alternate Sequences Programmed

**Port 1 Data**

BIU Addr	Port Status	Message
0	Used	No
1	Used	No
8	Used	No
9	Used	No
10	Used	No
11	Used	No
16	Used	No
18	Used	No

Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set			
Ph.1 Veh	1	1 - Ph.1 RYG	1	Ph.2 Veh	2	2 - Ph.2 RYG	2	Ph.3 Veh	3	3 - Ph.3 RYG	3
Ph.4 Veh	4	4 - Ph.4 RYG	4	Ph.5 Veh	5	5 - Ph.5 RYG	5	Ph.6 Veh	6	6 - Ph.6 RYG	6
Ph.7 Veh	7	7 - Ph.7 RYG	7	Ph.8 Veh	8	8 - Ph.8 RYG	8	Ph.2 Ped	9	10 - Ph.2 DPW	10
Ph.4 Ped	10	12 - Ph.4 DPW	12	Ph.6 Ped	11	14 - Ph.6 DPW	14	Ph.8 Ped	12	16 - Ph.8 DPW	16
Ph.1 OLP	13	17 - Ph.1 RYG	17	Ph.2 OLP	14	18 - Ph.2 RYG	18	Ph.3 OLP	15	19 - Ph.3 RYG	19
Ph.4 OLP	16	20 - Ph.4 RYG	20	Ph.1 Ped	17	9 - Ph.1 DPW	9	Ph.3 Ped	18	11 - Ph.3 DPW	11
Ph.5 Ped	19	13 - Ph.5 DPW	13	Ph.7 Ped	20	15 - Ph.7 DPW	15				

## Coordination Data

### General Coordination Data

Operation Mode: 1=Auto  
Coordination Mode: 2=Permissive  
Yield  
Maximum Mode: 0=Inhibit  
Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn  
Force Mode: 0=Plan  
Max Dwell Time: 0  
Yield Period: 0

Manual Dial: 0  
Manual Split: 0  
Manual Offset: 0

Dial/Split	Cycle
1/1	120
2/3	150
2/4	160
3/1	160
3/2	150
3/3	150
3/4	160
4/1	140
4/2	160
4/3	160
4/4	160

## Split Times and Phase Mode

### Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	60	1=Coordinate	3	18	0=Actuated	4	22	0=Actuated
5	20	0=Actuated	6	60	1=Coordinate	7	22	0=Actuated	8	18	0=Actuated

### Dial 2 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	17	0=Actuated	2	87	1=Coordinate	3	22	0=Actuated	4	24	0=Actuated
5	32	0=Actuated	6	72	1=Coordinate	7	24	0=Actuated	8	22	0=Actuated

### Dial 2 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	90	1=Coordinate	3	23	0=Actuated	4	24	0=Actuated
5	23	0=Actuated	6	90	1=Coordinate	7	24	0=Actuated	8	23	0=Actuated

### Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	18	0=Actuated	2	93	1=Coordinate	3	23	0=Actuated	4	26	0=Actuated
5	34	0=Actuated	6	77	1=Coordinate	7	26	0=Actuated	8	23	0=Actuated

### Dial 3 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	26	0=Actuated	2	73	1=Coordinate	3	23	0=Actuated	4	28	0=Actuated
5	26	0=Actuated	6	73	1=Coordinate	7	28	0=Actuated	8	23	0=Actuated

### Dial 3 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	26	0=Actuated	2	73	1=Coordinate	3	23	0=Actuated	4	28	0=Actuated
5	26	0=Actuated	6	73	1=Coordinate	7	28	0=Actuated	8	23	0=Actuated

### Dial 3 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	18	0=Actuated	2	93	1=Coordinate	3	23	0=Actuated	4	26	0=Actuated
5	34	0=Actuated	6	77	1=Coordinate	7	26	0=Actuated	8	23	0=Actuated

### Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	24	0=Actuated	2	68	1=Coordinate	3	22	0=Actuated	4	26	0=Actuated
5	24	0=Actuated	6	68	1=Coordinate	7	26	0=Actuated	8	22	0=Actuated

### Dial 4 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	90	1=Coordinate	3	23	0=Actuated	4	24	0=Actuated
5	23	0=Actuated	6	90	1=Coordinate	7	24	0=Actuated	8	23	0=Actuated

### Dial 4 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	30	0=Actuated	2	83	1=Coordinate	3	23	0=Actuated	4	24	0=Actuated
5	25	0=Actuated	6	88	1=Coordinate	7	24	0=Actuated	8	23	0=Actuated

### Dial 4 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	90	1=Coordinate	3	23	0=Actuated	4	24	0=Actuated
5	23	0=Actuated	6	90	1=Coordinate	7	24	0=Actuated	8	23	0=Actuated

**Traffic Plan Data**

Plan: <b>1/1/1</b>	Offset Time: 118	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/3/1</b>	Offset Time: 139	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/4/1</b>	Offset Time: 47	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/1/1</b>	Offset Time: 4	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/2/1</b>	Offset Time: 70	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/3/1</b>	Offset Time: 70	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/4/1</b>	Offset Time: 159	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/1/1</b>	Offset Time: 115	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/2/1</b>	Offset Time: 38	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/3/1</b>	Offset Time: 36	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/4/1</b>	Offset Time: 38	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

**Local TBC Data**

Start of Daylight Saving    Month: 3    Week: 2    Cycle Zero Reference    Hours: 24    Min: 0  
 End of Daylight Saving    Month: 11    Week: 1

Source Day	Equate Days						
	1	2	3	4	5	6	7
1	11	21	0	0	0	0	0
2	3	4	5	6	0	0	0
7	17	27	0	0	0	0	0
12	13	14	15	16	0	0	0
22	23	24	25	26	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	5/5/0	Flash On																
2	1	6:0	1/1/1																	
3	1	6:30	2/3/1																	
4	1	9:0	4/1/1																	
5	1	14:0	2/4/1																	
6	1	18:0	1/1/1																	
7	1	21:0	0/0/4																	
8	1	23:0	5/5/0	Flash On																
9	2	0:1	5/5/0	Flash On																
10	2	6:0	1/1/1																	
11	2	6:30	3/1/1																	
12	2	8:25	3/4/1																	
13	2	9:10	3/3/1																	
14	2	14:0	4/2/1																	
15	2	15:45	4/4/1																	
16	2	16:30	4/3/1																	
17	2	18:30	1/1/1																	
18	2	22:0	0/0/4																	
19	2	23:0	5/5/0	Flash On																
20	7	0:1	5/5/0	Flash On																
21	7	6:0	1/1/1																	
22	7	6:30	2/3/1																	
23	7	9:30	4/1/1																	
24	7	11:30	3/2/1																	
25	7	14:0	2/4/1																	
26	7	18:30	1/1/1																	
27	7	21:0	0/0/4																	
28	7	23:0	5/5/0	Flash On																
29	12	0:1	5/5/0	Flash On																
30	12	6:0	1/1/1																	
31	12	6:30	3/1/1																	
32	12	8:25	3/4/1																	
33	12	9:10	3/3/1																	
34	12	12:45	4/4/1																	
35	12	13:30	3/3/1																	
36	12	14:0	4/2/1																	
37	12	16:30	4/3/1																	
38	12	18:30	1/1/1																	
39	12	22:0	0/0/4																	
40	12	23:0	5/5/0	Flash On																
41	22	0:1	5/5/0	Flash On																
42	22	6:0	1/1/1																	
43	22	6:30	3/1/1																	
44	22	9:10	3/3/1																	
45	22	14:0	4/2/1																	

46	22	16:30	4/3/1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	22	18:30	1/1/1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	22	22:0	0/0/4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	22	23:0	5/5/0 Flash On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**AUX. Events**

Event	Program		Min.	Aux Outputs			Det.	Det.	Det.	Dimming	Special Function Outputs								
	Day	Hour		D1	D2	D3	1	2	3		4	5	6	7	8				
1	1	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	1	18	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	2	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	2	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	2	18	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	7	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	7	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	7	18	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	12	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	12	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	12	18	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	22	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	22	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	22	18	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Event	Month	Day	Year	Special Day	Special Week
1	1	1	15	0	0
2	6	8	15	0	2
3	8	17	15	0	0
4	1	1	100	22	0
5	1	4	100	22	0
6	1	5	100	22	0
7	1	18	100	22	0
8	2	15	100	22	0
9	3	11	100	22	0
10	3	14	100	22	0
11	3	15	100	22	0
12	3	16	100	22	0
13	3	17	100	22	0
14	3	18	100	22	0
15	3	25	100	22	0
16	4	12	100	12	0
17	5	12	100	12	0
18	5	27	100	22	0
19	5	30	100	22	0
20	6	6	100	12	0
21	6	7	100	12	0
22	9	7	100	22	0
23	9	14	100	12	0
24	9	23	100	12	0
25	10	19	100	22	0
26	10	20	100	22	0
27	11	11	100	22	0
28	11	23	100	22	0
29	11	24	100	22	0
30	11	25	100	22	0
31	11	26	100	22	0
32	11	27	100	22	0
33	12	17	100	12	0
34	12	18	100	12	0
35	12	21	100	22	0
36	12	22	100	22	0
37	12	23	100	22	0
38	12	24	100	22	0
39	12	25	100	22	0
40	12	28	100	22	0
41	12	29	100	22	0
42	12	30	100	22	0
43	12	31	100	22	0

### Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 1	X							
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X



### Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 2 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 3 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 4 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 5 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 6 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
Phase 7 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
Phase 8 Phase Omit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

### Dimming Data

Channel Red Yellow Green Alternate

Default Data - No Dimming Programmed

### Preemption Data

#### General Preemption Data

Ring Min Grn/Walk Time

1	10
2	10
3	10
4	10

Flash = Preempt 1      Preempt 2 = Preempt 3      Preempt 4 = Preempt 5  
 Preempt 1 = Preempt 2      Preempt 3 = Preempt 4      Preempt 5 = Preempt 6

#### Preempt Timers

Preempt	Non-Locking	Link to Preempt	Delay	Extend	Duration	MaxCall	Lock-Out	Select			Track				Dwell Green	Return		
								Ped Clear	Yel	Red	Grn	Ped	Yel	Red		Ped Clear	Yel	Red
1	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
2	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
3	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
4	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
5	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
6	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
2	Yes	No	3	Yes	No	2	Yes	No	4	Yes	No	1	No	Yes	1	No	Yes
6	Yes	No	8	Yes	No	6	Yes	No	7	Yes	No	2	No	Yes	2	No	Yes
												3	No	Yes	3	No	Yes
												4	No	Yes	4	No	Yes
												5	No	Yes	5	No	Yes
												6	No	Yes	6	No	Yes
												7	No	Yes	7	No	Yes
												8	No	Yes	8	No	Yes

### Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls

### Preempt 1

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
2	Red	Green	No	<b>Default Data</b>				<b>Default Data</b>			
6	Red	Green	No								

### Preempt 2

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
3	Red	Green	No	<b>Default Data</b>				<b>Default Data</b>			
8	Red	Green	No								

### Preempt 3

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
2	Red	Green	No	<b>Default Data</b>				<b>Default Data</b>			
6	Red	Green	No								

### Preempt 4

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
4	Red	Green	No	<b>Default Data</b>				<b>Default Data</b>			
7	Red	Green	No								

### Preempt 5

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
<b>Default Data</b>											

### Preempt 6

Vehical Phases				Pedestrian Phases				Overlaps			
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
<b>Default Data</b>											

## System/Detectors Data

### Local Critical Alarms

Local Free: No    Cycle Failure: No    Coord Failure: No    Conflict Flash: Yes    Remote Flash: No    1st Phone:    2nd Phone:  
 Local Flash: No    Cycle Fault: No    Coord Fault: No    Preemption: No    Voltage Monitor:  
 Special Status 1: Yes    Special Status 2: Yes    Special Status 3: No    Special Status 4: No    Special Status 5: No    Special Status 6: No

### Traffic Responsive

System Detector	Detector Channel	Average Veh/Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor
1	17	1,500	2	10	30						
2	18	1,500	2	10	30	<b>Default Data</b>			<b>Default Data</b>		
3	19	1,500	2	10	30						
4	20	1,500	2	10	30						
5	21	1,500	2	10	30						
6	22	1,500	2	10	30						
7	23	1,500	2	10	30						
8	24	1,500	2	10	30						

Sample Interval: 2

**Queue: 1**    Input Selection: 0=Average    **Queue:**  
 Detector Failed Level : 0    Level    Enter    Leave    Dial / Split / Offset  
**Queue: 2**    Input Selection: 0=Average    / /  
 Detector Failed Level : 0    **Default Data**

### Vehicle Detector

#### Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	30	180	60
7	30	180	60
8	30	180	60
17	30	180	60
18	30	180	60
19	30	180	60
20	30	180	60
21	30	180	60
22	30	180	60
23	30	180	60
24	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60
30	30	180	60
31	30	180	60
32	30	0	60
33	30	180	60

### Vehicle Detector

#### Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	30	180	60
7	30	180	60
8	30	180	60
17	30	0	60
18	30	0	60
19	30	0	60
20	30	0	60
21	30	0	60
22	30	0	60
23	30	0	60
24	30	0	60
25	30	0	60
26	30	0	60
27	30	0	60
28	30	0	60
29	30	0	60
30	30	0	60
31	30	0	60
32	30	0	60
33	30	0	60

### Special Detector

#### Diagnostic Value 0

Max Presence    No Activity    Erratic Count  
 Detector    Presence    Activity    Count

**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 0 Values**

**Speed Trap Data**

Speed Trap:

Measurement:

Detector 1    Detector\_2    Distance :

**Default Data**

**Volume Detector Data**

Volume Detector Number	Controller Detector Channel	Report Interval
1	17	15
2	18	30
3	19	
4	20	
5	21	
7	22	
8	23	
9	24	
10	25	
11	26	
13	27	
14	28	
15	29	
16	30	
17	31	
18	32	
19	33	

**Pedestrian Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 1 Values**

**Special Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
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**Default Data - No Diag 1 Values**

Speed Trap  
Low Treshold

Speed Trap  
High Treshold

Dial/Split/Offset  
//

**Default Data**

# Programmed EPAC Data

3/30/2016  
12:43:53PM

**Intersection Name: Pine Ridge @ I-75 W**

**Intersection Alias: PR@I75S**

Access Code: 9999 Channel: 49 Address: 70 Revision: 3.34

**Access Data**

Port 2 Comm :9600 Baud  
Port 3 Comm :19200 Baud

**Phase Data**

<u>Vehical Basic Timings</u>							<u>Vehical Density Timings</u>			<u>Time B4</u>	<u>Cars</u>	<u>Time To</u>	
Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red	Added Initial	Max_Initial	Reduction	Before	Reduce	Min_Gap	
1	7	4.0	30	0	4.8	2.0	0.0	0	0	0	0	0.0	
2	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
4	7	4.0	20	0	5.5	2.0	0.0	0	0	0	0	0.0	
6	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
7	7	4.0	20	0	5.5	2.0	0.0	0	0	0	0	0.0	
10	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
11	7	3.5	30	0	5.5	2.0	0.0	0	0	0	0	0.0	
13	7	3.0	20	0	4.8	2.0	0.0	0	0	0	0	0.0	
14	20	5.0	50	0	4.8	2.0	0.0	0	0	0	0	0.0	
16	7	3.5	30	0	5.5	2.0	0.0	0	0	0	0	0.0	

<u>Pedestrian Timing</u>			<u>Extended</u>	<u>Actuated</u>	<u>General Control</u>					<u>Miscellaneous</u>					
Phase	Walk	Ped Clear	Flashing Walk	Ped Clear	Rest in Walk	Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
1	0	0	No	0	No	Inactive	None	None	None	0	No	No	No	No	No
2	7	15	No	0	No	Green	NonActI	Min	None	0	No	No	No	No	No
4	0	0	No	0	No	Inactive	None	None	None	0	Yes	Yes	No	No	No
6	0	0	No	0	No	Green	NonActI	Min	None	0	No	No	No	No	No
7	0	0	No	0	No	Inactive	None	None	None	0	Yes	Yes	No	No	No
10	7	20	No	0	No	Green	NonActI	Min	None	0	No	No	No	No	No
11	0	0	No	0	No	Inactive	None	None	None	0	Yes	Yes	No	No	No
13	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No	No
14	0	0	No	0	No	Green	NonActI	Min	None	0	No	No	No	No	No
16	0	0	No	0	No	Inactive	None	None	None	0	Yes	Yes	No	No	No

**Special Sequence Default Data**

**Vehical Detector Phase Assignment**

	Assigned Phase	Mode	Switched Phase	Extend	Delay
Vehical Detector Channel :3	14	Veh	0	0.0	0
Vehical Detector Channel :5	13	Veh	0	0.0	0
Vehical Detector Channel :10	14	Veh	0	0.0	0
Vehical Detector Channel :11	10	Veh	0	0.0	0
Vehical Detector Channel :12	10	Veh	0	0.0	0
Vehical Detector Channel :13	11	Veh	0	0.0	0
Vehical Detector Channel :15	16	Veh	0	0.0	0
Vehical Detector Channel :29	1	Veh	0	0.0	0

**Pedestrian Detector**

Pedestrian Detector Channel :6	10	Ped	0	0.0	0
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**Special Detector Phase Assignment**

	Assign Phase	Mode	Switched Phase	Extend	Delay
<b>Default Data</b>					

## Unit Data

### General Control

Startup Time: 5sec    Startup State: Flash    Red Revert: 4sec  
 Auto Ped Clear: No    Stop Time Reset: No    Alternate Sequence: 0  
 ABC connector Input Modes: 0  
 ABC connector Output Modes: 0  
 D connector Input Modes: 0  
 D connector Output Modes: 0

Ring	Input Respons	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	None

### Remote Flash

Phase	Flash Entry Phase	Flash Exit Phase	Channel	Flash Color	Flash Alternat
	Test A = Flash Yes		1	Red	No
			2	Yellow	No
			3	Red	Yes
2	No	Yes	4	Red	Yes
4	Yes	No	5	Red	No
6	No	Yes	6	Yellow	No
7	Yes	No	7	Red	Yes
10	No	Yes	8	Red	Yes
11	Yes	No	13	Yellow	No
14	No	Yes	14	Yellow	No
16	Yes	No	15	Red	No

### Overlaps

Phase(s)	Overlaps															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	4.0	4.0	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Trail Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Plus Green	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0
Minus Green	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0

### Ring

Phase	Ring	Next Phase	Phase(s)															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2	1	2	3	4	5	1	4	8	9	1	1	12	1	1	15	1
2	1	4	6	6		7		2	7			2	2		2	2		2
4	1	1	10	10		10		6	10			4	4		4	4		4
6	2	7	11	11		11		10	11			6	6		6	6		6
7	2	6	13	13		13		11	13			7	7		7	7		7
10	3	11	14	14		14		13	14			10	11		10	10		11
11	3	10	16	16		16		14	16			13	16		13	14		16
13	4	16						16				14						
14	4	13																
16	4	14																

### Alternate Sequences

Alternate Sequences

Phase Pair(s)

No Alternate Sequences Programmed

### Port 1 Data

BIU Addr	Port Status	Message
0	Used	No
1	Used	No
8	Used	No
9	Used	No
16	Used	No
18	Used	No

## Channel Assignment

Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set
Ph.1 Veh	1	1 - Ph.1 RYG	Ph.2 Veh	2	2 - Ph.2 RYG	Ph.11 Veh	3	3 - Ph.11 RYG
Ph.4 Veh	4	4 - Ph.4 RYG	Ph.13 Veh	5	5 - Ph.13 RYG	Ph.6 Veh	6	6 - Ph.6 RYG
Ph.7 Veh	7	7 - Ph.7 RYG	Ph.16 Veh	8	8 - Ph.16 RYG	Ph.2 Ped	9	10 - Ph.2 DPW
Ph.4 Ped	10	12 - Ph.4 DPW	Ph.10 Ped	11	14 - Ph.10 DPW	Ph.8 Ped	12	16 - Ph.8 DPW
Ph.10 Veh	13	17 - Ph.10 RYG	Ph.14 Veh	14	18 - Ph.14 RYG	Ph.3 OLP	15	19 - Ph.3 RYG
Ph.4 OLP	16	20 - Ph.4 RYG	Ph.1 Ped	17	9 - Ph.1 DPW	Ph.3 Ped	18	11 - Ph.3 DPW
Ph.5 Ped	19	13 - Ph.5 DPW	Ph.7 Ped	20	15 - Ph.7 DPW			

## Coordination Data

General Coordination Data

Operation Mode: 1=Auto

Coordination Mode: 2=Permissive

Yield  
Maximum Mode: 0=Inhibit

Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn

Force Mode: 0=Plan

Max Dwell Time: 0

Yield Period: 0

Manual Dial: 3

Manual Split: 1

Manual Offset: 1

Dial/Split Cycle

1/1	120
1/4	160
2/3	150
2/4	160
3/1	160
3/2	150
3/3	150
3/4	160
4/1	140
4/2	160
4/3	160
4/4	160

## Split Times and Phase Mode

### Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	30	0=Actuated	2	69	1=Coordinate	4	21	0=Actuated	6	99	1=Coordinate
7	21	0=Actuated	10	80	1=Coordinate	11	40	0=Actuated	13	15	0=Actuated
14	65	1=Coordinate	16	40	0=Actuated						

### Dial 1 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	37	0=Actuated	2	96	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	82	1=Coordinate	11	78	0=Actuated	13	32	0=Actuated
14	50	1=Coordinate	16	78	0=Actuated						

### Dial 2 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	35	0=Actuated	2	90	1=Coordinate	4	25	0=Actuated	6	125	1=Coordinate
7	25	0=Actuated	10	105	1=Coordinate	11	45	0=Actuated	13	30	0=Actuated
14	75	1=Coordinate	16	45	0=Actuated						

### Dial 2 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	60	0=Actuated	2	73	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	113	1=Coordinate	11	47	0=Actuated	13	20	0=Actuated
14	93	1=Coordinate	16	47	0=Actuated						

### Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	37	0=Actuated	2	96	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	112	1=Coordinate	11	48	0=Actuated	13	32	0=Actuated
14	80	1=Coordinate	16	48	0=Actuated						

### Dial 3 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	53	0=Actuated	2	69	1=Coordinate	4	28	0=Actuated	6	122	1=Coordinate
7	28	0=Actuated	10	96	1=Coordinate	11	54	0=Actuated	13	18	0=Actuated
14	78	1=Coordinate	16	54	0=Actuated						

### Dial 3 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	53	2=Min Recall	2	69	1=Coordinate	4	28	0=Actuated	6	122	1=Coordinate
7	28	0=Actuated	10	96	1=Coordinate	11	54	0=Actuated	13	18	0=Actuated
14	78	1=Coordinate	16	54	0=Actuated						

### Dial 3 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	37	0=Actuated	2	96	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	112	1=Coordinate	11	48	0=Actuated	13	32	0=Actuated
14	80	1=Coordinate	16	48	0=Actuated						

### Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	50	0=Actuated	2	64	1=Coordinate	4	26	0=Actuated	6	114	1=Coordinate
7	26	0=Actuated	10	90	1=Coordinate	11	50	0=Actuated	13	17	0=Actuated
14	73	1=Coordinate	16	50	0=Actuated						

### Dial 4 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	60	0=Actuated	2	73	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	113	1=Coordinate	11	47	0=Actuated	13	20	0=Actuated
14	93	1=Coordinate	16	47	0=Actuated						

### Dial 4 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	60	0=Actuated	2	73	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	113	1=Coordinate	11	47	0=Actuated	13	23	0=Actuated
14	90	1=Coordinate	16	47	0=Actuated						

### Dial 4 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
-----	--------	----------	-----	--------	----------	-----	--------	----------	-----	--------	----------



1	60	0=Actuated	2	73	1=Coordinate	4	27	0=Actuated	6	133	1=Coordinate
7	27	0=Actuated	10	113	1=Coordinate	11	47	0=Actuated	13	20	0=Actuated
14	93	1=Coordinate	16	47	0=Actuated						

**Traffic Plan Data**

Plan: <b>1/1/1</b>	Offset Time: 45	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 19	Rg 4 Lag Time: 0
Plan: <b>1/4/1</b>	Offset Time: 94	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 32	Rg 4 Lag Time: 0
Plan: <b>2/3/1</b>	Offset Time: 71	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0
Plan: <b>2/4/1</b>	Offset Time: 53	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0
Plan: <b>3/1/1</b>	Offset Time: 94	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 32	Rg 4 Lag Time: 0
Plan: <b>3/2/1</b>	Offset Time: 144	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 22	Rg 4 Lag Time: 0
Plan: <b>3/3/1</b>	Offset Time: 144	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 16	Rg 4 Lag Time: 0
Plan: <b>3/4/1</b>	Offset Time: 95	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 21	Rg 4 Lag Time: 0
Plan: <b>4/1/1</b>	Offset Time: 128	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0
Plan: <b>4/2/1</b>	Offset Time: 110	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0
Plan: <b>4/3/1</b>	Offset Time: 78	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0
Plan: <b>4/4/1</b>	Offset Time: 110	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 20	Rg 4 Lag Time: 0

**Local TBC Data**

Start of Daylight Saving    Month: 3    Week: 2    Cycle Zero Reference    Hours: 24    Min: 0  
End of Daylight Saving    Month: 11    Week: 1

Source Day	Equate Days						
	1	2	3	4	5	6	7
1	11	21	0	0	0	0	0
2	3	4	5	6	0	0	0
7	17	27	0	0	0	0	0
12	13	14	15	16	0	0	0
22	23	24	25	26	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	1	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	1	6:30	2/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	1	9:0	4/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	1	14:0	2/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	1	18:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	1	21:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	2	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	2	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	2	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	2	8:25	3/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	2	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	2	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	2	15:45	4/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	2	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	2	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	2	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	7	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	7	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	7	6:30	2/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	7	9:30	4/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22	7	11:30	3/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23	7	14:0	2/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24	7	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25	7	21:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26	12	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27	12	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28	12	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29	12	8:25	3/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30	12	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31	12	12:45	4/4/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32	12	13:30	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33	12	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34	12	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35	12	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36	12	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37	22	0:1	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38	22	6:0	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39	22	6:30	3/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40	22	9:10	3/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41	22	14:0	4/2/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42	22	16:30	4/3/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43	22	18:30	1/1/1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44	22	22:0	0/0/4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

AUX. Events

Event	Program		Min.	Aux Ouputs			Det.	Det.	Det.	Dimming	Special Function Outputs							
	Day	Hour		D1	D2	D3	D1	D2	D3		1	2	3	4	5	6	7	8
1	1	0	1				X	X										
2	1	6	0					X										
3	1	20	0				X	X										
4	2	0	1				X	X										
5	2	6	0					X										
6	2	16	0					X			X							
7	2	18	0					X										
8	2	20	0				X	X										
9	7	0	1				X	X										
10	7	6	0					X										
11	7	20	0				X	X										
12	12	0	1				X	X										
13	12	6	0					X										
14	12	16	0					X			X							
15	12	18	0					X										
16	12	20	0				X	X										
17	22	0	1				X	X										
18	22	6	0					X										
19	22	16	0					X			X							
20	22	18	0					X										
21	22	20	0				X	X										

Event	Month	Day	Year	Special Day	Special Week
1	1	1	15	0	0
2	6	8	15	0	2
3	8	17	15	0	0
4	1	1	100	22	0
5	1	4	100	22	0
6	1	5	100	22	0
7	1	18	100	22	0
8	2	15	100	22	0
9	3	11	100	22	0
10	3	14	100	22	0
11	3	15	100	22	0
12	3	16	100	22	0
13	3	17	100	22	0
14	3	18	100	22	0
15	3	25	100	22	0
16	4	12	100	12	0
17	5	12	100	12	0
18	5	27	100	22	0
19	5	30	100	22	0
20	6	6	100	12	0
21	6	7	100	12	0
22	9	7	100	22	0
23	9	14	100	12	0
24	9	23	100	12	0
25	10	19	100	22	0
26	10	20	100	22	0
27	11	11	100	22	0
28	11	23	100	22	0
29	11	24	100	22	0
30	11	25	100	22	0
31	11	26	100	22	0
32	11	27	100	22	0
33	12	17	100	12	0
34	12	18	100	12	0
35	12	21	100	22	0
36	12	22	100	22	0
37	12	23	100	22	0
38	12	24	100	22	0
39	12	25	100	22	0
40	12	28	100	22	0
41	12	29	100	22	0
42	12	30	100	22	0
43	12	31	100	22	0

### Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X
SPC 1-8 as Phs Func 1-8	X							

## Phase Function

Phase Function Map

Overlap C Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Dimming Data

Channel Red Yellow Green Alternate

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

Default Data - No Dimming Programmed

## Preemption Data

### General Preemption Data

Ring Min Grn/Walk Time

1	7
2	7
3	7
4	7

Flash = Preempt 1      Preempt 2 = Preempt 3      Preempt 4 = Preempt 5  
 Preempt 1 = Preempt 2      Preempt 3 = Preempt 4      Preempt 5 = Preempt 6

### Preempt Timers

Preempt	Non-Locking	Link to Preempt	Delay	Extend	Duration	MaxCall	Lock-Out	Select			Track				Dwell Green	Return		
								Ped Clear	Yel	Red	Grn	Ped	Yel	Red		Ped Clear	Yel	Red
1	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
2	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
3	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
4	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
5	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
6	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0

### Preempt 1

### Preempt 2

### Preempt 3

### Preempt 4

### Preempt 5

### Preempt 6

Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls
1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes
2	No	Yes	2	No	Yes	2	No	Yes	2	No	Yes	2	No	Yes	2	No	Yes
3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes
4	No	Yes	4	No	Yes	4	No	Yes	4	No	Yes	4	No	Yes	4	No	Yes
5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes
6	No	Yes	6	No	Yes	6	No	Yes	6	No	Yes	6	No	Yes	6	No	Yes
7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes
8	No	Yes	8	No	Yes	8	No	Yes	8	No	Yes	8	No	Yes	8	No	Yes

### Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls	Exit Phase	Exit Phase	Exit Calls

**Preempt 1**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**Preempt 2**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**Preempt 3**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**Preempt 4**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**Preempt 5**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**Preempt 6**

Vehical Phases			Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle	Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle

**Default Data**

**System/Detectors Data**

**Local Critical Alarms**

Local Free: No	Cycle Failure: No	Coord Failure: No	Conflict Flash: No	Remote Flash: Yes	Revert to Backup: 15	1st Phone:
Local Fash: No	Cycle Fault: No	Coord Fault: No	Preemption: No	Voltage Monitor:	Special Status 4: <sup>Yes</sup> No	2nd Phone:
Special Status 1: Yes	Special Status 2: Yes	Special Status 3: No	Special Status 4: No	Special Status 5: No	Special Status 6: No	

**Traffic Responsive**

System Detector	Detector Channel	Average Veh/Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor
1	17	1,200	10	10	50						
2	18	1,200	10	10	50	<b>Default Data</b>			<b>Default Data</b>		
3	19	1,200	10	10	50						
4	20	1,200	10	10	50						
5	21	1,200	10	10	50						
6	22	1,200	10	10	50						
7	24	1,200	10	10	50						
8	25	1,200	10	10	50						

Sample Interval:

<b>Queue: 1</b>	Input Selection: 0=Average	<b>Queue:</b>	Level	Enter	Leave	Dial / Split / Offset
	Detector Failed Level : 0					
<b>Queue: 2</b>	Input Selection: 0=Average					/ /
	Detector Failed Level : 0	<b>Default Data</b>				

**Vehicle Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	30	180	60
7	30	180	60
10	30	180	60
11	30	180	60
12	30	180	60
13	30	180	60
15	30	180	60
16	30	180	60
17	30	180	60
18	30	180	60
19	30	180	60
20	30	180	60
21	30	180	60
22	30	180	60
24	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60
30	30	180	60
31	30	180	60

**Vehicle Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
3	30	180	60
4	30	180	60
5	30	180	60
6	30	180	60
7	30	180	60
10	30	180	60
11	30	180	60
12	30	180	60
13	30	180	60
15	30	240	60
16	30	180	60
17	30	180	60
18	30	180	60
19	30	180	60
20	30	180	60
21	30	180	60
22	30	180	60
24	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60
30	30	180	60
31	30	180	60

**Special Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
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**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 0 Values**

**Pedestrian Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 1 Values**

**Special Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
----------	--------------	-------------	---------------

**Default Data - No Diag 1 Values**

**Speed Trap Data**

Speed Trap:

Measurement:

Detector 1    Detector\_2    Distance :

Dial/Split/Offset  
//

**Default Data**

Speed Trap  
Low Treshold

Speed Trap  
High Treshold

## Volume Detector Data

Volume Detector Number	Controller Detector Channel	Report Interval
5	24	15
6	25	30
7	26	
8	27	
9	20	
10	21	
11	22	
13	17	
14	18	
15	19	
17	28	
21	29	
22	30	
23	31	



# Programmed EPAC Data

3/30/2016  
12:47:34PM

**Intersection Name: Pine Ridge @ Napa Blvd**

**Intersection Alias: PR@Napa**

Access Code: 9999 Channel: 49 Address: 80 Revision: 3.34g

**Access Data**

Port 2 Comm :1200 Baud  
Port 3 Comm :1200 Baud

**Phase Data**

<u>Vehical Basic Timings</u>							<u>Vehical Density Timings</u>			<u>Time B4</u>	<u>Cars</u>	<u>Time To</u>	
Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red	Added Initial	Max_Initial	Reduction	Before	Reduce	Min_Gap	
1	10	4.0	40	30	4.8	2.0	0.0	0	0	0	0	0.0	
2	20	20.0	60	50	4.8	2.0	0.0	0	0	0	0	0.0	
4	8	4.0	40	50	4.4	2.5	0.0	0	0	0	0	0.0	
5	7	3.0	10	30	4.8	2.0	0.0	0	0	0	0	0.0	
6	20	20.0	60	50	4.8	2.0	0.0	0	0	0	0	0.0	
8	8	4.0	40	50	4.4	2.5	0.0	0	0	0	0	0.0	

<u>Pedestrian Timing</u>			<u>Extended</u>	<u>Actuated</u>	<u>General Control</u>					<u>Miscellaneous</u>					
Phase	Walk	Clear	Flashing Walk	Ped Clear	Rest in Walk	Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
1	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No	No
2	7	27	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No	No
4	7	36	No	0	No	Inactive	NonActII	None	None	0	Yes	Yes	No	No	No
5	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No	No
6	1	1	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No	No
8	0	0	No	0	No	Inactive	NonActIII	None	None	0	Yes	Yes	No	No	No

**Special Sequence Default Data**

**Vehical Detector Phase Assignment**

	Assigned Phase	Mode	Switched Phase	Extend	Delay
Vehical Detector Channel :1	1	Veh	0	0.0	0
Vehical Detector Channel :2	2	Veh	0	0.0	0
Vehical Detector Channel :4	4	Veh	0	0.0	8
Vehical Detector Channel :5	5	Veh	0	0.0	0
Vehical Detector Channel :6	6	Veh	0	0.0	0
Vehical Detector Channel :8	8	Veh	0	0.0	0
Vehical Detector Channel :9	1	Veh	0	0.0	0
Vehical Detector Channel :10	6	Veh	0	0.0	0
Vehical Detector Channel :11	6	Veh	0	0.0	0
Vehical Detector Channel :12	2	Veh	0	0.0	0
Vehical Detector Channel :13	2	Veh	0	0.0	0
Vehical Detector Channel :14	8	Veh	0	0.0	0

**Pedestrian Detector Default Data**

**Special Detector Phase Assignment**

	Assign Phase	Mode	Switched Phase	Extend	Delay
:					

**Default Data**

**Unit Data**

**General Control**

Startup Time: 5sec Startup State: Flash Red Revert: 4sec  
 Auto Ped Clear: No Stop Time Reset: No Alternate Sequence: 0  
 ABC connector Input Modes: 0  
 ABC connector Output Modes: 0  
 D connector Input Modes: 0  
 D connector Output Modes: 6

Ring	Input Respons	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	None

**Remote Flash**

Test A = Flash Yes

Phase	Flash Entry Phase	Flash Exit Phase	Channel	Flash Color	Flash Alternat
1			1	Red	Yes
2			2	Yellow	Yes
3			3	Red	No
4			4	Red	No
5			5	Red	Yes
6			6	Yellow	Yes
7			7	Red	No
8			8	Red	No

Overlaps	Overlaps															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Trail Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Plus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minus Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring			Phase(s)																
Phase	Ring	Next Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	1	2	Concurrent Phases	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
2	1	3		5	5	7	7	2	2	4	4								
4	1	1		6	6	8	8	5	6	7	8								
5	2	6																	
6	2	7																	
8	2	5																	

**Alternate Sequences**

Alternate Sequences

Phase Pair(s)

No Alternate Sequences Programmed

**Port 1 Data**

BIU Addr	Port Status	Message
0	Used	No
1	Used	No
8	Used	No
9	Used	No
16	Used	No
18	Used	No

<b>Channel Assignment</b>											
Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set	Control	Channel	Hardware Pin Set
Ph.1 Veh	1	1 - Ph.1 RYG	1	Ph.2 Veh	2	2 - Ph.2 RYG	2	Ph.3 Veh	3	3 - Ph.3 RYG	3
Ph.4 Veh	4	4 - Ph.4 RYG	4	Ph.5 Veh	5	5 - Ph.5 RYG	5	Ph.6 Veh	6	6 - Ph.6 RYG	6
Ph.7 Veh	7	7 - Ph.7 RYG	7	Ph.8 Veh	8	8 - Ph.8 RYG	8	Ph.2 Ped	9	10 - Ph.2 DPW	10
Ph.4 Ped	10	12 - Ph.4 DPW	12	Ph.6 Ped	11	14 - Ph.6 DPW	14	Ph.8 Ped	12	16 - Ph.8 DPW	16
Ph.1 OLP	13	17 - Ph.1 RYG	17	Ph.2 OLP	14	18 - Ph.2 RYG	18	Ph.3 OLP	15	19 - Ph.3 RYG	19
Ph.4 OLP	16	20 - Ph.4 RYG	20	Ph.1 Ped	17	9 - Ph.1 DPW	9	Ph.3 Ped	18	11 - Ph.3 DPW	11
Ph.5 Ped	19	13 - Ph.5 DPW	13	Ph.7 Ped	20	15 - Ph.7 DPW	15				

**Coordination Data**

General Coordination Data

Operation Mode: 1=Auto  
 Coordination Mode: 2=Permissive  
 Yield  
 Maximum Mode: 0=Inhibit  
 Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn  
 Force Mode: 0=Plan  
 Max Dwell Time: 25  
 Yield Period: 0

Manual Dial: 1  
 Manual Split: 1  
 Manual Offset: 1

**Dial/Split Cycle**

1/1	120
2/3	150
2/4	160
3/1	160
3/2	150
3/3	150
3/4	160
4/1	140
4/2	160
4/3	160
4/4	160

## Split Times and Phase Mode

### Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	70	1=Coordinate	4	25	0=Actuated	5	15	0=Actuated
6	80	1=Coordinate	8	25	0=Actuated						

### Dial 2 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	22	0=Actuated	2	103	1=Coordinate	4	25	0=Actuated	5	15	0=Actuated
6	110	1=Coordinate	8	25	0=Actuated						

### Dial 2 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	36	0=Actuated	2	85	1=Coordinate	4	39	0=Actuated	5	22	0=Actuated
6	99	1=Coordinate	8	39	0=Actuated						

### Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	110	1=Coordinate	4	27	0=Actuated	5	15	0=Actuated
6	118	1=Coordinate	8	27	0=Actuated						

### Dial 3 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	32	0=Actuated	2	86	1=Coordinate	4	32	0=Actuated	5	22	0=Actuated
6	96	1=Coordinate	8	32	0=Actuated						

### Dial 3 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	32	0=Actuated	2	86	1=Coordinate	4	32	0=Actuated	5	22	0=Actuated
6	96	1=Coordinate	8	32	0=Actuated						

### Dial 3 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	110	1=Coordinate	4	27	0=Actuated	5	15	0=Actuated
6	115	1=Coordinate	8	27	0=Actuated						

### Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	30	0=Actuated	2	80	1=Coordinate	4	30	0=Actuated	5	20	0=Actuated
6	90	1=Coordinate	8	30	0=Actuated						

### Dial 4 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	36	0=Actuated	2	85	1=Coordinate	4	39	0=Actuated	5	22	0=Actuated
6	99	1=Coordinate	8	39	0=Actuated						

### Dial 4 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	38	0=Actuated	2	82	1=Coordinate	4	40	0=Actuated	5	24	0=Actuated
6	96	1=Coordinate	8	40	0=Actuated						

### Dial 4 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	36	0=Actuated	2	85	1=Coordinate	4	39	0=Actuated	5	22	0=Actuated
6	99	1=Coordinate	8	39	0=Actuated						

**Traffic Plan Data**

Plan: <b>1/1/1</b>	Offset Time: 60	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/3/1</b>	Offset Time: 81	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>2/4/1</b>	Offset Time: 83	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/1/1</b>	Offset Time: 102	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/2/1</b>	Offset Time: 15	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/3/1</b>	Offset Time: 23	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>3/4/1</b>	Offset Time: 97	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/1/1</b>	Offset Time: 9	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/2/1</b>	Offset Time: 144	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/3/1</b>	Offset Time: 116	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: <b>4/4/1</b>	Offset Time: 144	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

**Local TBC Data**

Start of Daylight Saving    Month: 3    Week: 2    Cycle Zero Reference    Hours: 24    Min: 0  
End of Daylight Saving    Month: 11    Week: 1

Source Day	Equate Days						
	1	2	3	4	5	6	7
1	11	21	0	0	0	0	0
2	3	4	5	6	0	0	0
7	17	27	0	0	0	0	0
12	13	14	15	16	0	0	0
22	23	24	25	26	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	5/5/0	Flash On																
2	1	6:0	1/1/1																	
3	1	6:30	2/3/1																	
4	1	9:0	4/1/1																	
5	1	14:0	2/4/1																	
6	1	18:0	1/1/1																	
7	1	21:0	0/0/4																	
8	1	23:0	5/5/0	Flash On																
9	2	0:1	5/5/0	Flash On																
10	2	6:0	1/1/1																	
11	2	6:30	3/1/1																	
12	2	8:25	3/4/1																	
13	2	9:10	3/3/1																	
14	2	14:0	4/2/1																	
15	2	15:45	4/4/1																	
16	2	16:30	4/3/1																	
17	2	18:30	1/1/1																	
18	2	22:0	0/0/4																	
19	2	23:0	5/5/0	Flash On																
20	7	0:1	5/5/0	Flash On																
21	7	6:0	1/1/1																	
22	7	6:30	2/3/1																	
23	7	9:30	4/1/1																	
24	7	11:30	3/2/1																	
25	7	14:0	2/4/1																	
26	7	18:30	1/1/1																	
27	7	21:0	0/0/4																	
28	7	23:0	5/5/0	Flash On																
29	12	0:1	5/5/0	Flash On																
30	12	6:0	1/1/1																	
31	12	6:30	3/1/1																	
32	12	8:25	3/4/1																	
33	12	9:10	3/3/1																	
34	12	12:45	4/4/1																	
35	12	13:30	3/3/1																	
36	12	14:0	4/2/1																	
37	12	16:30	4/3/1																	
38	12	18:30	1/1/1																	
39	12	22:0	0/0/4																	
40	12	23:0	5/5/0	Flash On																
41	22	0:1	5/5/0	Flash On																
42	22	6:0	1/1/1																	
43	22	6:30	3/1/1																	
44	22	9:10	3/3/1																	
45	22	14:0	4/2/1																	

46	22	16:30	4/3/1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	22	18:30	1/1/1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	22	22:0	0/0/4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	22	23:0	5/5/0 Flash On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**AUX. Events**

Event	Program		Min.	Aux Outputs			Det.	Det.	Det.	Dimming	Special Function Outputs								
	Day	Hour		1	2	3	Diag.	Rpt.	Mult100		1	2	3	4	5	6	7	8	
1	1	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	1	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	2	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	2	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	2	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	7	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	7	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	7	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	12	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	12	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	12	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	22	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	22	6	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	22	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Event	Month	Day	Year	Special Day	Special Week
1	1	1	15	0	0
2	6	8	15	0	2
3	8	17	15	0	0
4	1	1	100	22	0
5	1	4	100	22	0
6	1	5	100	22	0
7	1	18	100	22	0
8	2	15	100	22	0
9	3	11	100	22	0
10	3	14	100	22	0
11	3	15	100	22	0
12	3	16	100	22	0
13	3	17	100	22	0
14	3	18	100	22	0
15	3	25	100	22	0
16	4	12	100	12	0
17	5	12	100	12	0
18	5	27	100	22	0
19	5	30	100	22	0
20	6	6	100	12	0
21	6	7	100	12	0
22	9	7	100	22	0
23	9	14	100	12	0
24	9	23	100	12	0
25	10	19	100	22	0
26	10	20	100	22	0
27	11	11	100	22	0
28	11	23	100	22	0
29	11	24	100	22	0
30	11	25	100	22	0
31	11	26	100	22	0
32	11	27	100	22	0
33	12	17	100	12	0
34	12	18	100	12	0
35	12	21	100	22	0
36	12	22	100	22	0
37	12	23	100	22	0
38	12	24	100	22	0
39	12	25	100	22	0
40	12	28	100	22	0
41	12	29	100	22	0
42	12	30	100	22	0
43	12	31	100	22	0

**Special Functions**

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Phase Function**

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Dimming Data

Channel Red Yellow Green Alternate  
     
 Default Data - No Dimming Programmed

## Preemption Data

### General Preemption Data

Ring Min Grn/Walk Time

1 7  
 2 7  
 3 7  
 4 7

Flash = Preempt 1      Preempt 2 = Preempt 3      Preempt 4 = Preempt 5  
 Preempt 1 = Preempt 2      Preempt 3 = Preempt 4      Preempt 5 = Preempt 6

### Preempt Timers

Preempt	Non-Locking	Link to Preempt	Delay	Extend	Duration	MaxCall	Lock-Out	Select			Track				Dwell Green	Return		
								Ped Clear	Yel	Red	Grn	Ped	Yel	Red		Ped Clear	Yel	Red
1	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
2	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
3	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
4	No	0	0	0	0	80	0	50	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0
5	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0
6	No	0	0	0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
1	Yes	No	4	Yes	No	2	Yes	No	4	Yes	No	1	No	Yes	1	No	Yes
6	Yes	No	8	Yes	No	5	Yes	No	8	Yes	No	2	No	Yes	2	No	Yes
												3	No	Yes	3	No	Yes
												4	No	Yes	4	No	Yes
												5	No	Yes	5	No	Yes
												6	No	Yes	6	No	Yes
												7	No	Yes	7	No	Yes
												8	No	Yes	8	No	Yes

### Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls



**Preempt 1**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
1 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		
6 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		

**Preempt 2**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
4 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		
8 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		

**Preempt 3**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
2 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		
5 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		

**Preempt 4**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
4 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		
8 Red	Green	No		<b>Default Data</b>			<b>Default Data</b>		

**Preempt 5**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
				<b>Default Data</b>			<b>Default Data</b>		

**Default Data**

**Preempt 6**

Vehical Phases				Pedestrian Phases			Overlaps		
Ph. Track	Dwell	Cycle		Ph. Track	Dwell	Cycle	Ovlp. Track	Dwell	Cycle
				<b>Default Data</b>			<b>Default Data</b>		

**Default Data**

**System/Detectors Data**

**Local Critical Alarms**

Local Free: No    Cycle Failure: No    Coord Failure: No    Conflict Flash: Yes    Remote Flash: No    Revert to Backup: 15    1st Phone: 2395135428  
 Local Flash: No    Cycle Fault: No    Coord Fault: No    Preemption: No    Voltage Monitor:    2nd Phone:  
 Special Status 1: No    Special Status 2: No    Special Status 3: No    Special Status 4: No    Special Status 5: No    Special Status 6: No

**Traffic Responsive**

System Detector	Detector Channel	Average Veh/Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor
1	17	1,200	11	10	50						
2	18	1,200	11	10	50	<b>Default Data</b>			<b>Default Data</b>		
3	19	1,200	11	10	50						
4	20	1,200	11	10	50						
5	21	1,200	11	10	50						
6	22	1,200	11	10	50						
7	23	1,200	11	10	50						
8	25	1,200	11	10	50						

Sample Interval:

**Queue: 1**    Input Selection: 0=Average    **Queue:**  
 Detector Failed Level : 0    Level    Enter    Leave    Dial / Split / Offset  
**Queue: 2**    Input Selection: 0=Average    / /  
 Detector Failed Level : 0    **Default Data**

**Vehicle Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	30	180	60
2	30	180	60
4	30	180	60
5	30	240	60
6	30	180	60
8	30	180	60
9	30	180	60
10	30	180	60
11	30	180	60
12	30	180	60
13	30	180	60
14	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60

**Vehicle Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	30	240	60
2	30	180	60
4	30	0	60
5	30	0	60
6	30	180	60
8	30	180	60
9	30	180	60
10	30	180	60
11	30	180	60
12	30	180	60
13	30	180	60
14	30	180	60
25	30	180	60
26	30	180	60
27	30	180	60
28	30	180	60
29	30	180	60

**Special Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
----------	--------------	-------------	---------------

**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

**Diagnostic Value 0**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 0 Values**

**Pedestrian Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
1	5	0	0
2	5	0	0
3	5	0	0
4	5	0	0
5	5	0	0
6	5	0	0
7	5	0	0
8	5	0	0

**Default Data - No Diag 1 Values**

**Special Detector**

**Diagnostic Value 1**

Detector	Max Presence	No Activity	Erratic Count
----------	--------------	-------------	---------------

**Default Data - No Diag 1 Values**

**Speed Trap Data**

Speed Trap:

Measurement:

Detector 1    Detector\_2    Distance :

Dial/Split/Offset  
//

**Default Data**

Speed Trap  
Low Treshold

Speed Trap  
High Treshold

**Default Data**

**Volume Detector Data**

Report Interval

























Volume Detector Number	Controller Detector Channel
5	25
6	29
9	22
10	23
13	19
14	18
15	17
17	28
18	27
19	26

## **Appendix D**

Synchro Intersection Worksheets: Existing Conditions

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	738	165	435	1815	283	387	656	202	323	859	366
Future Volume (vph)	217	738	165	435	1815	283	387	656	202	323	859	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			234			208			210
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		1277		2612			1188			1358		
Travel Time (s)		19.3		39.6			18.0			20.6		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	224	761	170	448	1871	292	399	676	208	333	886	377
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	761	170	448	1871	292	399	676	208	333	886	377
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	25.0	64.0	64.0	35.0	74.0	74.0	28.0	31.0	31.0	30.0	33.0	33.0
Total Split (%)	15.6%	40.0%	40.0%	21.9%	46.3%	46.3%	17.5%	19.4%	19.4%	18.8%	20.6%	20.6%
Maximum Green (s)	17.9	54.2	54.2	27.9	66.8	66.8	20.8	23.8	23.8	20.1	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.0	56.8	56.8	27.4	69.8	69.8	21.9	27.4	27.4	20.4	28.6	28.6
Actuated g/C Ratio	0.11	0.36	0.36	0.17	0.44	0.44	0.14	0.17	0.17	0.13	0.18	0.18
v/c Ratio	0.63	0.44	0.25	0.82	0.87	0.36	0.87	0.81	0.33	0.76	1.00	0.83
Control Delay	76.6	40.6	5.1	83.6	30.6	2.9	86.3	72.4	8.3	79.3	93.4	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	76.6	40.6	5.1	83.6	30.6	2.9	86.3	72.4	8.3	79.3	93.4	44.5
LOS	E	D	A	F	C	A	F	E	A	E	F	D
Approach Delay		42.3			36.6			66.4			78.9	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	117	224	0	212	677	28	213	256	0	174	~365	182
Queue Length 95th (ft)	162	267	50	m267	606	m22	#296	#320	42	231	#460	#360
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	404	1735	674	584	2154	802	469	837	636	463	890	452
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.44	0.25	0.77	0.87	0.36	0.85	0.81	0.33	0.72	1.00	0.83

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 53.5 Intersection LOS: D  
 Intersection Capacity Utilization 87.8% ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	1719	374	220	1318	344	280	862	516	343	669	260
Future Volume (vph)	235	1719	374	220	1318	344	280	862	516	343	669	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			367			355			460			268
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	242	1772	386	227	1359	355	289	889	532	354	690	268
Shared Lane Traffic (%)												
Lane Group Flow (vph)	242	1772	386	227	1359	355	289	889	532	354	690	268
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	31.0	70.0	70.0	31.0	70.0	70.0	31.0	32.0	32.0	27.0	28.0	28.0
Total Split (%)	19.4%	43.8%	43.8%	19.4%	43.8%	43.8%	19.4%	20.0%	20.0%	16.9%	17.5%	17.5%
Maximum Green (s)	23.9	60.2	60.2	23.9	62.8	62.8	23.8	24.8	24.8	17.1	20.8	20.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.9	68.9	68.9	17.6	71.1	71.1	20.2	26.8	26.8	18.7	28.0	28.0
Actuated g/C Ratio	0.11	0.43	0.43	0.11	0.44	0.44	0.13	0.17	0.17	0.12	0.18	0.18
v/c Ratio	0.62	0.82	0.43	0.61	0.61	0.39	0.67	1.05	0.63	0.89	0.79	0.53
Control Delay	74.7	44.2	5.0	52.2	58.1	24.7	74.2	108.5	13.3	93.5	70.5	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

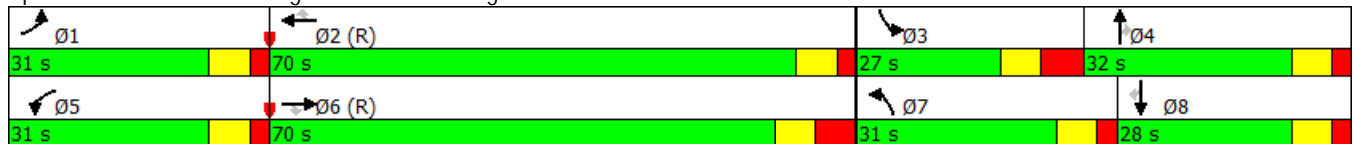
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.7	44.2	5.0	52.2	58.1	24.7	74.2	108.5	13.3	93.5	70.5	10.6
LOS	E	D	A	D	E	C	E	F	B	F	E	B
Approach Delay		41.0			51.3			73.1			64.5	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	126	587	11	128	545	190	151	~377	37	191	257	0
Queue Length 95th (ft)	170	683	83	m147	590	269	197	#473	105	#282	#358	89
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	550	2167	897	534	2238	901	542	843	840	398	874	501
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.82	0.43	0.43	0.61	0.39	0.53	1.05	0.63	0.89	0.79	0.53

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 55.3 Intersection LOS: E  
 Intersection Capacity Utilization 89.3% ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1005	173	218	2426	135	381	30	151	50	5	110
Future Volume (vph)	78	1005	173	218	2426	135	381	30	151	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.875			0.856	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1662	0	1641	1524	0
Flt Permitted	0.044			0.219			0.950			0.950		
Satd. Flow (perm)	80	4848	1568	412	4893	1468	3433	1662	0	1641	1524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178			117		130			113	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	80	1036	178	225	2501	139	393	31	156	52	5	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1036	178	225	2501	139	393	187	0	52	118	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	18.0	77.0	77.0	34.0	93.0	93.0	26.0	26.0		23.0	23.0	
Total Split (%)	11.3%	48.1%	48.1%	21.3%	58.1%	58.1%	16.3%	16.3%		14.4%	14.4%	
Maximum Green (s)	11.2	70.2	70.2	27.2	86.2	86.2	19.3	19.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	103.8	93.2	93.2	110.5	96.5	96.5	20.7	22.5		11.9	11.1	
Actuated g/C Ratio	0.65	0.58	0.58	0.69	0.60	0.60	0.13	0.14		0.07	0.07	
v/c Ratio	0.50	0.37	0.18	0.56	0.85	0.15	0.89	0.54		0.43	0.56	
Control Delay	33.2	36.4	17.0	12.8	31.9	6.9	90.0	28.0		80.5	23.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.2	36.4	17.0	12.8	31.9	6.9	90.0	28.0		80.5	23.0	
LOS	C	D	B	B	C	A	F	C		F	C	
Approach Delay		33.5			29.2			70.0			40.6	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	48	383	70	94	820	30	211	56		53	5	
Queue Length 95th (ft)	m90	431	m117	m153	975	m57	#301	142		99	71	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	185	2822	987	536	2951	932	446	357		182	269	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.43	0.37	0.18	0.42	0.85	0.15	0.88	0.52		0.29	0.44	

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 159 (99%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 35.6 Intersection LOS: D  
 Intersection Capacity Utilization 88.1% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018













Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	2324	319	156	1543	102	288	14	209	118	7	74
Future Volume (vph)	169	2324	319	156	1543	102	288	14	209	118	7	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.860			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1604	0	1687	1594	0
Flt Permitted	0.101			0.043			0.950			0.950		
Satd. Flow (perm)	185	5036	1599	80	5036	1553	3467	1604	0	1687	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227			117		218			77	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	176	2421	332	163	1607	106	300	15	218	123	7	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	2421	332	163	1607	106	300	233	0	123	84	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	30.0	88.0	88.0	25.0	83.0	83.0	24.0	24.0		23.0	23.0	
Total Split (%)	18.8%	55.0%	55.0%	15.6%	51.9%	51.9%	15.0%	15.0%		14.4%	14.4%	
Maximum Green (s)	23.2	81.2	81.2	18.2	76.2	76.2	17.3	17.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	110.1	93.6	93.6	108.2	92.7	92.7	18.2	13.5		16.3	11.7	
Actuated g/C Ratio	0.69	0.58	0.58	0.68	0.58	0.58	0.11	0.08		0.10	0.07	
v/c Ratio	0.61	0.82	0.32	0.75	0.55	0.11	0.76	0.70		0.72	0.45	
Control Delay	42.4	15.4	0.9	62.4	23.6	5.5	82.1	21.8		92.3	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	



# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖		↗
Traffic Volume (vph)	0	873	319	195	2087	0	0	0	0	276	0	692
Future Volume (vph)	0	873	319	195	2087	0	0	0	0	276	0	692
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.241						0.950		
Satd. Flow (perm)	0	4848	1568	440	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			336									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	919	336	205	2197	0	0	0	0	291	0	728
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	919	336	205	2197	0	0	0	0	291	0	728
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				32.0								
Total Split (%)				20.0%								
Maximum Green (s)				25.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		74.7	74.7	101.4	106.7					42.7		42.7
Actuated g/C Ratio		0.47	0.47	0.63	0.67					0.27		0.27
v/c Ratio		0.41	0.37	0.41	0.67					0.35		0.91
Control Delay		42.3	25.2	25.7	23.5					48.8		64.2
Queue Delay		0.0	0.0	0.0	0.1					0.0		0.0
Total Delay		42.3	25.2	25.7	23.7					48.8		64.2
LOS		D	C	C	C					D		E
Approach Delay		37.7			23.8						59.8	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	37.0	43.0	21.0	27.0
Total Split (%)	23%	27%	13%	17%
Maximum Green (s)	30.2	36.2	14.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

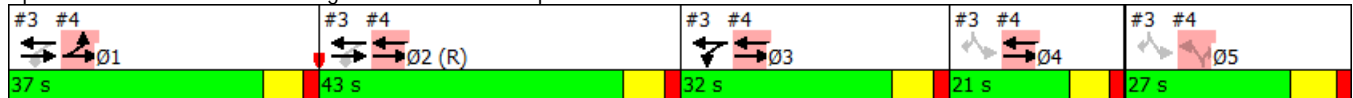
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C						E	
Queue Length 50th (ft)		326	229	96	481					127		364
Queue Length 95th (ft)		381	312	m114	536					173		#496
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2263	911	495	3294					841		796
Starvation Cap Reductn		0	0	0	234					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.41	0.37	0.41	0.72					0.35		0.91

Intersection Summary













Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 35.4  
 Intersection Capacity Utilization 81.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	2226	415	115	1236	0	0	0	0	469	0	565
Future Volume (vph)	0	2226	415	115	1236	0	0	0	0	469	0	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			317									147
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	2343	437	121	1301	0	0	0	0	494	0	595
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2343	437	121	1301	0	0	0	0	494	0	595
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				23.0								
Total Split (%)				14.4%								
Maximum Green (s)				16.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		85.3	85.3	103.0	108.3					41.1		41.1
Actuated g/C Ratio		0.53	0.53	0.64	0.68					0.26		0.26
v/c Ratio		0.87	0.44	0.50	0.38					0.57		0.72
Control Delay		27.6	9.0	56.2	19.2					54.7		45.8
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		27.6	9.0	56.2	19.2					54.7		45.8
LOS		C	A	E	B					D		D
Approach Delay		24.7			22.4						49.9	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	60.0	30.0	20.0	27.0
Total Split (%)	38%	19%	13%	17%
Maximum Green (s)	53.2	23.2	13.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				



# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						D	
Queue Length 50th (ft)		339	43	70	308					232		247
Queue Length 95th (ft)		533	m181	m115	369					293		327
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2685	984	242	3409					877		835
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.87	0.44	0.50	0.38					0.56		0.71

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 29.3  
 Intersection Capacity Utilization 76.0%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D


















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

### Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp

#3 #4	#3 #4	#3 #4	#3 #4	#3 #4
60 s	30 s	23 s	20 s	27 s

Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	803	0	0	1896	480	374	0	105	0	0	0
Future Volume (vph)	348	803	0	0	1896	480	374	0	105	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.970				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4792	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4792	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	370	854	0	0	2017	511	398	0	112	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	370	854	0	0	2528	0	398	0	112	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	37.0						27.0		27.0			
Total Split (%)	23.1%						16.9%		16.9%			
Maximum Green (s)	30.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	31.7	127.7			90.7		21.0		21.0			
Actuated g/C Ratio	0.20	0.80			0.57		0.13		0.13			
v/c Ratio	0.59	0.22			0.92		0.91		0.32			
Control Delay	74.9	4.6			22.9		93.6		3.5			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	74.9	4.6			22.9		93.6		3.5			
LOS	E	A			C		F		A			
Approach Delay		25.9			22.9				73.8			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	43.0	32.0	21.0
Total Split (%)	27%	20%	13%
Maximum Green (s)	36.2	25.2	14.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C				C				E		
Queue Length 50th (ft)	162	74			368		215		0			
Queue Length 95th (ft)	217	85			m379		#312		10			
Internal Link Dist (ft)		931				1187				698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	630	3833				2744				355		
Starvation Cap Reductn	0	0				0				0		
Spillback Cap Reductn	0	0				0				0		
Storage Cap Reductn	0	0				0				0		
Reduced v/c Ratio	0.59	0.22				0.92				0.32		

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 29.9  
 Intersection Capacity Utilization 81.8%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D






















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

### Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd

#3 #4	#3 #4	#3 #4	#3 #4	#3 #4
37 s	43 s	32 s	21 s	27 s

Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 					
Traffic Volume (vph)	617	2081	0	0	1054	365	294	0	139	0	0	0
Future Volume (vph)	617	2081	0	0	1054	365	294	0	139	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.961				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					68				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	636	2145	0	0	1087	376	303	0	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	2145	0	0	1463	0	303	0	143	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	60.0						27.0		27.0			
Total Split (%)	37.5%						16.9%		16.9%			
Maximum Green (s)	53.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	55.3	128.3			67.7		20.4		20.4			
Actuated g/C Ratio	0.35	0.80			0.42		0.13		0.13			
v/c Ratio	0.55	0.53			0.70		0.69		0.41			
Control Delay	49.6	3.1			37.8		75.7		8.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	49.6	3.1			37.8		75.7		8.7			
LOS	D	A			D		E		A			
Approach Delay		13.8			37.8				54.3			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	30.0	23.0	20.0
Total Split (%)	19%	14%	13%
Maximum Green (s)	23.2	16.2	13.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

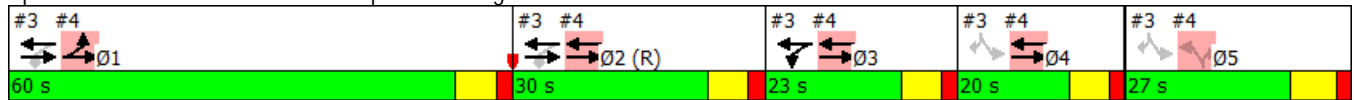
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			D			D				
Queue Length 50th (ft)	251	139			456		158		0			
Queue Length 95th (ft)	m288	147			550		212		45			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	1153	4038			2096		450		353			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.55	0.53			0.70		0.67		0.41			

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 25.1 Intersection LOS: C  
 Intersection Capacity Utilization 76.0% ICU Level of Service D  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

























Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018





















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 						 	
Traffic Volume (vph)	296	587	25	12	1957	192	18	8	7	30	5	400
Future Volume (vph)	296	587	25	12	1957	192	18	8	7	30	5	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.974			0.959	
Satd. Flow (prot)	3433	4624	0	1805	4893	1524	0	1740	0	0	1718	1568
Flt Permitted	0.950			0.950				0.858			0.761	
Satd. Flow (perm)	3433	4624	0	1805	4893	1524	0	1533	0	0	1363	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				164		7				119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	318	631	27	13	2104	206	19	9	8	32	5	430
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	658	0	13	2104	206	0	36	0	0	37	430
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	23.0	118.0		15.0	110.0	110.0	27.0	27.0		27.0	27.0	27.0
Total Split (%)	14.4%	73.8%		9.4%	68.8%	68.8%	16.9%	16.9%		16.9%	16.9%	16.9%
Maximum Green (s)	16.2	111.2		8.2	103.2	103.2	20.1	20.1		20.1	20.1	20.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	17.6	117.0		8.8	99.9	99.9	26.5	26.5		26.5	26.5	26.5
Actuated g/C Ratio	0.11	0.73		0.06	0.62	0.62	0.17	0.17		0.17	0.17	0.17
v/c Ratio	0.85	0.19		0.13	0.69	0.20	0.14	0.14		0.16	0.16	1.20
Control Delay	111.6	1.0		74.8	20.9	3.0	52.5	52.5		62.8	62.8	152.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0





Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	1859	19	5	969	97	23	6	9	98	10	424
Future Volume (vph)	342	1859	19	5	969	97	23	6	9	98	10	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.969				0.850
Flt Protected	0.950			0.950				0.970			0.956	
Satd. Flow (prot)	3467	5027	0	1805	4988	1599	0	1786	0	0	1768	1599
Flt Permitted	0.950			0.950				0.785			0.752	
Satd. Flow (perm)	3467	5027	0	1805	4988	1599	0	1445	0	0	1391	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				119		9				317
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	356	1936	20	5	1009	101	24	6	9	102	10	442
Shared Lane Traffic (%)												
Lane Group Flow (vph)	356	1956	0	5	1009	101	0	39	0	0	112	442
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	38.0	96.0		24.0	82.0	82.0	40.0	40.0		40.0	40.0	40.0
Total Split (%)	23.8%	60.0%		15.0%	51.3%	51.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	31.2	89.2		17.2	75.2	75.2	33.1	33.1		33.1	33.1	33.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	23.2	123.0		8.5	97.3	97.3		23.6			23.6	23.6
Actuated g/C Ratio	0.14	0.77		0.05	0.61	0.61		0.15			0.15	0.15
v/c Ratio	0.71	0.51		0.05	0.33	0.10		0.18			0.55	0.88
Control Delay	81.7	6.7		73.2	17.2	2.1		46.4			71.5	36.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0



HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	36	88	989	15	21	1509
Future Vol, veh/h	36	88	989	15	21	1509
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	4	20	0	4
Mvmt Flow	38	94	1052	16	22	1605

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	1739	526	0	0	1052
Stage 1	1052	-	-	-	-
Stage 2	687	-	-	-	-
Critical Hdwy	5.86	7.1	-	-	5.3
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.16	-	-	-	-
Follow-up Hdwy	3.88	3.9	-	-	3.1
Pot Cap-1 Maneuver	121	429	-	-	375
Stage 1	215	-	-	-	-
Stage 2	405	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	114	429	-	-	375
Mov Cap-2 Maneuver	114	-	-	-	-
Stage 1	215	-	-	-	-
Stage 2	381	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	26.2	0	0.2
HCM LOS	D		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	114	429	375	-
HCM Lane V/C Ratio	-	-	0.336	0.218	0.06	-
HCM Control Delay (s)	-	-	51.8	15.7	15.2	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	1.3	0.8	0.2	-

HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	28	45	1439	37	64	1029
Future Vol, veh/h	28	45	1439	37	64	1029
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	4
Mvmt Flow	30	48	1531	39	68	1095

**Major/Minor**

	Minor1	Major1	Major2
Conflicting Flow All	2105	765	0
Stage 1	1531	-	-
Stage 2	574	-	-
Critical Hdwy	5.7	7.14	-
Critical Hdwy Stg 1	6.6	-	-
Critical Hdwy Stg 2	6	-	-
Follow-up Hdwy	3.8	3.92	-
Pot Cap-1 Maneuver	84	297	-
Stage 1	115	-	-
Stage 2	485	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	58	297	-
Mov Cap-2 Maneuver	58	-	-
Stage 1	115	-	-
Stage 2	334	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	57.9	0	1.7
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	58	297	219
HCM Lane V/C Ratio	-	-	0.514	0.161	0.311
HCM Control Delay (s)	-	-	119.9	19.4	28.7
HCM Lane LOS	-	-	F	C	D
HCM 95th %tile Q(veh)	-	-	2	0.6	1.3

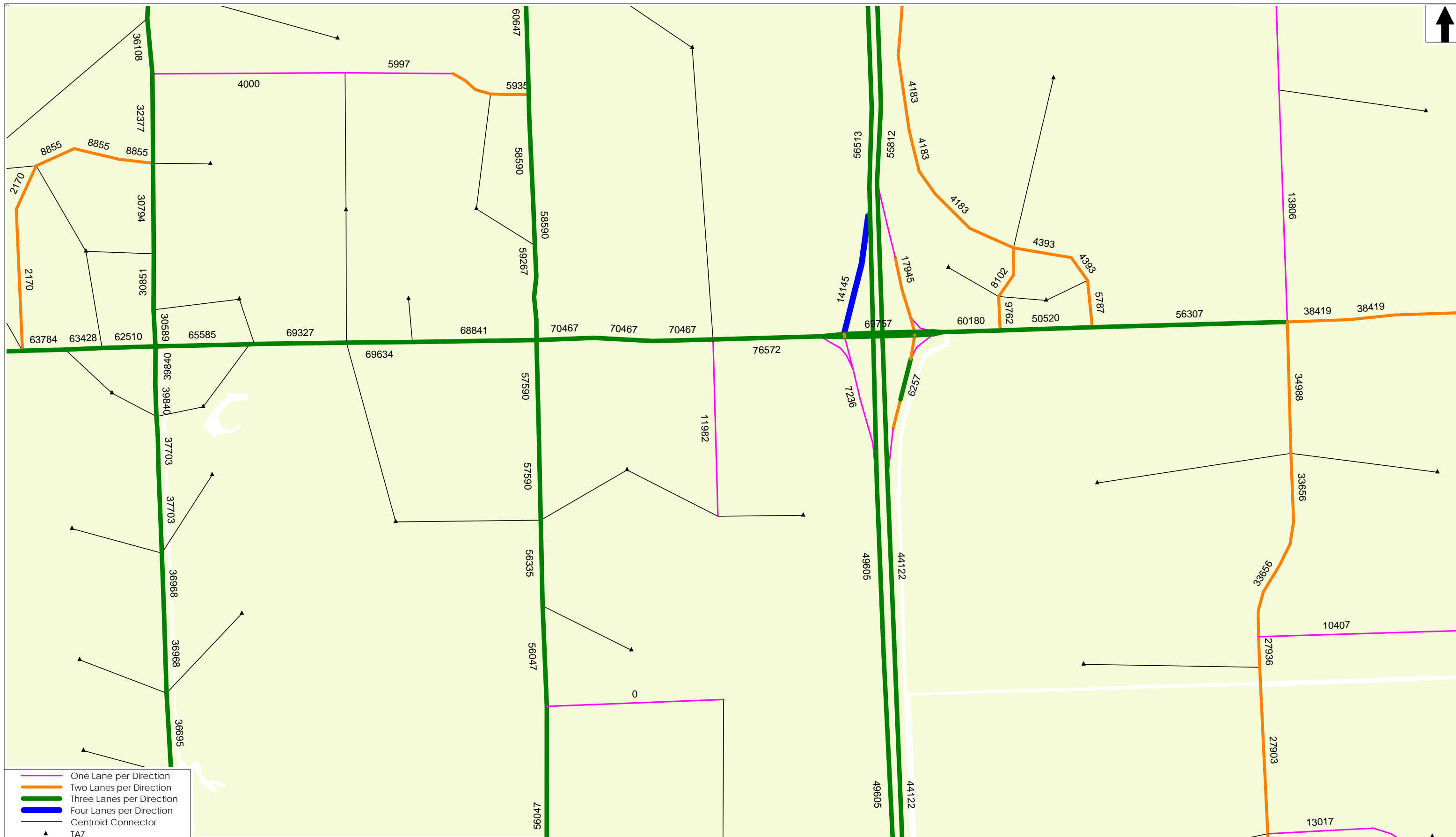
## **Appendix E**

### Historical Growth Rate Calculations

## GROWTH RATE CALCULATIONS

Location	Station	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2040 FSUTMS AADT <sup>1</sup>	Historic Growth Rate	Future Growth Rate
Pine Ridge Rd, E of Airport Rd	030160	52,500	51,000	52,500	53,000	57,000	52,500	53,000	46,000	46,500	49,500	49,500	48,500	50,500	51,500	55,500	57,700	0.40%	0.24%
Pine Ridge Rd, E of Livingston Rd	034628								58,500	57,500	48,000	48,000	47,000	51,500	52,500	56,000	62,000	-0.62%	0.56%
Pine Ridge Rd, W of Logan Blvd	034526								39,500	38,500	34,250	30,000	30,000	30,000	38,000	38,500	49,600	-0.37%	1.30%
Livingston Rd, N of Pine Ridge Rd	034575								27,000	26,000	25,000	23,000	23,000	23,000	23,500	24,500	52,200	-1.38%	3.22%
Livingston Rd, N of Golden Gate Pkwy	034690								26,000	25,000	24,000	21,000	21,000	21,000	22,000	23,000	49,300	-1.74%	3.25%
I-75 SB Off-Ramp at Pine Ridge Rd	037024					8,700	9,000	9,000	9,200	9,000	8,800	9,100	9,300	9,700	11,000	12,000	12,400	3.27%	1.16%
I-75 SB On-Ramp at Pine Ridge Rd	037022					3,300	3,400	3,400	4,600	4,500	4,400	5,200	5,300	4,600	5,500	5,900	6,400	5.98%	0.81%
I-75 NB On-Ramp at Pine Ridge Rd	037023					8,300	8,500	8,500	8,700	8,500	8,300	8,800	9,000	9,400	10,000	10,500	15,800	2.38%	2.22%
I-75 NB Off-Ramp at Pine Ridge Rd	037021					3,200	3,300	3,300	4,200	4,100	4,000	4,900	5,000	5,200	4,600	4,900	5,500	4.35%	0.68%
<b>TOTAL</b>		<b>52,500</b>	<b>51,000</b>	<b>52,500</b>	<b>53,000</b>	<b>80,500</b>	<b>76,700</b>	<b>77,200</b>	<b>223,700</b>	<b>219,600</b>	<b>206,250</b>	<b>199,500</b>	<b>198,100</b>	<b>204,900</b>	<b>218,600</b>	<b>230,800</b>	<b>310,900</b>	<b>0.45%</b>	<b>1.46%</b>

1. Converted to AADT using a model output conversion factor of 0.88.



Peak Season Weekday Average Daily Traffic  
2040 Cost Feasible Network

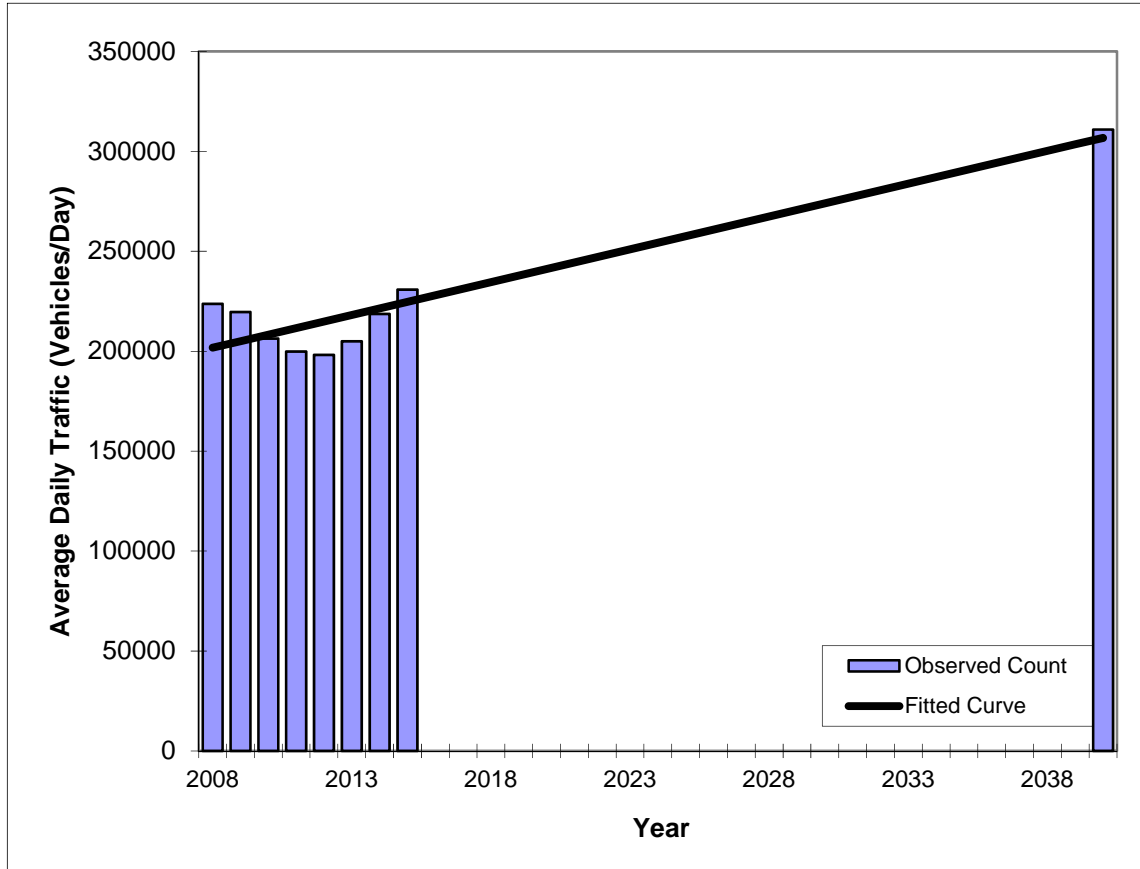




# Traffic Trends - V2.0

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	0
Highway:	0



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2008	223700	201800
2009	219600	205000
2010	206300	208300
2011	199800	211600
2012	198100	214900
2013	204900	218200
2014	218600	221400
2015	230800	224700
<b>2021 Opening Year Trend</b>		
2021	N/A	244400
<b>2030 Mid-Year Trend</b>		
2030	N/A	273900
<b>2040 Design Year Trend</b>		
2040	N/A	306700
<b>TRANPLAN Forecasts/Trends</b>		
2040	310900	306700

** Annual Trend Increase:	3,281
Trend R-squared:	85.84%
Trend Annual Historic Growth Rate:	1.62%
Trend Growth Rate (2015 to Design Year):	1.46%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 0160 - PINE RIDGE RD, E OF CR 31/AIRPORT RD      CC526    NHS

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
----	-----	-----	-----	-----	-----	-----
2015	55500 C	E 27500	W 28000	9.00	57.20	3.80
2014	51500 F	E 26000	W 25500	9.00	56.50	3.10
2013	50500 C	E 25500	W 25000	9.00	56.00	3.10
2012	48500 S	E 25500	W 23000	9.00	56.20	2.70
2011	49500 F	E 26000	W 23500	9.00	56.50	2.70
2010	49500 C	E 26000	W 23500	10.32	56.59	2.70
2009	46500 C	E 24000	W 22500	11.01	56.34	3.00
2008	46000 C	E 23000	W 23000	11.12	56.68	3.10
2007	53000 C	E 26500	W 26500	11.68	56.38	3.50
2006	52500 C	E 26000	W 26500	11.27	57.97	4.00
2005	57000 C	E 29000	W 28000	11.40	54.70	9.40
2004	53000 C	E 25500	W 27500	11.30	55.30	9.40
2003	52500 C	E 26500	W 26000	11.30	54.00	6.00
2002	51000 C	E 25500	W 25500	10.00	52.00	3.60
2001	52500 C	E 28500	W 24000	10.00	57.70	3.20

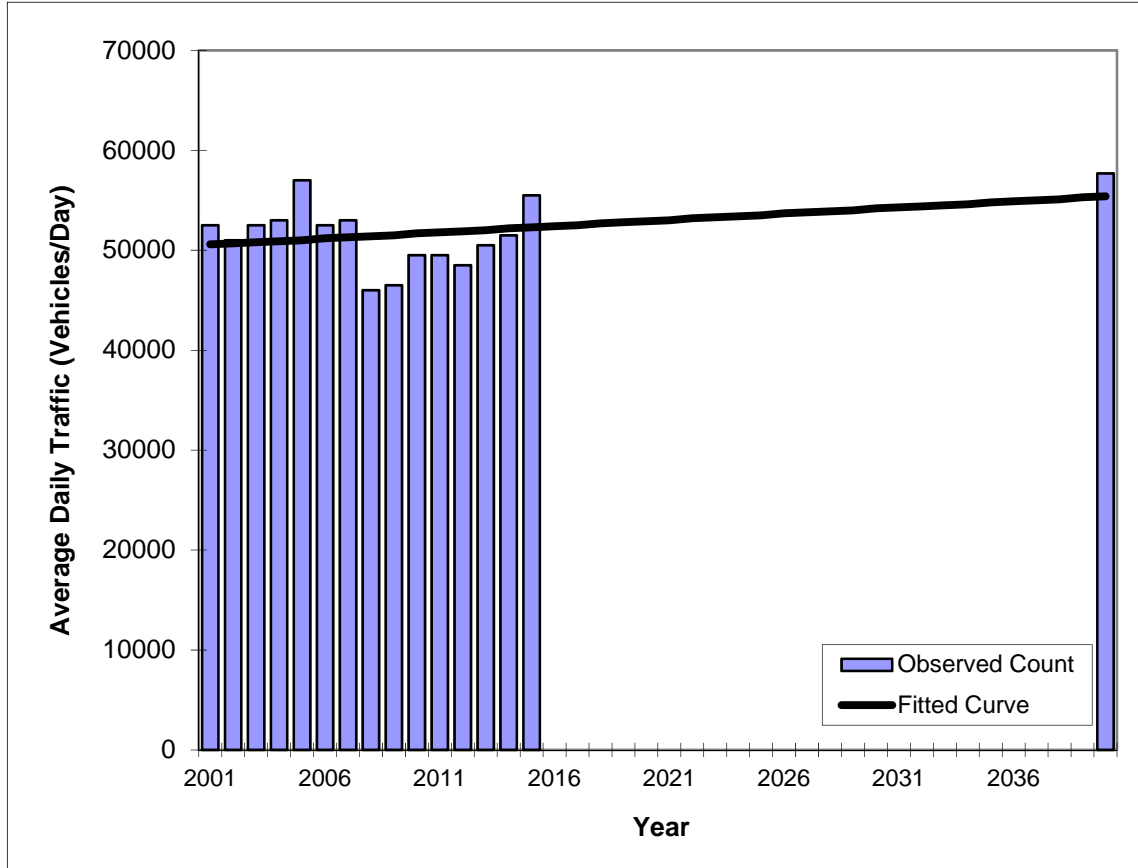
AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate  
 S = Second Year Estimate; T = Third Year Estimate; F = Fourth Year Estimate  
 V = Fifth Year Estimate; 6 = Sixth Year Estimate; X = Unknown  
 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### PINE RIDGE RD -- E of Airport Rd

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	0160
Highway:	PINE RIDGE RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2001	52500	50600
2002	51000	50700
2003	52500	50800
2004	53000	50900
2005	57000	51000
2006	52500	51200
2007	53000	51300
2008	46000	51400
2009	46500	51500
2010	49500	51700
2011	49500	51800
2012	48500	51900
2013	50500	52000
2014	51500	52200
2015	55500	52300
<b>2021 Opening Year Trend</b>		
2021	N/A	53000
<b>2030 Mid-Year Trend</b>		
2030	N/A	54200
<b>2040 Design Year Trend</b>		
2040	N/A	55400
<b>TRANPLAN Forecasts/Trends</b>		
2040	57700	55400

** Annual Trend Increase:	124
Trend R-squared:	11.57%
Trend Annual Historic Growth Rate:	0.24%
Trend Growth Rate (2015 to Design Year):	0.24%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 4628 - PINE RIDGE RD, E OF CR 881/LIVINGSTON RD NHS CC628

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	56000 C	E 28000	W 28000	9.00	57.20	4.50
2014	52500 F	E 26000	W 26500	9.00	56.50	4.00
2013	51500 C	E 25500	W 26000	9.00	56.00	4.00
2012	47000 S	E 23500	W 23500	9.00	56.20	3.40
2011	48000 F	E 24000	W 24000	9.00	56.50	3.40
2010	48000 C	E 24000	W 24000	10.32	56.59	3.40
2009	57500 F	E 28500	W 29000	11.01	56.34	4.70
2008	58500 C	E 29000	W 29500	11.12	56.68	4.70

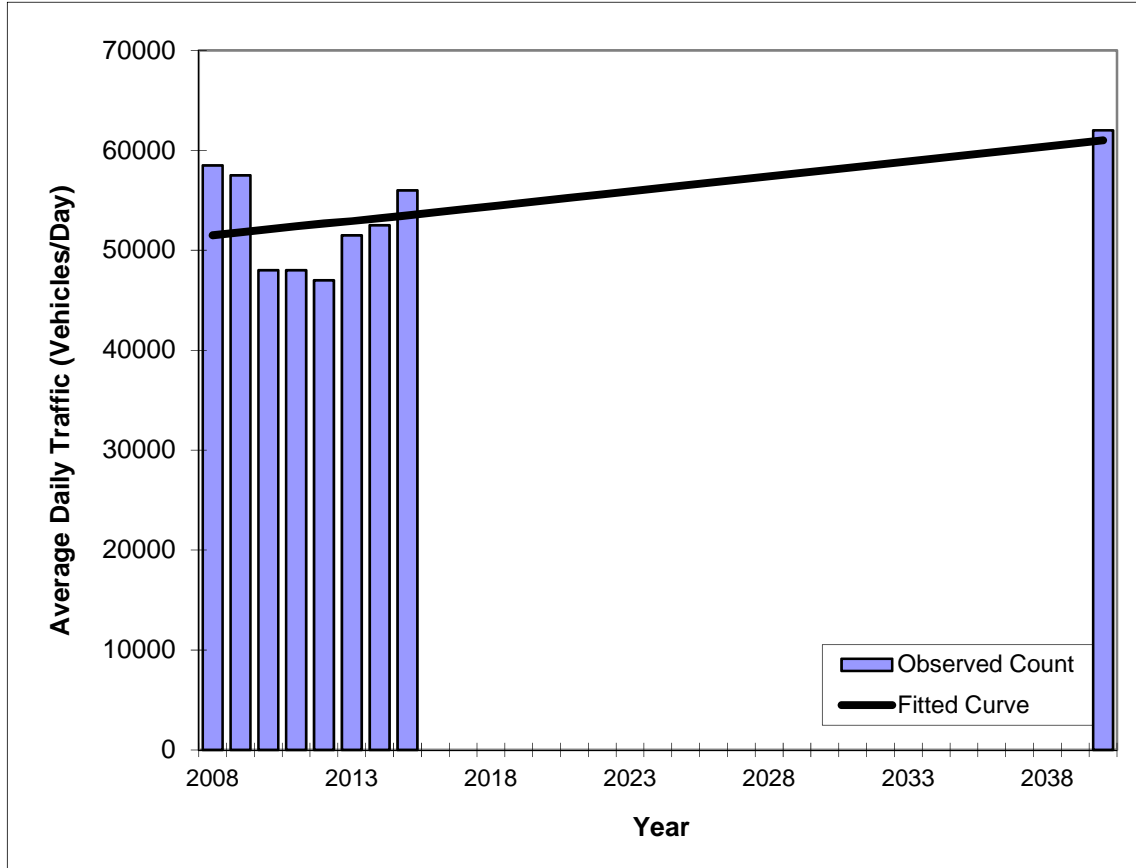
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## Traffic Trends - V2.0

### PINE RIDGE RD -- E of Livingston Rd

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	4628
Highway:	PINE RIDGE RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2008	58500	51500
2009	57500	51800
2010	48000	52100
2011	48000	52400
2012	47000	52700
2013	51500	52900
2014	52500	53200
2015	56000	53500
<b>2021 Opening Year Trend</b>		
2021	N/A	55300
<b>2030 Mid-Year Trend</b>		
2030	N/A	58000
<b>2040 Design Year Trend</b>		
2040	N/A	61000
<b>TRANPLAN Forecasts/Trends</b>		
2040	62000	61000

** Annual Trend Increase:	298
Trend R-squared:	29.77%
Trend Annual Historic Growth Rate:	0.55%
Trend Growth Rate (2015 to Design Year):	0.56%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 4526 - CR-896/PINE RIDGE RD, 700 FT W OF LOGAN BLVD

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	38500 C	E 19500	W 19000	9.00	57.20	4.00
2014	38000 C	E 19000	W 19000	9.00	56.50	4.30
2013	30000 S	E 15000	W 15000	9.00	56.00	3.50
2012	30000 F	E 15000	W 15000	9.00	56.20	3.50
2011	30000 C	E 15000	W 15000	9.00	56.50	3.50
2009	38500 F	E 19000	W 19500	11.01	56.34	4.60
2008	39500 C	E 19500	W 20000	11.12	56.68	4.60

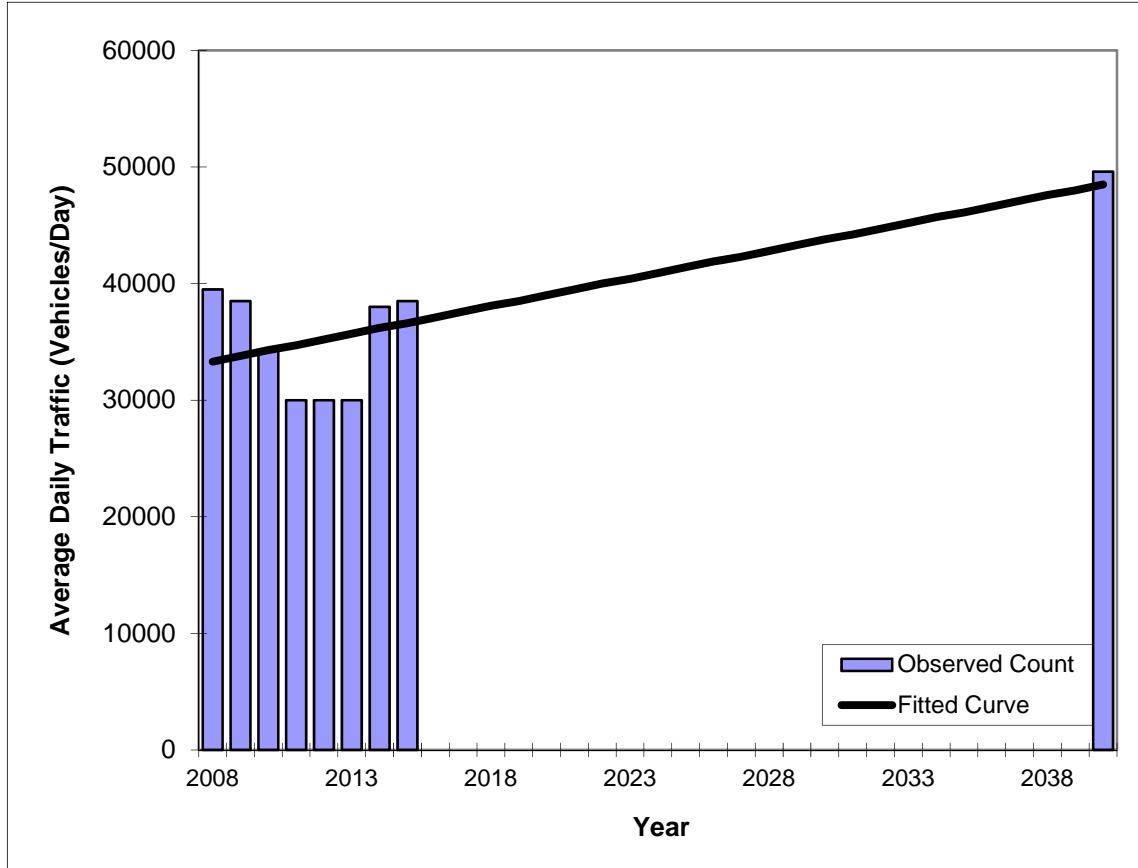
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 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### PINE RIDGE RD -- W of Logan Blvd

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	4526
Highway:	PINE RIDGE RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2008	39500	33300
2009	38500	33800
2010	34300	34300
2011	30000	34700
2012	30000	35200
2013	30000	35700
2014	38000	36200
2015	38500	36600
<b>2021 Opening Year Trend</b>		
2021	N/A	39500
<b>2030 Mid-Year Trend</b>		
2030	N/A	43800
<b>2040 Design Year Trend</b>		
2040	N/A	48500
<b>TRANPLAN Forecasts/Trends</b>		
2040	49600	48500

** Annual Trend Increase:	474
Trend R-squared:	53.33%
Trend Annual Historic Growth Rate:	1.42%
Trend Growth Rate (2015 to Design Year):	1.30%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted



Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 4575 - LIVINGSTON RD, N OF PINE RIDGE RD/CR 896 CC 575

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	24500 F	N 12000	S 12500	9.00	57.20	4.20
2014	23500 C	N 11500	S 12000	9.00	56.50	4.20
2013	23000 S	N 11000	S 12000	9.00	56.00	3.60
2012	23000 F	N 11000	S 12000	9.00	56.20	3.60
2011	23000 C	N 11000	S 12000	9.00	56.50	3.60
2010	25000 S	N 12000	S 13000	10.32	56.59	4.50
2009	26000 F	N 12500	S 13500	11.01	56.34	4.50
2008	27000 C	N 13000	S 14000	11.12	56.68	4.50

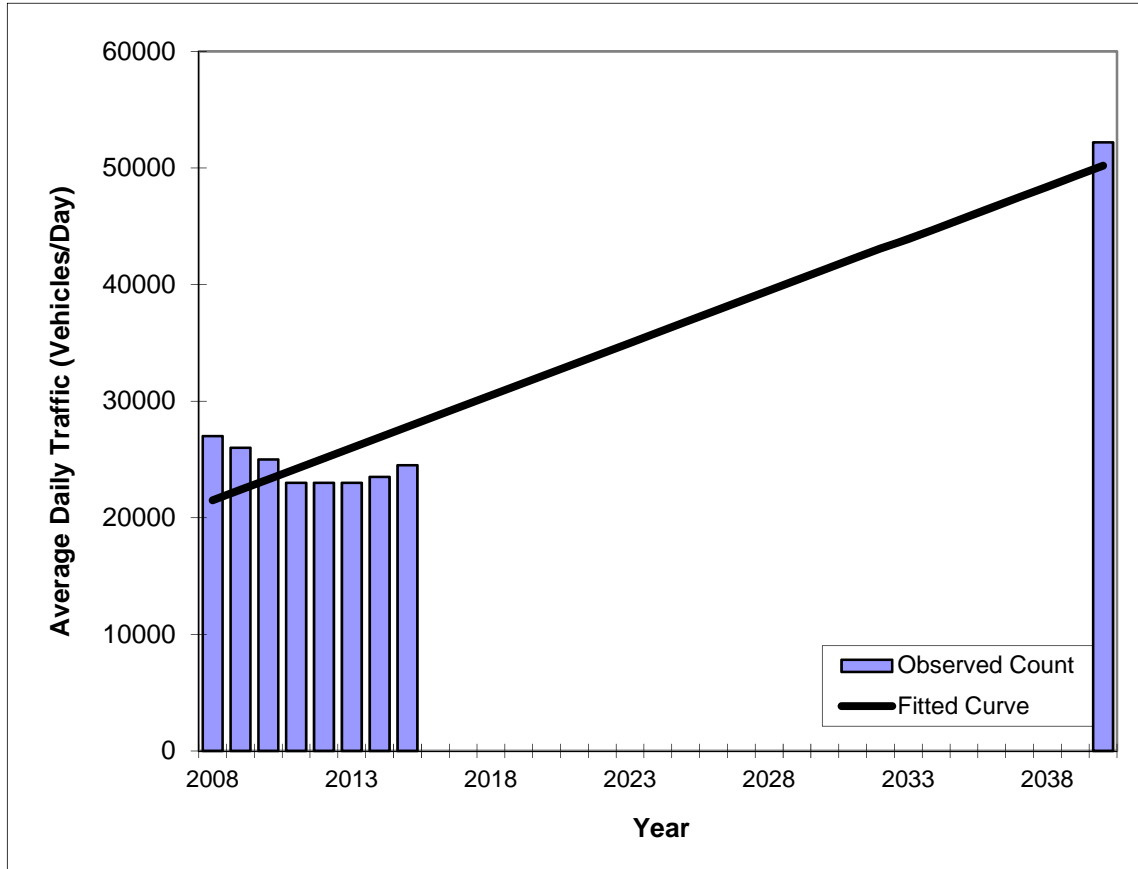
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 V = Fifth Year Estimate; 6 = Sixth Year Estimate; X = Unknown  
 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### LIVINGSTON RD -- N of Pine Ridge Rd

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	4575
Highway:	LIVINGSTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2008	27000	21500
2009	26000	22400
2010	25000	23300
2011	23000	24200
2012	23000	25100
2013	23000	26000
2014	23500	26900
2015	24500	27800
<b>2021 Opening Year Trend</b>		
2021	N/A	33200
<b>2030 Mid-Year Trend</b>		
2030	N/A	41300
<b>2040 Design Year Trend</b>		
2040	N/A	50200
<b>TRANPLAN Forecasts/Trends</b>		
2040	52200	50200

** Annual Trend Increase:	899
Trend R-squared:	87.65%
Trend Annual Historic Growth Rate:	4.19%
Trend Growth Rate (2015 to Design Year):	3.22%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 4690 - LIVINGSTON RD/CR 881, 1.5 MI N OF GOLDEN GATE PKWY/CR 886 CC 690

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	23000 F	N 11500	S 11500	9.00	57.20	4.60
2014	22000 C	N 11000	S 11000	9.00	56.50	4.60
2013	21000 S	N 10500	S 10500	9.00	56.00	5.30
2012	21000 F	N 10500	S 10500	9.00	56.20	5.30
2011	21000 C	N 10500	S 10500	9.00	56.50	5.30
2010	24000 S	N 12000	S 12000	10.32	56.59	4.40
2009	25000 F	N 12500	S 12500	11.01	56.34	4.40
2008	26000 C	N 13000	S 13000	11.12	56.68	4.40

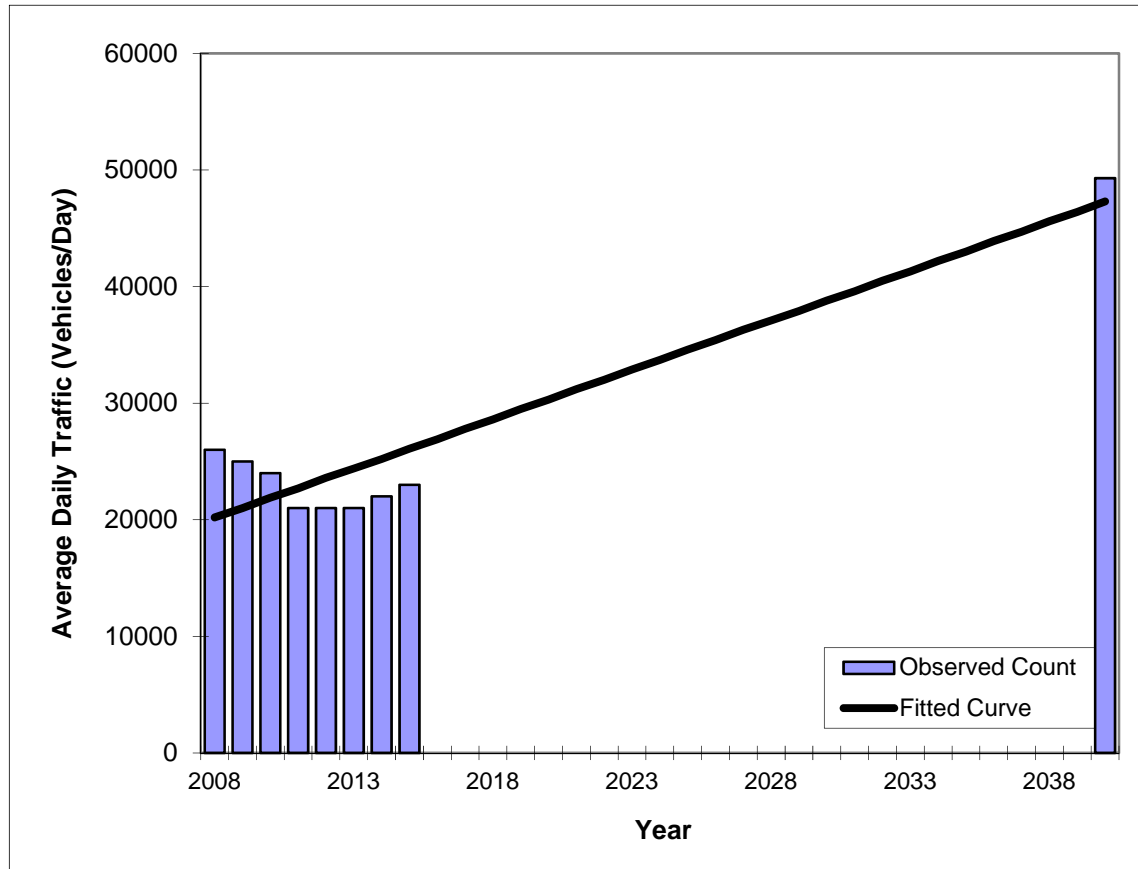
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 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### LIVINGSTON RD -- N of Golden Gate Pkwy

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	4690
Highway:	LIVINGSTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2008	26000	20200
2009	25000	21000
2010	24000	21900
2011	21000	22700
2012	21000	23600
2013	21000	24400
2014	22000	25200
2015	23000	26100
<b>2021 Opening Year Trend</b>		
2021	N/A	31200
<b>2030 Mid-Year Trend</b>		
2030	N/A	38800
<b>2040 Design Year Trend</b>		
2040	N/A	47300
<b>TRANPLAN Forecasts/Trends</b>		
2040	49300	47300

** Annual Trend Increase:	847
Trend R-squared:	84.59%
Trend Annual Historic Growth Rate:	4.17%
Trend Growth Rate (2015 to Design Year):	3.25%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 7024 - SR93/I-75 SB,OFF-RAMP TO CR896/PINE RIDGE RD X107

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
----	-----	-----	-----	-----	-----	-----
2015	12000 F	0	0	9.00	99.90	4.70
2014	11000 C	S 11000		9.00	99.90	5.50
2013	9700 S	0	0	9.00	99.90	3.10
2012	9300 F	0	0	9.00	99.90	2.90
2011	9100 C	S 9100	0	9.00	99.90	6.30
2010	8800 S	0	0	9.50	99.99	3.70
2009	9000 F	0	0	10.43	99.99	6.00
2008	9200 C	S 9200	0	9.07	99.99	5.10
2007	17500 S	0	0		13.90	
2006	17500 F			8.64	99.99	15.50
2005	17000 C	S 17000		8.90	99.90	0.00

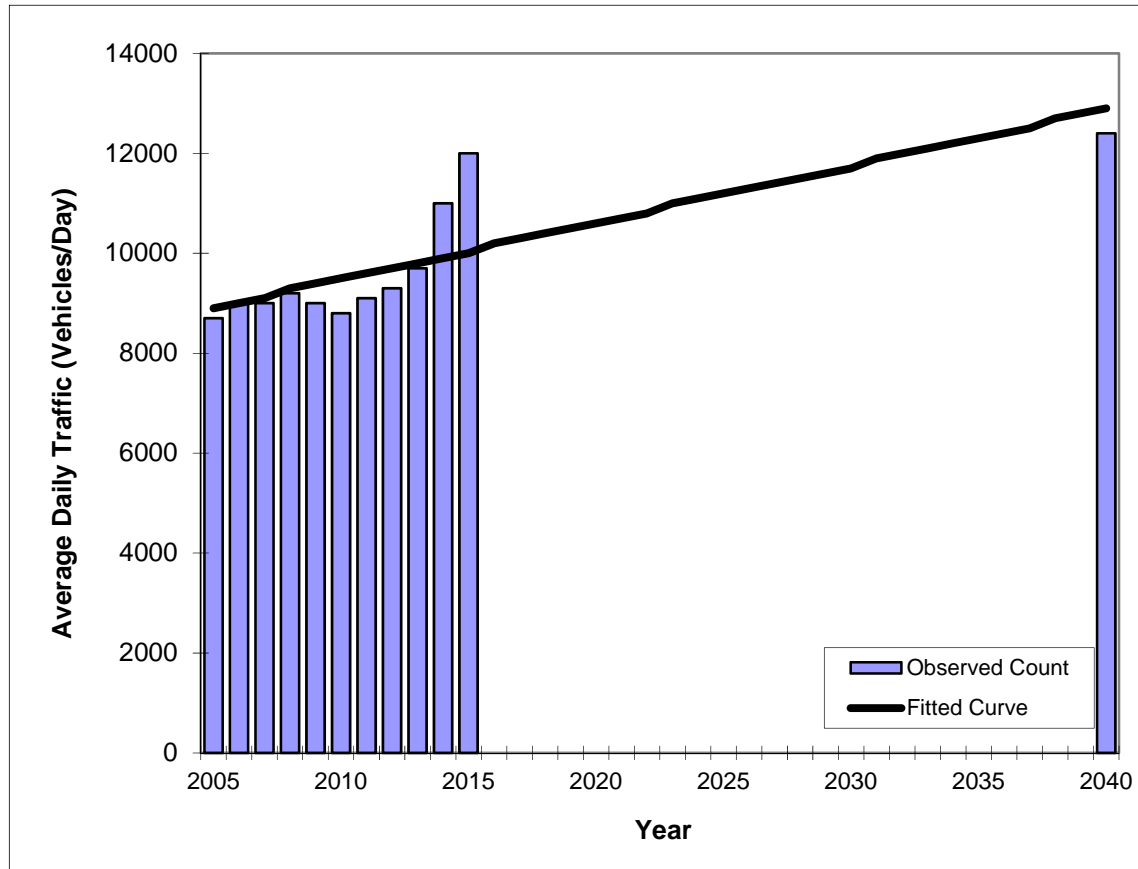
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 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### I-75 SB Off Ramp at PRR --

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	7024
Highway:	I-75 SB Off Ramp at PRR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2005	8700	8900
2006	9000	9000
2007	9000	9100
2008	9200	9300
2009	9000	9400
2010	8800	9500
2011	9100	9600
2012	9300	9700
2013	9700	9800
2014	11000	9900
2015	12000	10000

2021 Opening Year Trend		
2021	N/A	10700
2030 Mid-Year Trend		
2030	N/A	11700
2040 Design Year Trend		
2040	N/A	12900
TRANPLAN Forecasts/Trends		
2040	12400	12900

** Annual Trend Increase:	113
Trend R-squared:	65.66%
Trend Annual Historic Growth Rate:	1.24%
Trend Growth Rate (2015 to Design Year):	1.16%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 7022 - SR93/I-75 SB,ON-RAMP FROM CR896/PINE RIDGE RD X107

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	5900 F	0	0	9.00	99.90	4.70
2014	5500 C	S 5500		9.00	99.90	5.50
2013	5600 S	0	0	9.00	99.90	3.10
2012	5300 F	0	0	9.00	99.90	2.90
2011	5200 C	S 5200	0	9.00	99.90	6.30
2010	4400 S	0	0	9.50	99.99	3.70
2009	4500 F	0	0	10.43	99.99	6.00
2008	4600 C	S 4600	0	9.07	99.99	5.10
2007	3400 S	0	0		13.90	
2006	3400 F			8.64	99.99	15.50
2005	3300 C	S 3300		8.90	99.90	0.00

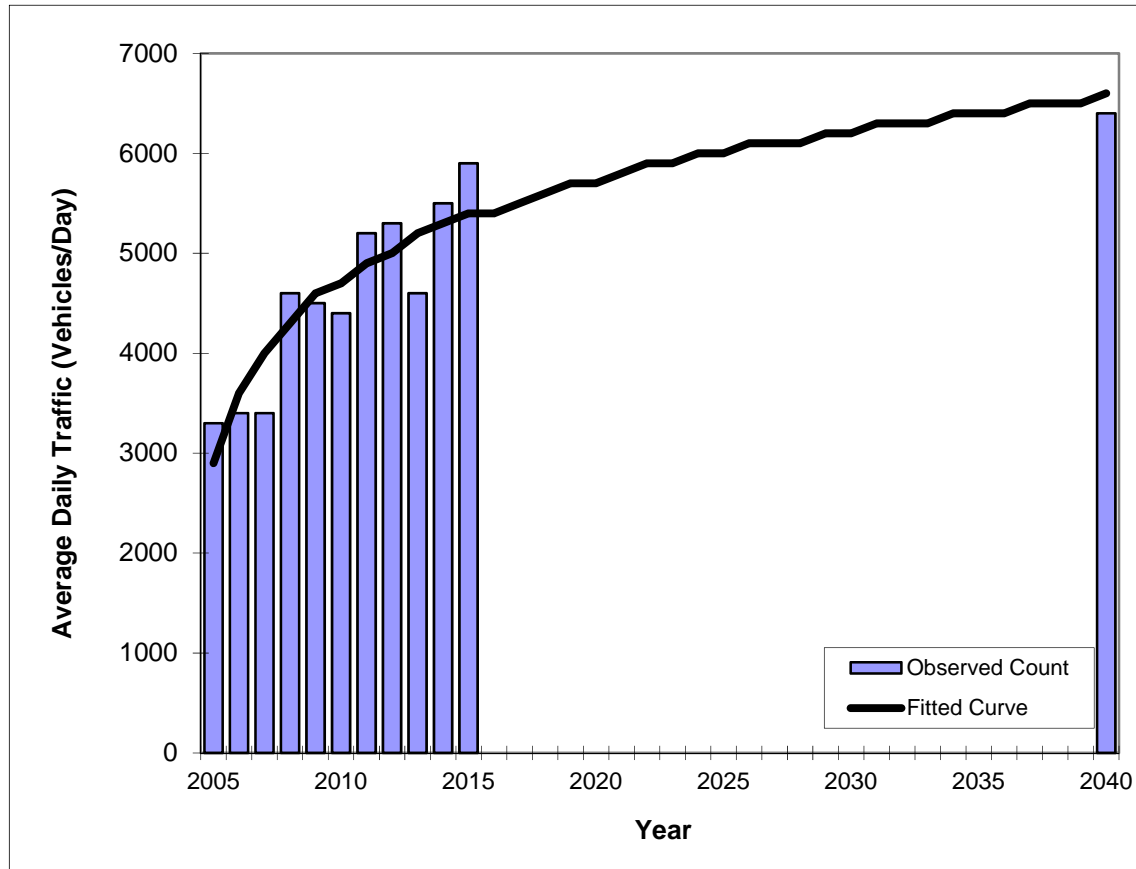
AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate  
 S = Second Year Estimate; T = Third Year Estimate; F = Fourth Year Estimate  
 V = Fifth Year Estimate; 6 = Sixth Year Estimate; X = Unknown  
 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### I-75 SB On Ramp at PRR --

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	7022
Highway:	I-75 SB On Ramp at PRR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2005	3300	2900
2006	3400	3600
2007	3400	4000
2008	4600	4300
2009	4500	4600
2010	4400	4700
2011	5200	4900
2012	5300	5000
2013	4600	5200
2014	5500	5300
2015	5900	5400
<b>2021 Opening Year Trend</b>		
2021	N/A	5800
<b>2030 Mid-Year Trend</b>		
2030	N/A	6200
<b>2040 Design Year Trend</b>		
2040	N/A	6600
<b>TRANPLAN Forecasts/Trends</b>		
2040	6400	6600

Trend R-squared:	85.19%
Compounded Annual Historic Growth Rate:	6.41%
Compounded Growth Rate (2015 to Design Year):	0.81%
Printed:	4-Feb-18
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted



Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 7023 - SR93/I-75 NB,ON-RAMP FROM CR896/PINE RIDGE RD X107

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	10500 F	0	0	9.00	99.90	4.70
2014	10000 C	N 10000		9.00	99.90	5.50
2013	9400 S	0	0	9.00	99.90	3.10
2012	9000 F	0	0	9.00	99.90	2.90
2011	8800 C	N 8800	0	9.00	99.90	6.30
2010	8300 S	0	0	9.50	99.99	3.70
2009	8500 F	0	0	10.43	99.99	6.00
2008	8700 C	N 8700	0	9.07	99.99	5.10
2007	17500 S	0	0		13.90	
2006	17500 F			8.64	51.95	15.50
2005	17000 C	N 17000		8.90	99.90	0.00

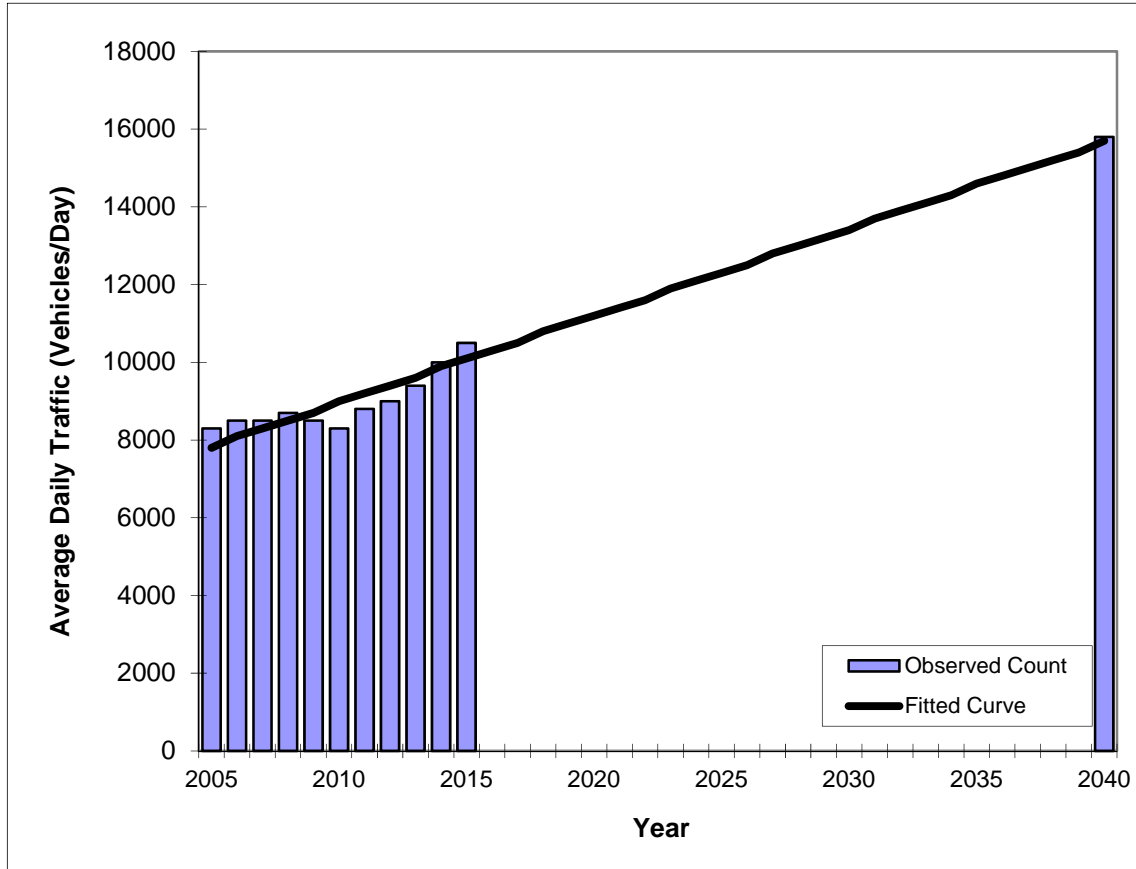
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 S = Second Year Estimate; T = Third Year Estimate; F = Fourth Year Estimate  
 V = Fifth Year Estimate; 6 = Sixth Year Estimate; X = Unknown  
 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### I-75 NB On Ramp at PRR --

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	7023
Highway:	I-75 NB On Ramp at PRR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2005	8300	7800
2006	8500	8100
2007	8500	8300
2008	8700	8500
2009	8500	8700
2010	8300	9000
2011	8800	9200
2012	9000	9400
2013	9400	9600
2014	10000	9900
2015	10500	10100
<b>2021 Opening Year Trend</b>		
2021	N/A	11400
<b>2030 Mid-Year Trend</b>		
2030	N/A	13400
<b>2040 Design Year Trend</b>		
2040	N/A	15700
<b>TRANPLAN Forecasts/Trends</b>		
2040	15800	15700

** Annual Trend Increase:	223
Trend R-squared:	96.78%
Trend Annual Historic Growth Rate:	2.95%
Trend Growth Rate (2015 to Design Year):	2.22%
Printed:	4-Feb-18
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

Florida Department of Transportation  
 Transportation Statistics Office  
 2015 Historical AADT Report

County: 03 - COLLIER

Site: 7021 - SR93/I-75 NB,OFF-RAMP TO CR896/PINE RIDGE RD X107

Year	AADT	Direction 1	Direction 2	*K Factor	D Factor	T Factor
2015	4900 F	0	0	9.00	99.90	4.70
2014	4600 C	N 4600		9.00	99.90	5.50
2013	5200 S	0	0	9.00	99.90	3.10
2012	5000 F	0	0	9.00	99.90	2.90
2011	4900 C	N 4900	0	9.00	99.90	6.30
2010	4000 S	0	0	9.50	99.99	3.70
2009	4100 F	0	0	10.43	99.99	6.00
2008	4200 C	N 4200	0	9.07	99.99	5.10
2007	3300 S	0	0		13.90	
2006	3300 F			8.64	99.99	15.50
2005	3200 C	N 3200		8.90	99.90	0.00

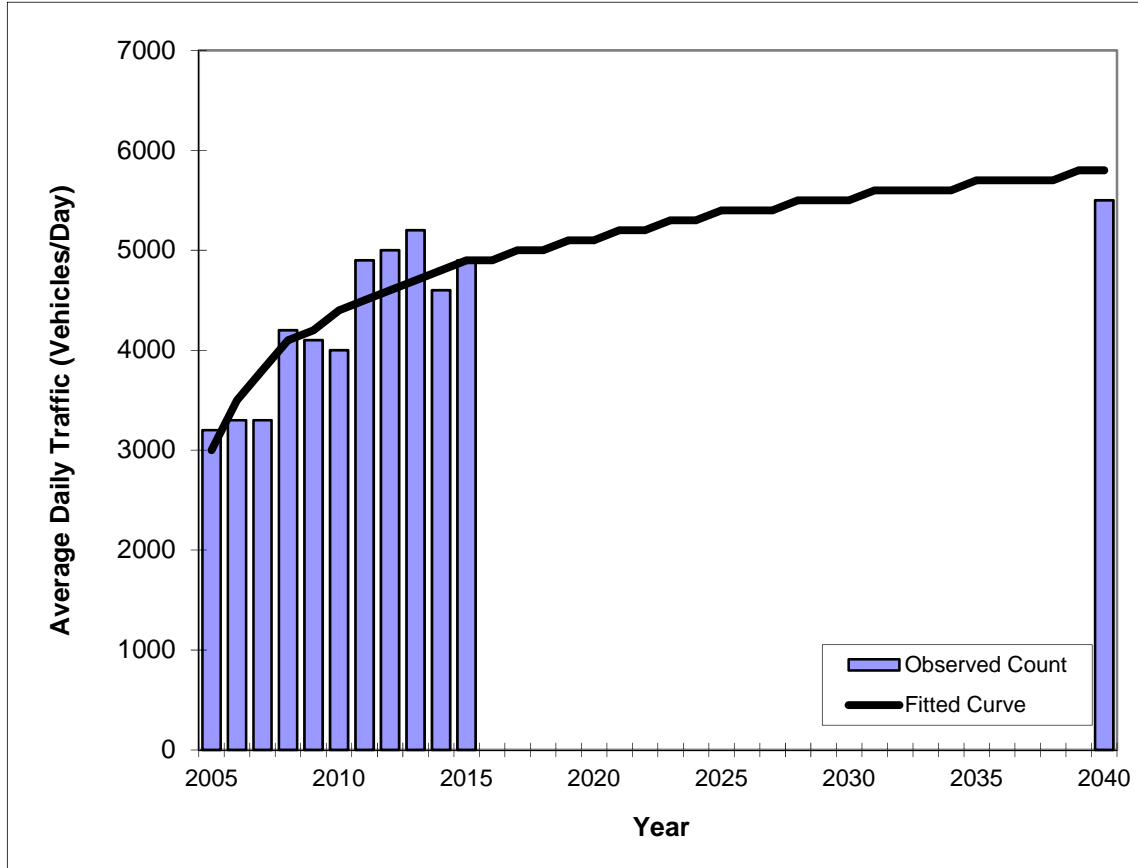
AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate  
 S = Second Year Estimate; T = Third Year Estimate; F = Fourth Year Estimate  
 V = Fifth Year Estimate; 6 = Sixth Year Estimate; X = Unknown  
 \*K Factor: Starting with Year 2011 is StandardK, Prior years are K30 values

## Traffic Trends - V2.0

### I-75 NB Off Ramp at PRR --

PIN#	n/a
Location	1

County:	Collier (03)
Station #:	7021
Highway:	I-75 NB Off Ramp at PRR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2005	3200	3000
2006	3300	3500
2007	3300	3800
2008	4200	4100
2009	4100	4200
2010	4000	4400
2011	4900	4500
2012	5000	4600
2013	5200	4700
2014	4600	4800
2015	4900	4900
<b>2021 Opening Year Trend</b>		
2021	N/A	5200
<b>2030 Mid-Year Trend</b>		
2030	N/A	5500
<b>2040 Design Year Trend</b>		
2040	N/A	5800
<b>TRANPLAN Forecasts/Trends</b>		
2040	5500	5800

Trend R-squared:	81.79%
Compounded Annual Historic Growth Rate:	5.03%
Compounded Growth Rate (2015 to Design Year):	0.68%
Printed:	4-Feb-18
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted

## **Appendix F**

### Vacant Land Volumes at Study Intersections

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Livingston Road

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	221	753	168	444	1852	289	395	669	206	330	877	373
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>217</b>	<b>738</b>	<b>165</b>	<b>435</b>	<b>1815</b>	<b>283</b>	<b>387</b>	<b>656</b>	<b>202</b>	<b>323</b>	<b>859</b>	<b>366</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	217	738	165	435	1815	283	387	656	202	323	859	366
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge		6							2	3		
South of Pine Ridge		23							6	7		
B/t Livingston & Whippoorwill S of PRR		20							5	9		
B/t PRR and Marbella			4	10							20	
Annual Growth Rate	0.00%	1.29%	0.48%	0.46%	0.00%	0.00%	0.00%	0.00%	1.26%	1.15%	0.46%	0.00%
<b>2021 Interim Conditions</b>	<b>217</b>	<b>787</b>	<b>169</b>	<b>445</b>	<b>1815</b>	<b>283</b>	<b>387</b>	<b>656</b>	<b>215</b>	<b>342</b>	<b>879</b>	<b>366</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	217	738	165	435	1815	283	387	656	202	323	859	366
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge		31							8	14		
South of Pine Ridge		114							28	36		
B/t Livingston & Whippoorwill S of PRR		100							27	44		
B/t PRR and Marbella			20	51							102	
Annual Growth Rate	0.00%	1.20%	0.48%	0.46%	0.00%	0.00%	0.00%	0.00%	1.14%	1.07%	0.47%	0.00%
<b>2040 Future Conditions</b>	<b>217</b>	<b>983</b>	<b>185</b>	<b>486</b>	<b>1815</b>	<b>283</b>	<b>387</b>	<b>656</b>	<b>265</b>	<b>417</b>	<b>961</b>	<b>366</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Livingston Road

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	240	1754	382	224	1345	351	286	880	527	350	683	265
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>235</b>	<b>1719</b>	<b>374</b>	<b>220</b>	<b>1318</b>	<b>344</b>	<b>280</b>	<b>862</b>	<b>516</b>	<b>343</b>	<b>669</b>	<b>260</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	235	1719	374	220	1318	344	280	862	516	343	669	260
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge		34							10	7		
South of Pine Ridge		8							3	3		
B/t Livingston & Whippoorwill S of PRR		13							4	3		
B/t PRR and Marbella			4	2							7	
Annual Growth Rate	0.00%	0.63%	0.21%	0.18%	0.00%	0.00%	0.00%	0.00%	0.65%	0.75%	0.21%	0.00%
<b>2021 Interim Conditions</b>	<b>235</b>	<b>1774</b>	<b>378</b>	<b>222</b>	<b>1318</b>	<b>344</b>	<b>280</b>	<b>862</b>	<b>533</b>	<b>356</b>	<b>676</b>	<b>260</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	235	1719	374	220	1318	344	280	862	516	343	669	260
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge		169							51	34		
South of Pine Ridge		38							16	14		
B/t Livingston & Whippoorwill S of PRR		67							20	13		
B/t PRR and Marbella			19	11							34	
Annual Growth Rate	0.00%	0.62%	0.21%	0.20%	0.00%	0.00%	0.00%	0.00%	0.65%	0.68%	0.21%	0.00%
<b>2040 Future Conditions</b>	<b>235</b>	<b>1993</b>	<b>393</b>	<b>231</b>	<b>1318</b>	<b>344</b>	<b>280</b>	<b>862</b>	<b>603</b>	<b>404</b>	<b>703</b>	<b>260</b>

## VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Whippoorwill Lane

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:45 - 8:45 AM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	80	1026	177	220	2452	137	389	31	154	51	5	112
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing				2	23	1						
<b>2016 Existing Conditions</b>	<b>78</b>	<b>1005</b>	<b>173</b>	<b>218</b>	<b>2426</b>	<b>135</b>	<b>381</b>	<b>30</b>	<b>151</b>	<b>50</b>	<b>5</b>	<b>110</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	78	1005	173	218	2426	135	381	30	151	50	5	110
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge	11					18		4		6	1	13
North of Pine Ridge (pass-by)		-3			-6							
South of Pine Ridge			36	45			11	1	5		1	
B/t Livingston & Whippoorwill S of PRR	1	13	2		28		4					1
Annual Growth Rate	2.90%	0.20%	4.05%	3.82%	0.18%	2.53%	0.78%	3.13%	0.65%	2.29%	6.96%	2.42%
<b>2021 Interim Conditions</b>	<b>90</b>	<b>1015</b>	<b>211</b>	<b>263</b>	<b>2448</b>	<b>153</b>	<b>396</b>	<b>35</b>	<b>156</b>	<b>56</b>	<b>7</b>	<b>124</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	78	1005	173	218	2426	135	381	30	151	50	5	110
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge	53					92		20		31	3	67
North of Pine Ridge (pass-by)		-17			-29							
South of Pine Ridge			178	225			57	4	23		5	
B/t Livingston & Whippoorwill S of PRR	5	63	11		142		22					6
Annual Growth Rate	2.34%	0.19%	3.12%	3.00%	0.19%	2.19%	0.79%	2.48%	0.59%	2.03%	4.06%	2.14%
<b>2040 Future Conditions</b>	<b>136</b>	<b>1051</b>	<b>362</b>	<b>443</b>	<b>2539</b>	<b>227</b>	<b>460</b>	<b>54</b>	<b>174</b>	<b>81</b>	<b>13</b>	<b>183</b>



## VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Whippoorwill Lane

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:30 - 5:30 PM

**Peak Hour Factor:** 0.96

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	172	2371	326	161	1591	104	294	14	213	120	7	75
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing				-2	-16	0						
<b>2016 Existing Conditions</b>	<b>169</b>	<b>2324</b>	<b>319</b>	<b>156</b>	<b>1543</b>	<b>102</b>	<b>288</b>	<b>14</b>	<b>209</b>	<b>118</b>	<b>7</b>	<b>74</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	169	2324	319	156	1543	102	288	14	209	118	7	74
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge	51					31		4		55	3	35
North of Pine Ridge (pass-by)		-15			-9							
South of Pine Ridge			14	7			42	2	31		0	
B/t Livingston & Whippoorwill S of PRR	5	73	10		16		3					1
Annual Growth Rate	5.89%	0.49%	1.46%	0.88%	0.09%	5.45%	2.95%	7.39%	2.80%	7.95%	7.39%	8.25%
<b>2021 Interim Conditions</b>	<b>225</b>	<b>2382</b>	<b>343</b>	<b>163</b>	<b>1550</b>	<b>133</b>	<b>333</b>	<b>20</b>	<b>240</b>	<b>173</b>	<b>10</b>	<b>110</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	169	2324	319	156	1543	102	288	14	209	118	7	74
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge	254					153		21		276	16	173
North of Pine Ridge (pass-by)		-75			-45							
South of Pine Ridge			68	33			212	10	154		1	
B/t Livingston & Whippoorwill S of PRR	27	364	50		82		15					4
Annual Growth Rate	4.17%	0.49%	1.32%	0.80%	0.10%	3.89%	2.45%	4.99%	2.33%	5.15%	5.27%	5.22%
<b>2040 Future Conditions</b>	<b>450</b>	<b>2613</b>	<b>437</b>	<b>189</b>	<b>1580</b>	<b>255</b>	<b>515</b>	<b>45</b>	<b>363</b>	<b>394</b>	<b>24</b>	<b>251</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 SB Ramp

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.95

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd						I-75 SB Ramp		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	935	325	171	2130	0	0	0	0	296	0	734
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing		-43		27						-14		-27
<b>2016 Existing Conditions</b>	<b>0</b>	<b>873</b>	<b>319</b>	<b>195</b>	<b>2087</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276</b>	<b>0</b>	<b>692</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	873	319	195	2087	0	0	0	0	276	0	692
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge		5	2		14							5
South of Pine Ridge		3	1		34							11
B/t Livingston & Whippoorwill S of PRR		9	3		21							7
Annual Growth Rate	0.00%	0.39%	0.37%	0.00%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.66%
<b>2021 Interim Conditions</b>	<b>0</b>	<b>890</b>	<b>325</b>	<b>195</b>	<b>2156</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276</b>	<b>0</b>	<b>715</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	873	319	195	2087	0	0	0	0	276	0	692
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge		23	8		69							23
South of Pine Ridge		17	6		169							56
B/t Livingston & Whippoorwill S of PRR		46	17		107							35
Annual Growth Rate	0.00%	0.39%	0.39%	0.00%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%
<b>2040 Future Conditions</b>	<b>0</b>	<b>959</b>	<b>350</b>	<b>195</b>	<b>2432</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276</b>	<b>0</b>	<b>806</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 SB Ramp

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:30 - 5:30 PM

**Peak Hour Factor:** 0.95

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd						I-75 SB Ramp		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	2253	423	115	1235	0	0	0	0	474	0	570
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing		18		2	26					4		6
<b>2016 Existing Conditions</b>	<b>0</b>	<b>2226</b>	<b>415</b>	<b>115</b>	<b>1236</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>469</b>	<b>0</b>	<b>565</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	2226	415	115	1236	0	0	0	0	469	0	565
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge		47	9		21							10
South of Pine Ridge		26	5		5							2
B/t Livingston & Whippoorwill S of PRR		61	11		11							5
Annual Growth Rate	0.00%	1.18%	1.18%	0.00%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.59%
<b>2021 Interim Conditions</b>	<b>0</b>	<b>2360</b>	<b>440</b>	<b>115</b>	<b>1273</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>469</b>	<b>0</b>	<b>582</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	2226	415	115	1236	0	0	0	0	469	0	565
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge		233	43		105							48
South of Pine Ridge		130	24		23							10
B/t Livingston & Whippoorwill S of PRR		307	57		56							26
Annual Growth Rate	0.00%	1.10%	1.10%	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.58%
<b>2040 Future Conditions</b>	<b>0</b>	<b>2896</b>	<b>539</b>	<b>115</b>	<b>1420</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>469</b>	<b>0</b>	<b>649</b>

## VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 NB Ramp

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:45 - 8:45 AM

**Peak Hour Factor:** 0.94

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			I-75 NB Ramp			SBL	SBT	SBR
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR			
Raw Turning Movement Counts	338	778	0	0	1988	490	396	0	107	0	0	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	17	41			-52		-14					0
<b>2016 Existing Conditions</b>	<b>348</b>	<b>803</b>	<b>0</b>	<b>0</b>	<b>1896</b>	<b>480</b>	<b>374</b>	<b>0</b>	<b>105</b>	<b>0</b>	<b>0</b>	<b>0</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	348	803	0	0	1896	480	374	0	105	0	0	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge	1	3			12		2					
South of Pine Ridge	1	2			28		6					
B/t Livingston & Whippoorwill S of PRR	3	6			18		4					
Astron Plaza		12			3	1			2			
Annual Growth Rate	0.29%	0.57%	0.00%	0.00%	0.64%	0.04%	0.63%	0.00%	0.38%	0.00%	0.00%	0.00%
<b>2021 Interim Conditions</b>	<b>353</b>	<b>826</b>	<b>0</b>	<b>0</b>	<b>1957</b>	<b>481</b>	<b>386</b>	<b>0</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>0</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	348	803	0	0	1896	480	374	0	105	0	0	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge	7	16			58		11					
South of Pine Ridge	5	12			141		28					
B/t Livingston & Whippoorwill S of PRR	14	32			89		18					
Astron Plaza		59			13	3			8			
Annual Growth Rate	0.30%	0.58%	0.00%	0.00%	0.62%	0.03%	0.59%	0.00%	0.31%	0.00%	0.00%	0.00%
<b>2040 Future Conditions</b>	<b>374</b>	<b>922</b>	<b>0</b>	<b>0</b>	<b>2197</b>	<b>483</b>	<b>431</b>	<b>0</b>	<b>113</b>	<b>0</b>	<b>0</b>	<b>0</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 NB Ramp

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			I-75 NB Ramp			SBL	SBT	SBR
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR			
Raw Turning Movement Counts	635	2141	0	0	1075	357	300	0	130	0	0	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-5	-17				15			12			
<b>2016 Existing Conditions</b>	<b>617</b>	<b>2081</b>	<b>0</b>	<b>0</b>	<b>1054</b>	<b>365</b>	<b>294</b>	<b>0</b>	<b>139</b>	<b>0</b>	<b>0</b>	<b>0</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	617	2081	0	0	1054	365	294	0	139	0	0	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
North of Pine Ridge	11	36			16		5					
South of Pine Ridge	6	20			4		1					
B/t Livingston & Whippoorwill S of PRR	14	47			9		2					
Astron Plaza		5			12	4			0			
Annual Growth Rate	0.99%	1.02%	0.00%	0.00%	0.77%	0.22%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>2021 Interim Conditions</b>	<b>648</b>	<b>2189</b>	<b>0</b>	<b>0</b>	<b>1095</b>	<b>369</b>	<b>302</b>	<b>0</b>	<b>139</b>	<b>0</b>	<b>0</b>	<b>0</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	617	2081	0	0	1054	365	294	0	139	0	0	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
North of Pine Ridge	53	180			82		23					
South of Pine Ridge	30	100			18		5					
B/t Livingston & Whippoorwill S of PRR	70	237			44		12					
Astron Plaza		27			59	21			2			
Annual Growth Rate	0.93%	0.97%	0.00%	0.00%	0.74%	0.23%	0.53%	0.00%	0.06%	0.00%	0.00%	0.00%
<b>2040 Future Conditions</b>	<b>770</b>	<b>2625</b>	<b>0</b>	<b>0</b>	<b>1257</b>	<b>386</b>	<b>334</b>	<b>0</b>	<b>141</b>	<b>0</b>	<b>0</b>	<b>0</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Napa Boulevard

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.93

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Napa Blvd			Napa Blvd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	314	624	27	12	1961	196	18	8	7	31	5	408
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-12	-25	-1		35		0					0
<b>2016 Existing Conditions</b>	<b>296</b>	<b>587</b>	<b>25</b>	<b>12</b>	<b>1957</b>	<b>192</b>	<b>18</b>	<b>8</b>	<b>7</b>	<b>30</b>	<b>5</b>	<b>400</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	296	587	25	12	1957	192	18	8	7	30	5	400
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Astron Plaza			13	6			3	1	1		3	
Annual Growth Rate	0.00%	0.00%	8.73%	8.45%	0.00%	0.00%	3.13%	2.38%	2.71%	0.00%	9.86%	0.00%
<b>2021 Interim Conditions</b>	<b>296</b>	<b>587</b>	<b>38</b>	<b>18</b>	<b>1957</b>	<b>192</b>	<b>21</b>	<b>9</b>	<b>8</b>	<b>30</b>	<b>8</b>	<b>400</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	296	587	25	12	1957	192	18	8	7	30	5	400
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Astron Plaza			67	32			16	7	6		13	
Annual Growth Rate	0.00%	0.00%	29.77%	29.67%	0.00%	0.00%	13.56%	13.40%	13.18%	0.00%	29.20%	0.00%
<b>2040 Future Conditions</b>	<b>296</b>	<b>587</b>	<b>92</b>	<b>44</b>	<b>1957</b>	<b>192</b>	<b>34</b>	<b>15</b>	<b>13</b>	<b>30</b>	<b>18</b>	<b>400</b>

# VACANT LAND VOLUMES AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Napa Boulevard

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.96

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Napa Blvd			Napa Blvd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	351	1910	19	5	999	99	23	6	9	100	10	437
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-2	-13	0		-10		0					-4
<b>2016 Existing Conditions</b>	<b>342</b>	<b>1859</b>	<b>19</b>	<b>5</b>	<b>969</b>	<b>97</b>	<b>23</b>	<b>6</b>	<b>9</b>	<b>98</b>	<b>10</b>	<b>424</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	342	1859	19	5	969	97	23	6	9	98	10	424
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Astron Plaza			6	2			16	4	6		3	
Annual Growth Rate	0.00%	0.00%	5.64%	6.96%	0.00%	0.00%	11.14%	10.76%	10.76%	0.00%	5.39%	0.00%
<b>2021 Interim Conditions</b>	<b>342</b>	<b>1859</b>	<b>25</b>	<b>7</b>	<b>969</b>	<b>97</b>	<b>39</b>	<b>10</b>	<b>15</b>	<b>98</b>	<b>13</b>	<b>424</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	342	1859	19	5	969	97	23	6	9	98	10	424
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Astron Plaza			29	8			80	21	31		15	
Annual Growth Rate	0.00%	0.00%	20.36%	21.06%	0.00%	0.00%	34.97%	35.10%	34.76%	0.00%	20.11%	0.00%
<b>2040 Future Conditions</b>	<b>342</b>	<b>1859</b>	<b>48</b>	<b>13</b>	<b>969</b>	<b>97</b>	<b>103</b>	<b>27</b>	<b>40</b>	<b>98</b>	<b>25</b>	<b>424</b>

## **Appendix G**

Traffic Volumes at Study Area Intersections: Existing and Future Conditions



# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Livingston Road

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.97

	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Existing Traffic</b>												
Raw Turning Movement Counts	221	753	168	444	1852	289	395	669	206	330	877	373
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>217</b>	<b>738</b>	<b>165</b>	<b>435</b>	<b>1815</b>	<b>283</b>	<b>387</b>	<b>656</b>	<b>202</b>	<b>323</b>	<b>859</b>	<b>366</b>

<b>Interim Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	217	738	165	435	1815	283	387	656	202	323	859	366
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.30%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.30%	1.20%	1.00%	1.00%
Background Traffic Growth	11	49	8	22	93	14	20	33	13	20	44	19
<b>2021 Interim Conditions</b>	<b>228</b>	<b>787</b>	<b>173</b>	<b>457</b>	<b>1908</b>	<b>297</b>	<b>407</b>	<b>689</b>	<b>215</b>	<b>343</b>	<b>903</b>	<b>385</b>

<b>Future Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	217	738	165	435	1815	283	387	656	202	323	859	366
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.20%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.20%	1.10%	1.00%	1.00%
Background Traffic Growth	59	245	45	117	490	76	104	177	67	97	232	99
<b>2040 Future Conditions</b>	<b>276</b>	<b>983</b>	<b>210</b>	<b>552</b>	<b>2305</b>	<b>359</b>	<b>491</b>	<b>833</b>	<b>269</b>	<b>420</b>	<b>1091</b>	<b>465</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Livingston Road

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	240	1754	382	224	1345	351	286	880	527	350	683	265
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>235</b>	<b>1719</b>	<b>374</b>	<b>220</b>	<b>1318</b>	<b>344</b>	<b>280</b>	<b>862</b>	<b>516</b>	<b>343</b>	<b>669</b>	<b>260</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	235	1719	374	220	1318	344	280	862	516	343	669	260
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Background Traffic Growth	12	88	19	11	67	18	14	44	26	17	34	13
<b>2021 Interim Conditions</b>	<b>247</b>	<b>1807</b>	<b>393</b>	<b>231</b>	<b>1385</b>	<b>362</b>	<b>294</b>	<b>906</b>	<b>542</b>	<b>360</b>	<b>703</b>	<b>273</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	235	1719	374	220	1318	344	280	862	516	343	669	260
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Background Traffic Growth	63	464	101	59	356	93	76	233	139	93	180	70
<b>2040 Future Conditions</b>	<b>298</b>	<b>2183</b>	<b>475</b>	<b>279</b>	<b>1674</b>	<b>437</b>	<b>356</b>	<b>1095</b>	<b>655</b>	<b>436</b>	<b>849</b>	<b>330</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Whippoorwill Lane

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:45 - 8:45 AM

**Peak Hour Factor:** 0.97

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	80	1026	177	220	2452	137	389	31	154	51	5	112
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing				2	23	1						
<b>2016 Existing Conditions</b>	<b>78</b>	<b>1005</b>	<b>173</b>	<b>218</b>	<b>2426</b>	<b>135</b>	<b>381</b>	<b>30</b>	<b>151</b>	<b>50</b>	<b>5</b>	<b>110</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	78	1005	173	218	2426	135	381	30	151	50	5	110
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	2.90%	1.00%	4.10%	3.80%	0.80%	2.50%	1.00%	3.10%	1.00%	2.30%	7.00%	2.40%
Background Traffic Growth	12	51	38	45	99	18	19	5	8	6	2	14
<b>2021 Interim Conditions</b>	<b>90</b>	<b>1056</b>	<b>211</b>	<b>263</b>	<b>2525</b>	<b>153</b>	<b>400</b>	<b>35</b>	<b>159</b>	<b>56</b>	<b>7</b>	<b>124</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	78	1005	173	218	2426	135	381	30	151	50	5	110
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	2.40%	1.00%	3.20%	3.00%	0.85%	2.20%	1.00%	2.50%	1.00%	2.10%	4.10%	2.20%
Background Traffic Growth	60	271	195	225	542	93	103	24	41	32	8	75
<b>2040 Future Conditions</b>	<b>138</b>	<b>1276</b>	<b>368</b>	<b>443</b>	<b>2968</b>	<b>228</b>	<b>484</b>	<b>54</b>	<b>192</b>	<b>82</b>	<b>13</b>	<b>185</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Whippoorwill Lane

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:30 - 5:30 PM

**Peak Hour Factor:** 0.96

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	172	2371	326	161	1591	104	294	14	213	120	7	75
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing				-2	-16	0						
<b>2016 Existing Conditions</b>	<b>169</b>	<b>2324</b>	<b>319</b>	<b>156</b>	<b>1543</b>	<b>102</b>	<b>288</b>	<b>14</b>	<b>209</b>	<b>118</b>	<b>7</b>	<b>74</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	169	2324	319	156	1543	102	288	14	209	118	7	74
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	5.90%	1.00%	1.50%	1.00%	1.00%	5.50%	3.00%	7.40%	2.80%	8.20%	8.20%	8.20%
Background Traffic Growth	56	119	25	8	79	31	46	6	31	57	3	36
<b>2021 Interim Conditions</b>	<b>225</b>	<b>2443</b>	<b>344</b>	<b>164</b>	<b>1622</b>	<b>133</b>	<b>334</b>	<b>20</b>	<b>240</b>	<b>175</b>	<b>10</b>	<b>110</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	169	2324	319	156	1543	102	288	14	209	118	7	74
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	4.20%	1.00%	1.35%	1.00%	0.90%	4.10%	2.50%	5.00%	2.35%	5.20%	5.20%	5.25%
Background Traffic Growth	285	627	121	42	370	164	233	31	156	280	17	179
<b>2040 Future Conditions</b>	<b>454</b>	<b>2951</b>	<b>440</b>	<b>198</b>	<b>1913</b>	<b>266</b>	<b>521</b>	<b>45</b>	<b>365</b>	<b>398</b>	<b>24</b>	<b>253</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 SB Ramp

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.95

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd						I-75 SB Ramp		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	935	325	171	2130	0	0	0	0	296	0	734
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing		-43		27						-14		-27
<b>2016 Existing Conditions</b>	<b>0</b>	<b>873</b>	<b>319</b>	<b>195</b>	<b>2087</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276</b>	<b>0</b>	<b>692</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	873	319	195	2087	0	0	0	0	276	0	692
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	1.50%	1.50%
Background Traffic Growth	0	47	16	10	106	0	0	0	0	21	0	56
<b>2021 Interim Conditions</b>	<b>0</b>	<b>920</b>	<b>335</b>	<b>205</b>	<b>2193</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>297</b>	<b>0</b>	<b>748</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	873	319	195	2087	0	0	0	0	276	0	692
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	1.50%	1.50%
Background Traffic Growth	0	247	86	53	563	0	0	0	0	119	0	297
<b>2040 Future Conditions</b>	<b>0</b>	<b>1120</b>	<b>405</b>	<b>248</b>	<b>2650</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>395</b>	<b>0</b>	<b>989</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 SB Ramp

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:30 - 5:30 PM

**Peak Hour Factor:** 0.95

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd						I-75 SB Ramp		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	2253	423	115	1235	0	0	0	0	474	0	570
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing		18		2	26					4		6
<b>2016 Existing Conditions</b>	<b>0</b>	<b>2226</b>	<b>415</b>	<b>115</b>	<b>1236</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>469</b>	<b>0</b>	<b>565</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	2226	415	115	1236	0	0	0	0	469	0	565
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.20%	1.20%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	1.50%	1.75%
Background Traffic Growth	0	137	26	7	66	0	0	0	0	36	0	52
<b>2021 Interim Conditions</b>	<b>0</b>	<b>2363</b>	<b>441</b>	<b>122</b>	<b>1302</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>505</b>	<b>0</b>	<b>617</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	2226	415	115	1236	0	0	0	0	469	0	565
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.10%	1.10%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	1.50%	1.50%
Background Traffic Growth	0	670	125	31	333	0	0	0	0	201	0	243
<b>2040 Future Conditions</b>	<b>0</b>	<b>2896</b>	<b>540</b>	<b>146</b>	<b>1569</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>670</b>	<b>0</b>	<b>808</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 NB Ramp

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:45 - 8:45 AM

**Peak Hour Factor:** 0.94

	Pine Ridge Rd			Pine Ridge Rd			I-75 NB Ramp					
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Existing Traffic</b>												
Raw Turning Movement Counts	338	778	0	0	1988	490	396	0	107	0	0	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	17	41			-52		-14					0
<b>2016 Existing Conditions</b>	<b>348</b>	<b>803</b>	<b>0</b>	<b>0</b>	<b>1896</b>	<b>480</b>	<b>374</b>	<b>0</b>	<b>105</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>Interim Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	348	803	0	0	1896	480	374	0	105	0	0	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.50%	1.00%	1.00%	1.00%	1.00%	1.50%	1.00%	1.00%	3.00%	1.00%	1.00%	1.00%
Background Traffic Growth	27	41	0	0	97	37	19	0	17	0	0	0
<b>2021 Interim Conditions</b>	<b>375</b>	<b>844</b>	<b>0</b>	<b>0</b>	<b>1993</b>	<b>517</b>	<b>393</b>	<b>0</b>	<b>122</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>Future Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	348	803	0	0	1896	480	374	0	105	0	0	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.50%	1.00%	1.00%	1.00%	1.00%	1.50%	1.00%	1.00%	2.60%	1.00%	1.00%	1.00%
Background Traffic Growth	149	217	0	0	511	206	105	0	88	0	0	0
<b>2040 Future Conditions</b>	<b>497</b>	<b>1020</b>	<b>0</b>	<b>0</b>	<b>2407</b>	<b>686</b>	<b>479</b>	<b>0</b>	<b>193</b>	<b>0</b>	<b>0</b>	<b>0</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & I-75 NB Ramp

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.97

	Pine Ridge Rd			Pine Ridge Rd			I-75 NB Ramp					
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Existing Traffic</b>												
Raw Turning Movement Counts	635	2141	0	0	1075	357	300	0	130	0	0	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-5	-17				15			12			
<b>2016 Existing Conditions</b>	<b>617</b>	<b>2081</b>	<b>0</b>	<b>0</b>	<b>1054</b>	<b>365</b>	<b>294</b>	<b>0</b>	<b>139</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>Interim Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	617	2081	0	0	1054	365	294	0	139	0	0	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.50%	1.20%	1.00%	1.00%	1.00%	1.50%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Background Traffic Growth	48	127	0	0	54	28	15	0	7	0	0	0
<b>2021 Interim Conditions</b>	<b>665</b>	<b>2208</b>	<b>0</b>	<b>0</b>	<b>1108</b>	<b>393</b>	<b>309</b>	<b>0</b>	<b>146</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>Future Traffic</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	617	2081	0	0	1054	365	294	0	139	0	0	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.50%	1.10%	1.00%	1.00%	1.00%	1.60%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Background Traffic Growth	265	608	0	0	285	169	79	0	37	0	0	0
<b>2040 Future Conditions</b>	<b>882</b>	<b>2689</b>	<b>0</b>	<b>0</b>	<b>1339</b>	<b>534</b>	<b>373</b>	<b>0</b>	<b>176</b>	<b>0</b>	<b>0</b>	<b>0</b>



# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Napa Boulevard

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.93

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Napa Blvd			Napa Blvd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	314	624	27	12	1961	196	18	8	7	31	5	408
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-12	-25	-1		35		0					0
<b>2016 Existing Conditions</b>	<b>296</b>	<b>587</b>	<b>25</b>	<b>12</b>	<b>1957</b>	<b>192</b>	<b>18</b>	<b>8</b>	<b>7</b>	<b>30</b>	<b>5</b>	<b>400</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	296	587	25	12	1957	192	18	8	7	30	5	400
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.00%	9.00%	9.00%	1.10%	1.00%	4.00%	4.00%	4.00%	1.00%	9.00%	1.00%
Background Traffic Growth	15	30	13	6	110	10	4	2	2	2	3	20
<b>2021 Interim Conditions</b>	<b>311</b>	<b>617</b>	<b>38</b>	<b>18</b>	<b>2067</b>	<b>202</b>	<b>22</b>	<b>10</b>	<b>9</b>	<b>32</b>	<b>8</b>	<b>420</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	296	587	25	12	1957	192	18	8	7	30	5	400
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.00%	5.60%	5.60%	1.10%	1.00%	2.70%	2.70%	2.70%	1.00%	5.60%	1.00%
Background Traffic Growth	80	158	67	32	593	52	16	7	6	8	13	108
<b>2040 Future Conditions</b>	<b>376</b>	<b>745</b>	<b>92</b>	<b>44</b>	<b>2550</b>	<b>244</b>	<b>34</b>	<b>15</b>	<b>13</b>	<b>38</b>	<b>18</b>	<b>508</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Pine Ridge Road & Napa Boulevard

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:45 - 5:45 PM

**Peak Hour Factor:** 0.96

Existing Traffic	Pine Ridge Rd			Pine Ridge Rd			Napa Blvd			Napa Blvd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	351	1910	19	5	999	99	23	6	9	100	10	437
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Smoothing	-2	-13	0		-10		0					-4
<b>2016 Existing Conditions</b>	<b>342</b>	<b>1859</b>	<b>19</b>	<b>5</b>	<b>969</b>	<b>97</b>	<b>23</b>	<b>6</b>	<b>9</b>	<b>98</b>	<b>10</b>	<b>424</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	342	1859	19	5	969	97	23	6	9	98	10	424
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	1.00%	1.20%	5.50%	5.50%	1.00%	1.00%	11.00%	11.00%	11.00%	1.00%	5.50%	0.80%
Background Traffic Growth	17	114	13	2	49	5	16	4	6	5	3	17
<b>2021 Interim Conditions</b>	<b>359</b>	<b>1973</b>	<b>32</b>	<b>7</b>	<b>1018</b>	<b>102</b>	<b>39</b>	<b>10</b>	<b>15</b>	<b>103</b>	<b>13</b>	<b>441</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	342	1859	19	5	969	97	23	6	9	98	10	424
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	1.00%	1.05%	4.00%	4.00%	1.00%	1.00%	6.50%	6.50%	6.50%	1.00%	4.00%	1.00%
Background Traffic Growth	92	523	30	8	259	26	81	21	32	26	16	114
<b>2040 Future Conditions</b>	<b>434</b>	<b>2382</b>	<b>49</b>	<b>13</b>	<b>1228</b>	<b>123</b>	<b>104</b>	<b>27</b>	<b>41</b>	<b>124</b>	<b>26</b>	<b>538</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Livingston Road & Marbella Lakes Drive

**Count Date:** 03/10/16

**A.M. Peak Time Period:** 7:30 - 8:30 AM

**Peak Hour Factor:** 0.94

Existing Traffic				Marbella Lakes Dr			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	0	0	37	0	90	0	1009	15	21	1540	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>989</b>	<b>15</b>	<b>21</b>	<b>1509</b>	<b>0</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	0	0	36	0	88	0	989	15	21	1509	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%	0.00%	0.00%	1.00%	1.00%
Background Traffic Growth	0	0	0	0	0	0	0	50	0	0	77	0
<b>2021 Interim Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>1039</b>	<b>15</b>	<b>21</b>	<b>1586</b>	<b>0</b>

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	0	0	36	0	88	0	989	15	21	1509	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%	0.00%	0.00%	1.00%	1.00%
Background Traffic Growth	0	0	0	0	0	0	0	267	0	0	407	0
<b>2040 Future Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>1256</b>	<b>15</b>	<b>21</b>	<b>1916</b>	<b>0</b>

# TRAFFIC VOLUME AT STUDY INTERSECTIONS

**Intersection:** Livingston Road & Marbella Lakes Drive

**Count Date:** 03/10/16

**P.M. Peak Time Period:** 4:30 - 5:30 PM

**Peak Hour Factor:** 0.94

Existing Traffic				Marbella Lakes Dr			Livingston Rd			Livingston Rd		
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	0	0	0	29	0	46	0	1468	38	65	1050	0
Peak Season Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<b>2016 Existing Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>1439</b>	<b>37</b>	<b>64</b>	<b>1029</b>	<b>0</b>

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	0	0	28	0	45	0	1439	37	64	1029	0
Years to Build-out	5	5	5	5	5	5	5	5	5	5	5	5
Annual Growth Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%	0.00%	0.00%	1.00%	1.00%
Background Traffic Growth	0	0	0	0	0	0	0	73	0	0	52	0
<b>2021 Interim Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>1512</b>	<b>37</b>	<b>64</b>	<b>1081</b>	<b>0</b>

























Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	0	0	0	28	0	45	0	1439	37	64	1029	0
Years to Build-out	24	24	24	24	24	24	24	24	24	24	24	24
Annual Growth Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%	0.00%	0.00%	1.00%	1.00%
Background Traffic Growth	0	0	0	0	0	0	0	388	0	0	278	0
<b>2040 Future Conditions</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>1827</b>	<b>37</b>	<b>64</b>	<b>1307</b>	<b>0</b>

## **Appendix H1**

Synchro Worksheets: 20-21 No-Build Condition

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	787	173	457	1908	297	407	689	215	343	903	385
Future Volume (vph)	228	787	173	457	1908	297	407	689	215	343	903	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178			233			222			209
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	235	811	178	471	1967	306	420	710	222	354	931	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	811	178	471	1967	306	420	710	222	354	931	397
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	25.0	64.0	64.0	35.0	74.0	74.0	28.0	31.0	31.0	30.0	33.0	33.0
Total Split (%)	15.6%	40.0%	40.0%	21.9%	46.3%	46.3%	17.5%	19.4%	19.4%	18.8%	20.6%	20.6%
Maximum Green (s)	17.9	54.2	54.2	27.9	66.8	66.8	20.8	23.8	23.8	20.1	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.3	57.1	57.1	28.0	70.4	70.4	22.2	26.1	26.1	20.8	27.4	27.4
Actuated g/C Ratio	0.11	0.36	0.36	0.18	0.44	0.44	0.14	0.16	0.16	0.13	0.17	0.17
v/c Ratio	0.65	0.46	0.26	0.85	0.91	0.38	0.90	0.89	0.35	0.80	1.09	0.90
Control Delay	77.1	41.0	5.5	84.5	31.2	2.9	90.2	79.5	8.3	81.3	118.4	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	77.1	41.0	5.5	84.5	31.2	2.9	90.2	79.5	8.3	81.3	118.4	54.3
LOS	E	D	A	F	C	A	F	E	A	F	F	D
Approach Delay	42.8			37.2			71.2			95.5		
Approach LOS	D			D			E			F		
Queue Length 50th (ft)	123	243	0	228	701	27	226	271	0	187	~401	210
Queue Length 95th (ft)	170	287	55	m268	691	m23	#321	#348	43	246	#497	#408
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	404	1746	679	584	2172	807	469	798	627	463	853	441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.46	0.26	0.81	0.91	0.38	0.90	0.89	0.35	0.76	1.09	0.90

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 58.7 Intersection LOS: E  
 Intersection Capacity Utilization 91.3% ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1807	393	231	1385	362	294	906	542	360	703	273
Future Volume (vph)	247	1807	393	231	1385	362	294	906	542	360	703	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			361			353			459			277
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	255	1863	405	238	1428	373	303	934	559	371	725	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	1863	405	238	1428	373	303	934	559	371	725	281
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	31.0	70.0	70.0	31.0	70.0	70.0	31.0	32.0	32.0	27.0	28.0	28.0
Total Split (%)	19.4%	43.8%	43.8%	19.4%	43.8%	43.8%	19.4%	20.0%	20.0%	16.9%	17.5%	17.5%
Maximum Green (s)	23.9	60.2	60.2	23.9	62.8	62.8	23.8	24.8	24.8	17.1	20.8	20.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.5	69.0	69.0	18.1	71.2	71.2	20.8	26.3	26.3	18.6	26.8	26.8
Actuated g/C Ratio	0.12	0.43	0.43	0.11	0.44	0.44	0.13	0.16	0.16	0.12	0.17	0.17
v/c Ratio	0.64	0.86	0.45	0.63	0.64	0.41	0.68	1.13	0.67	0.94	0.87	0.56
Control Delay	74.6	46.3	6.3	47.5	52.7	23.4	74.2	131.5	16.1	101.5	76.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

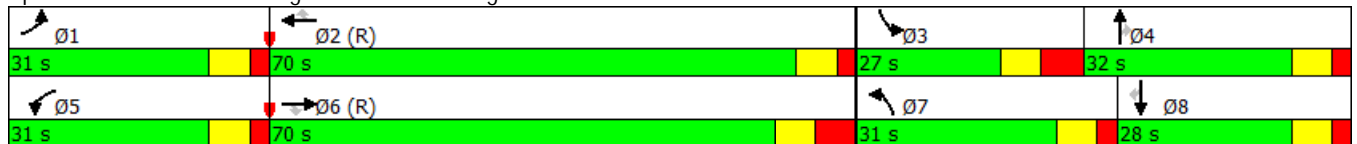
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.6	46.3	6.3	47.5	52.7	23.4	74.2	131.5	16.1	101.5	76.1	11.5
LOS	E	D	A	D	D	C	E	F	B	F	E	B
Approach Delay		42.8			46.8			85.9			69.8	
Approach LOS		D			D			F			E	
Queue Length 50th (ft)	133	639	27	128	572	201	158	~412	52	202	274	4
Queue Length 95th (ft)	178	742	110	m141	618	m265	205	#509	126	#303	#392	97
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	550	2171	894	534	2240	900	542	827	832	395	836	498
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.86	0.45	0.45	0.64	0.41	0.56	1.13	0.67	0.94	0.87	0.56

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 58.6  
 Intersection Capacity Utilization 92.6%  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1056	211	263	2525	153	400	35	159	56	7	124
Future Volume (vph)	90	1056	211	263	2525	153	400	35	159	56	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850		0.877			0.858
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1666	0	1641	1529	0
Flt Permitted	0.045			0.196			0.950			0.950		
Satd. Flow (perm)	81	4848	1568	369	4893	1468	3433	1666	0	1641	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			117		118			117	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	93	1089	218	271	2603	158	412	36	164	58	7	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1089	218	271	2603	158	412	200	0	58	135	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	18.0	77.0	77.0	34.0	93.0	93.0	26.0	26.0		23.0	23.0	
Total Split (%)	11.3%	48.1%	48.1%	21.3%	58.1%	58.1%	16.3%	16.3%		14.4%	14.4%	
Maximum Green (s)	11.2	70.2	70.2	27.2	86.2	86.2	19.3	19.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	100.8	89.8	89.8	110.9	95.5	95.5	20.8	22.7		12.5	11.7	
Actuated g/C Ratio	0.63	0.56	0.56	0.69	0.60	0.60	0.13	0.14		0.08	0.07	
v/c Ratio	0.57	0.40	0.22	0.67	0.89	0.17	0.92	0.59		0.45	0.61	
Control Delay	39.4	40.0	18.4	15.7	35.1	7.7	95.3	35.1		80.9	27.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

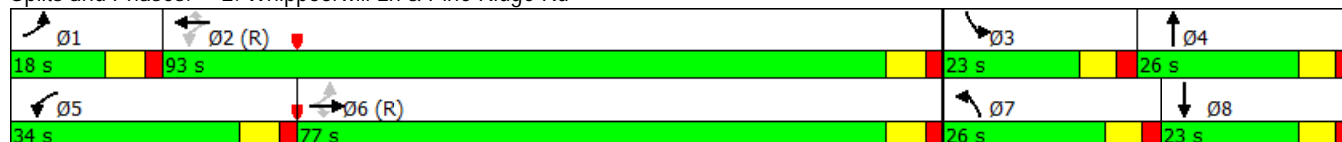
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	39.4	40.0	18.4	15.7	35.1	7.7	95.3	35.1		80.9	27.9	
LOS	D	D	B	B	D	A	F	D		F	C	
Approach Delay		36.6			31.9			75.7			43.8	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	56	410	86	119	880	39	223	83		59	18	
Queue Length 95th (ft)	m109	475	m173	m181	m#1029	m63	#323	172		107	88	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	183	2721	975	512	2920	923	446	349		182	274	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.40	0.22	0.53	0.89	0.17	0.92	0.57		0.32	0.49	

### Intersection Summary























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 159 (99%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 38.7 Intersection LOS: D  
 Intersection Capacity Utilization 91.6% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2406	344	164	1614	133	334	20	240	175	10	110
Future Volume (vph)	225	2406	344	164	1614	133	334	20	240	175	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.862			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1608	0	1687	1594	0
Flt Permitted	0.077			0.047			0.950			0.950		
Satd. Flow (perm)	141	5036	1599	88	5036	1553	3467	1608	0	1687	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236			117		199			115	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	234	2506	358	171	1681	139	348	21	250	182	10	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	2506	358	171	1681	139	348	271	0	182	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	30.0	88.0	88.0	25.0	83.0	83.0	24.0	24.0		23.0	23.0	
Total Split (%)	18.8%	55.0%	55.0%	15.6%	51.9%	51.9%	15.0%	15.0%		14.4%	14.4%	
Maximum Green (s)	23.2	81.2	81.2	18.2	76.2	76.2	17.3	17.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	111.3	90.3	90.3	101.7	85.5	85.5	18.7	14.7		17.8	13.8	
Actuated g/C Ratio	0.70	0.56	0.56	0.64	0.53	0.53	0.12	0.09		0.11	0.09	
v/c Ratio	0.76	0.88	0.36	0.76	0.62	0.16	0.86	0.83		0.97	0.52	
Control Delay	65.7	20.1	1.2	64.2	29.6	7.9	89.7	40.6		128.2	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.7	20.1	1.2	64.2	29.6	7.9	89.7	40.6		128.2	21.0	
LOS	E	C	A	E	C	A	F	D		F	C	
Approach Delay		21.3			31.0			68.2			84.6	
Approach LOS		C			C			E			F	
Queue Length 50th (ft)	147	852	8	116	667	26	187	73		193	10	
Queue Length 95th (ft)	m200	#942	m16	m200	722	m51	#269	183		#356	76	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	344	2842	1005	264	2691	884	407	364		187	279	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.68	0.88	0.36	0.65	0.62	0.16	0.86	0.74		0.97	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 36 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 98.7%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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













Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd

Ø1	Ø2 (R)	Ø3	Ø4
30 s	83 s	23 s	24 s
Ø5	Ø6 (R)	Ø7	Ø8
25 s	88 s	24 s	23 s

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖↗		↖↗
Traffic Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Future Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.224						0.950		
Satd. Flow (perm)	0	4848	1568	409	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			353									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				32.0								
Total Split (%)				20.0%								
Maximum Green (s)				25.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		74.7	74.7	101.4	106.7					42.7		42.7
Actuated g/C Ratio		0.47	0.47	0.63	0.67					0.27		0.27
v/c Ratio		0.43	0.38	0.45	0.70					0.37		0.99
Control Delay		39.3	22.8	27.7	24.0					49.3		78.0
Queue Delay		0.0	0.0	0.0	0.2					0.0		0.0
Total Delay		39.3	22.8	27.7	24.2					49.3		78.0
LOS		D	C	C	C					D		E
Approach Delay		34.9			24.5						69.9	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	37.0	43.0	21.0	27.0
Total Split (%)	23%	27%	13%	17%
Maximum Green (s)	30.2	36.2	14.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

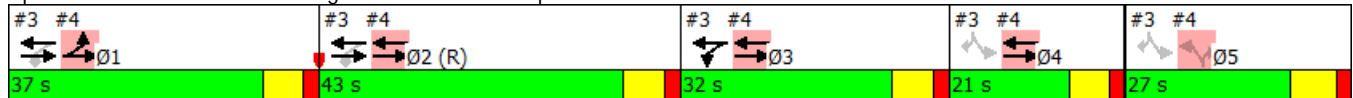
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						E	
Queue Length 50th (ft)		340	236	108	526					138		413
Queue Length 95th (ft)		402	334	m114	m553					185		#571
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2263	920	480	3294					841		796
Starvation Cap Reductn		0	0	0	237					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.43	0.38	0.45	0.75					0.37		0.99

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 37.4  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp





Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Future Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			317									127
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				23.0								
Total Split (%)				14.4%								
Maximum Green (s)				16.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		85.2	85.2	102.9	108.2					41.2		41.2
Actuated g/C Ratio		0.53	0.53	0.64	0.68					0.26		0.26
v/c Ratio		0.93	0.47	0.53	0.40					0.61		0.79
Control Delay		33.0	11.4	59.7	20.6					55.9		52.0
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		33.0	11.4	59.7	20.6					55.9		52.0
LOS		C	B	E	C					E		D
Approach Delay		29.6			24.0							53.7

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	60.0	30.0	20.0	27.0
Total Split (%)	38%	19%	13%	17%
Maximum Green (s)	53.2	23.2	13.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

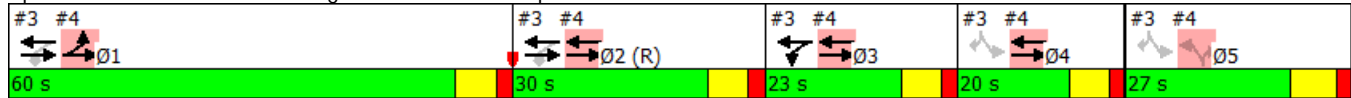
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						D	
Queue Length 50th (ft)		470	98	80	346					254		292
Queue Length 95th (ft)		m579	m173	m118	399					318		377
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2681	983	242	3405					877		820
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.93	0.47	0.53	0.40					0.61		0.78

Intersection Summary






















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 33.2  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 					
Traffic Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Future Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.969				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					67				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	399	898	0	0	2120	550	418	0	130	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	898	0	0	2670	0	418	0	130	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	37.0						27.0		27.0			
Total Split (%)	23.1%						16.9%		16.9%			
Maximum Green (s)	30.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	31.7	127.7			90.7		21.0		21.0			
Actuated g/C Ratio	0.20	0.80			0.57		0.13		0.13			
v/c Ratio	0.63	0.23			0.97		0.96		0.37			
Control Delay	76.7	4.6			28.3		101.4		6.1			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	76.7	4.6			28.3		101.4		6.1			
LOS	E	A			C		F		A			
Approach Delay		26.8			28.3				78.8			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	43.0	32.0	21.0
Total Split (%)	27%	20%	13%
Maximum Green (s)	36.2	25.2	14.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

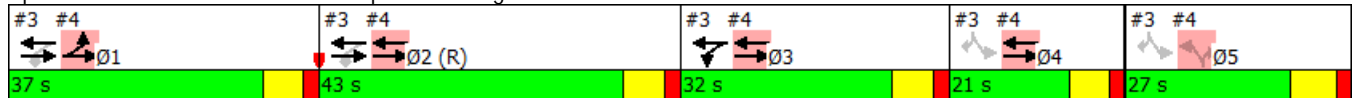
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E					
Queue Length 50th (ft)	178	79			399		227		0			
Queue Length 95th (ft)	236	91			m394		#336		30			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	630	3833			2742		437		355			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.63	0.23			0.97		0.96		0.37			

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 34.0 Intersection LOS: C  
 Intersection Capacity Utilization 85.8% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.


















Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Future Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.961				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					69				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	686	2276	0	0	1142	405	319	0	151	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	2276	0	0	1547	0	319	0	151	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	60.0						27.0		27.0			
Total Split (%)	37.5%						16.9%		16.9%			
Maximum Green (s)	53.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	55.2	128.2			67.7		20.5		20.5			
Actuated g/C Ratio	0.34	0.80			0.42		0.13		0.13			
v/c Ratio	0.60	0.56			0.74		0.73		0.43			
Control Delay	50.4	3.1			41.8		77.4		10.4			
Queue Delay	0.0	0.2			0.0		0.0		0.0			
Total Delay	50.4	3.4			41.8		77.4		10.4			
LOS	D	A			D		E		B			
Approach Delay		14.3			41.8				55.8			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	30.0	23.0	20.0
Total Split (%)	19%	14%	13%
Maximum Green (s)	23.2	16.2	13.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

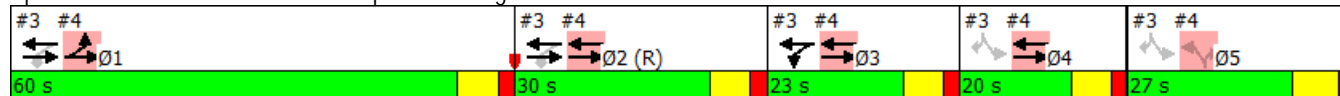
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			D			E					
Queue Length 50th (ft)	262	151			284		167		0			
Queue Length 95th (ft)	m297	158			597		222		55			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	1151	4035			2097		450		353			
Starvation Cap Reductn	0	848			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.60	0.71			0.74		0.71		0.43			

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 26.8  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.





















### Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd













02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Future Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.974			0.962	
Satd. Flow (prot)	3433	4618	0	1805	4893	1524	0	1739	0	0	1732	1568
Flt Permitted	0.950			0.950				0.840			0.762	
Satd. Flow (perm)	3433	4618	0	1805	4893	1524	0	1500	0	0	1372	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				163		7				119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	334	663	41	19	2223	217	24	11	10	34	9	452
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	704	0	19	2223	217	0	45	0	0	43	452
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	23.0	118.0		15.0	110.0	110.0	27.0	27.0		27.0	27.0	27.0
Total Split (%)	14.4%	73.8%		9.4%	68.8%	68.8%	16.9%	16.9%		16.9%	16.9%	16.9%
Maximum Green (s)	16.2	111.2		8.2	103.2	103.2	20.1	20.1		20.1	20.1	20.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	17.7	116.4		9.0	102.2	102.2		24.1			24.1	24.1
Actuated g/C Ratio	0.11	0.73		0.06	0.64	0.64		0.15			0.15	0.15
v/c Ratio	0.88	0.21		0.19	0.71	0.21		0.19			0.21	1.34
Control Delay	115.1	1.3		76.3	20.5	3.4		55.1			64.5	207.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	115.1	1.3		76.3	20.5	3.4		55.1			64.5	207.9
LOS	F	A		E	C	A		E			E	F
Approach Delay		37.9			19.4			55.1			195.4	
Approach LOS		D			B			E			F	
Queue Length 50th (ft)	162	8		19	511	19		36			41	-528
Queue Length 95th (ft)	#250	16		49	558	51		78			83	#756
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	379	3364		109	3201	1053		231			206	337
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.88	0.21		0.17	0.69	0.21		0.19			0.21	1.34

### Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 97 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay: 46.1

Intersection LOS: D

Intersection Capacity Utilization 86.0%

ICU Level of Service E

Analysis Period (min) 15







~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.





















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd

 Ø1	 Ø2 (R)	 Ø4
23 s	110 s	27 s
 Ø5	 Ø6 (R)	 Ø8
15 s	118 s	27 s

# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Future Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.970			0.958	
Satd. Flow (prot)	3467	5028	0	1805	4988	1599	0	1784	0	0	1773	1599
Flt Permitted	0.950			0.950				0.673			0.709	
Satd. Flow (perm)	3467	5028	0	1805	4988	1599	0	1238	0	0	1312	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				119		9				310
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	374	2055	33	7	1060	106	41	10	16	107	14	459
Shared Lane Traffic (%)												
Lane Group Flow (vph)	374	2088	0	7	1060	106	0	67	0	0	121	459
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	38.0	96.0		24.0	82.0	82.0	40.0	40.0		40.0	40.0	40.0
Total Split (%)	23.8%	60.0%		15.0%	51.3%	51.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	31.2	89.2		17.2	75.2	75.2	33.1	33.1		33.1	33.1	33.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	24.0	121.0		8.6	94.6	94.6		25.4			25.4	25.4
Actuated g/C Ratio	0.15	0.76		0.05	0.59	0.59		0.16			0.16	0.16
v/c Ratio	0.72	0.55		0.07	0.36	0.11		0.33			0.58	0.89
Control Delay	81.6	8.0		73.6	18.9	2.6		53.1			71.9	40.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

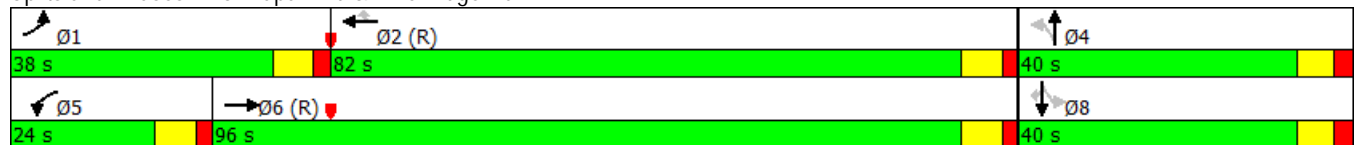
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.6	8.0		73.6	18.9	2.6		53.1			71.9	40.7
LOS	F	A		E	B	A		D			E	D
Approach Delay		19.2			17.8			53.1			47.2	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	203	12		7	206	0		54			118	167
Queue Length 95th (ft)	228	864		26	291	25		100			180	304
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	708	3802		210	2948	993		274			283	588
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.53	0.55		0.03	0.36	0.11		0.24			0.43	0.78

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 116 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 23.1  
 Intersection Capacity Utilization 68.3%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	36	88	1039	15	21	1586
Future Vol, veh/h	36	88	1039	15	21	1586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	4	20	0	4
Mvmt Flow	38	94	1105	16	22	1687

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	1825	553	0	0	1105
Stage 1	1105	-	-	-	-
Stage 2	720	-	-	-	-
Critical Hdwy	5.86	7.1	-	-	5.3
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.16	-	-	-	-
Follow-up Hdwy	3.88	3.9	-	-	3.1
Pot Cap-1 Maneuver	109	412	-	-	354
Stage 1	199	-	-	-	-
Stage 2	389	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	102	412	-	-	354
Mov Cap-2 Maneuver	102	-	-	-	-
Stage 1	199	-	-	-	-
Stage 2	365	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	29	0	0.2
HCM LOS	D		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	102	412	354	-
HCM Lane V/C Ratio	-	-	0.375	0.227	0.063	-
HCM Control Delay (s)	-	-	60.1	16.3	15.9	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	1.5	0.9	0.2	-

HCM 2010 TWSC  
 6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	28	45	1512	37	64	1081
Future Vol, veh/h	28	45	1512	37	64	1081
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	4
Mvmt Flow	30	48	1609	39	68	1150

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	2205	804	0	0	1609
Stage 1	1609	-	-	-	-
Stage 2	596	-	-	-	-
Critical Hdwy	5.7	7.14	-	-	5.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-
Follow-up Hdwy	3.8	3.92	-	-	3.1
Pot Cap-1 Maneuver	74	280	-	-	201
Stage 1	103	-	-	-	-
Stage 2	473	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	49	280	-	-	201
Mov Cap-2 Maneuver	49	-	-	-	-
Stage 1	103	-	-	-	-
Stage 2	313	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	72.9	0	1.8
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	49	280	201	-
HCM Lane V/C Ratio	-	-	0.608	0.171	0.339	-
HCM Control Delay (s)	-	-	157.2	20.5	31.8	-
HCM Lane LOS	-	-	F	C	D	-
HCM 95th %tile Q(veh)	-	-	2.4	0.6	1.4	-

























## **Appendix H2**

Synchro Worksheets: 2021 Signal Adjustment Condition



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	787	173	457	1908	297	407	689	215	343	903	385
Future Volume (vph)	228	787	173	457	1908	297	407	689	215	343	903	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			265			222			220
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	235	811	178	471	1967	306	420	710	222	354	931	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	811	178	471	1967	306	420	710	222	354	931	397
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	17.0	47.1	47.1	34.9	65.0	65.0	25.0	31.8	31.8	26.2	33.0	33.0
Total Split (%)	12.1%	33.6%	33.6%	24.9%	46.4%	46.4%	17.9%	22.7%	22.7%	18.7%	23.6%	23.6%
Maximum Green (s)	9.9	37.3	37.3	27.8	57.8	57.8	17.8	24.6	24.6	16.3	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	11.4	41.7	41.7	26.4	59.3	59.3	19.3	26.3	26.3	17.6	27.3	27.3
Actuated g/C Ratio	0.08	0.30	0.30	0.19	0.42	0.42	0.14	0.19	0.19	0.13	0.20	0.20
v/c Ratio	0.87	0.56	0.29	0.79	0.94	0.38	0.91	0.77	0.32	0.82	0.96	0.82
Control Delay	92.4	43.6	4.7	56.6	30.6	4.7	83.1	60.5	7.1	75.9	75.9	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.4	43.6	4.7	56.6	30.6	4.7	83.1	60.5	7.1	75.9	75.9	38.7
LOS	F	D	A	E	C	A	F	E	A	E	E	D
Approach Delay		47.3			32.2			58.8			67.1	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	110	230	0	198	639	56	197	228	0	163	310	164
Queue Length 95th (ft)	#186	283	42	m204	m#690	m54	#292	278	39	#235	#401	#330
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	271	1457	611	666	2092	804	464	920	689	436	972	482
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.56	0.29	0.71	0.94	0.38	0.91	0.77	0.32	0.81	0.96	0.82

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 73 (52%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 48.3 Intersection LOS: D  
 Intersection Capacity Utilization 91.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1807	393	231	1385	362	294	906	542	360	703	273
Future Volume (vph)	247	1807	393	231	1385	362	294	906	542	360	703	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			319			322			264			164
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	255	1863	405	238	1428	373	303	934	559	371	725	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	1863	405	238	1428	373	303	934	559	371	725	281
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	22.2	65.0	65.0	17.0	59.8	59.8	21.3	33.0	33.0	25.0	36.7	36.7
Total Split (%)	15.9%	46.4%	46.4%	12.1%	42.7%	42.7%	15.2%	23.6%	23.6%	17.9%	26.2%	26.2%
Maximum Green (s)	15.1	55.2	55.2	9.9	52.6	52.6	14.1	25.8	25.8	15.1	29.5	29.5
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	15.6	56.7	56.7	11.4	55.1	55.1	15.5	27.3	27.3	16.6	31.1	31.1
Actuated g/C Ratio	0.11	0.40	0.40	0.08	0.39	0.39	0.11	0.20	0.20	0.12	0.22	0.22
v/c Ratio	0.66	0.91	0.48	0.87	0.72	0.46	0.80	0.95	0.75	0.92	0.65	0.58
Control Delay	68.3	47.3	8.6	88.7	18.3	7.4	77.0	74.6	34.6	89.5	52.8	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Total Delay	68.3	47.3	8.6	88.7	18.3	7.4	77.0	74.6	34.6	89.5	52.8	25.1	
LOS	E	D	A	F	B	A	E	E	C	F	D	C	
Approach Delay	43.3			24.5			62.5			57.0			
Approach LOS	D			C			E			E			
Queue Length 50th (ft)	115	581	49	101	314	92	140	311	148	175	222	93	
Queue Length 95th (ft)	162	653	137	m#174	426	m157	#206	#400	225	#270	270	193	
Internal Link Dist (ft)	1197			2532			1108			1278			
Turn Bay Length (ft)	425		850	425		325		600		450	550		725
Base Capacity (vph)	411	2039	837	274	1982	818	382	982	745	403	1109	482	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.62	0.91	0.48	0.87	0.72	0.46	0.79	0.95	0.75	0.92	0.65	0.58	

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 4 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 45.2 Intersection LOS: D  
 Intersection Capacity Utilization 92.6% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.




























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 					
Traffic Volume (vph)	90	1056	211	263	2525	153	400	35	159	56	7	124
Future Volume (vph)	90	1056	211	263	2525	153	400	35	159	56	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.877			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1666	0	1641	1529	0
Flt Permitted	0.056			0.187			0.950			0.950		
Satd. Flow (perm)	101	4848	1568	352	4893	1468	3433	1666	0	1641	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			134		141			93	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	93	1089	218	271	2603	158	412	36	164	58	7	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1089	218	271	2603	158	412	200	0	58	135	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	13.8	67.0	67.0	27.6	80.8	80.8	22.7	28.8		16.6	22.7	
Total Split (%)	9.9%	47.9%	47.9%	19.7%	57.7%	57.7%	16.2%	20.6%		11.9%	16.2%	
Maximum Green (s)	7.0	60.2	60.2	20.8	74.0	74.0	16.0	22.1		9.9	16.0	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	82.9	73.3	73.3	93.8	79.6	79.6	17.5	22.0		10.4	12.3	
Actuated g/C Ratio	0.59	0.52	0.52	0.67	0.57	0.57	0.12	0.16		0.07	0.09	
v/c Ratio	0.55	0.43	0.24	0.68	0.94	0.18	0.96	0.53		0.48	0.62	
Control Delay	56.8	11.9	4.8	21.0	27.5	4.1	95.0	23.0		75.2	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

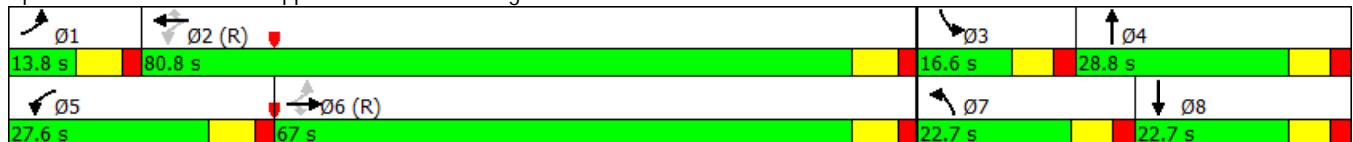
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	56.8	11.9	4.8	21.0	27.5	4.1	95.0	23.0		75.2	33.9	
LOS	E	B	A	C	C	A	F	C		E	C	
Approach Delay		13.8			25.7			71.5			46.3	
Approach LOS		B			C			E			D	
Queue Length 50th (ft)	31	236	42	107	505	11	195	50		51	37	
Queue Length 95th (ft)	m81	291	m128	m176	#962	m26	#300	127		100	104	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	170	2537	924	466	2783	892	429	417		133	272	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.55	0.43	0.24	0.58	0.94	0.18	0.96	0.48		0.44	0.50	

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 137 (98%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 28.7 Intersection LOS: C  
 Intersection Capacity Utilization 91.6% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



## Lanes, Volumes, Timings

### 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2406	344	164	1614	133	334	20	240	175	10	110
Future Volume (vph)	225	2406	344	164	1614	133	334	20	240	175	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.862			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1608	0	1687	1594	0
Flt Permitted	0.063			0.060			0.950			0.950		
Satd. Flow (perm)	115	5036	1599	112	5036	1553	3467	1608	0	1687	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			275			187		138			115	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	234	2506	358	171	1681	139	348	21	250	182	10	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	2506	358	171	1681	139	348	271	0	182	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	26.4	79.0	79.0	16.0	68.6	68.6	21.0	23.0		22.0	24.0	
Total Split (%)	18.9%	56.4%	56.4%	11.4%	49.0%	49.0%	15.0%	16.4%		15.7%	17.1%	
Maximum Green (s)	19.6	72.2	72.2	9.2	61.8	61.8	14.3	16.3		15.3	17.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	90.6	74.8	74.8	78.2	67.0	67.0	15.8	16.2		16.8	17.2	
Actuated g/C Ratio	0.65	0.53	0.53	0.56	0.48	0.48	0.11	0.12		0.12	0.12	
v/c Ratio	0.80	0.93	0.36	0.88	0.70	0.17	0.89	0.88		0.90	0.42	
Control Delay	49.0	31.3	4.0	84.7	11.1	1.2	85.9	57.9		102.3	16.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

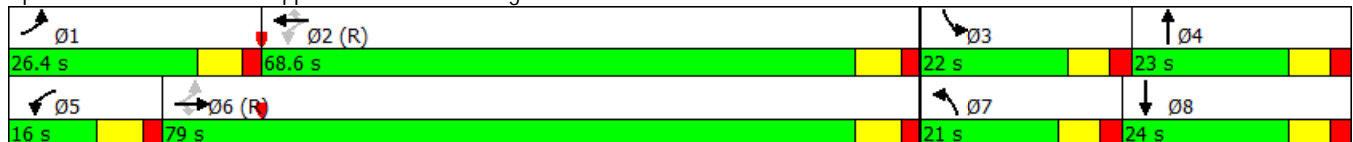
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	49.0	31.3	4.0	84.7	11.1	1.2	85.9	57.9		102.3	16.1	
LOS	D	C	A	F	B	A	F	E		F	B	
Approach Delay		29.5			16.8			73.6			67.2	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	123	830	65	105	214	4	163	122		166	8	
Queue Length 95th (ft)	m169	888	m75	m#217	304	m8	#251	#271		#311	69	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	318	2692	982	194	2410	840	391	324		202	313	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.74	0.93	0.36	0.88	0.70	0.17	0.89	0.84		0.90	0.40	

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 74 (53%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 31.7 Intersection LOS: C  
 Intersection Capacity Utilization 98.7% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd





Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Future Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.240						0.950		
Satd. Flow (perm)	0	4848	1568	438	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			353									136
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				14.0								
Total Split (%)				10.0%								
Maximum Green (s)				7.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		72.7	72.7	81.4	86.7					42.7		42.7
Actuated g/C Ratio		0.52	0.52	0.58	0.62					0.30		0.30
v/c Ratio		0.38	0.36	0.64	0.75					0.33		0.87
Control Delay		7.5	1.0	31.2	24.9					38.7		49.4
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		7.5	1.0	31.2	24.9					38.7		49.4
LOS		A	A	C	C					D		D
Approach Delay		5.7			25.4							46.3

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	26.0	52.0	23.0	25.0
Total Split (%)	19%	37%	16%	18%
Maximum Green (s)	19.2	45.2	16.2	17.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

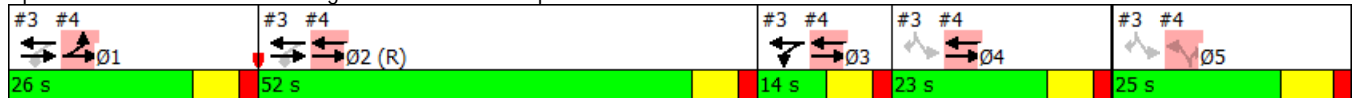
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C						D	
Queue Length 50th (ft)		53	1	97	487					113		328
Queue Length 95th (ft)		90	0	m115	543					156		#448
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2517	983	335	3059					962		904
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.38	0.36	0.64	0.75					0.33		0.87

Intersection Summary













Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 17 (12%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 24.8  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Future Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			439									140
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				12.0								
Total Split (%)				8.6%								
Maximum Green (s)				5.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		85.7	85.7	92.4	97.7					31.7		31.7
Actuated g/C Ratio		0.61	0.61	0.66	0.70					0.23		0.23
v/c Ratio		0.81	0.41	0.93	0.39					0.70		0.87
Control Delay		5.5	0.4	96.8	18.7					55.4		53.8
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		5.5	0.4	96.8	18.7					55.4		53.8
LOS		A	A	F	B					E		D
Approach Delay		4.7			25.4						54.5	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	58.0	33.0	16.8	20.2
Total Split (%)	41%	24%	12%	14%
Maximum Green (s)	51.2	26.2	10.0	12.7
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

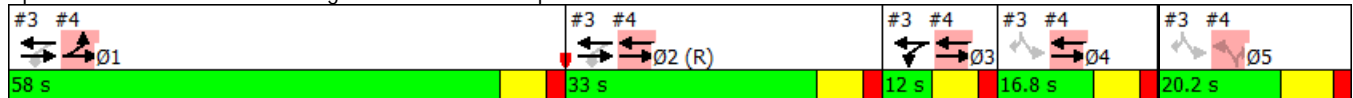
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C						D	
Queue Length 50th (ft)		108	0	75	334					231		258
Queue Length 95th (ft)		118	m0	m#126	m391					296		#367
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		3082	1130	138	3514					762		739
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.81	0.41	0.93	0.39					0.70		0.87

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 20.6 Intersection LOS: C  
 Intersection Capacity Utilization 80.1% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.


















Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Future Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.969				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					82				189			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	399	898	0	0	2120	550	418	0	130	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	898	0	0	2670	0	418	0	130	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	26.0						25.0		25.0			
Total Split (%)	18.6%						17.9%		17.9%			
Maximum Green (s)	19.2						17.5		17.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	20.7	109.7			83.7		19.0		19.0			
Actuated g/C Ratio	0.15	0.78			0.60		0.14		0.14			
v/c Ratio	0.85	0.24			0.92		0.92		0.34			
Control Delay	89.3	4.6			10.6		86.7		3.6			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	89.3	4.6			10.6		86.7		3.6			
LOS	F	A			B		F		A			
Approach Delay		30.7			10.6				67.0			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	52.0	14.0	23.0
Total Split (%)	37%	10%	16%
Maximum Green (s)	45.2	7.2	16.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			



Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

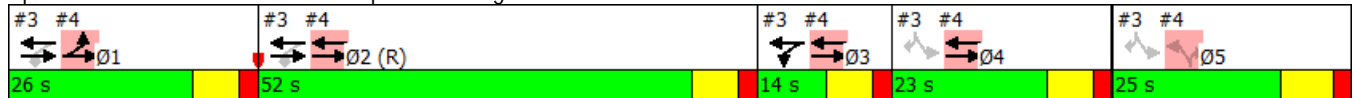
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			E					
Queue Length 50th (ft)	197	68			133		196		0			
Queue Length 95th (ft)	#273	79			m141		#295		11			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	470	3763			2894		452		382			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.85	0.24			0.92		0.92		0.34			

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 17 (12%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 23.2  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.


















Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Future Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.961				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					77				189			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	686	2276	0	0	1142	405	319	0	151	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	2276	0	0	1547	0	319	0	151	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	58.0						20.2		20.2			
Total Split (%)	41.4%						14.4%		14.4%			
Maximum Green (s)	51.2						12.7		12.7			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	52.7	114.5			56.5		14.2		14.2			
Actuated g/C Ratio	0.38	0.82			0.40		0.10		0.10			
v/c Ratio	0.55	0.55			0.77		0.92		0.45			
Control Delay	40.5	1.8			28.0		93.0		7.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	40.5	1.8			28.0		93.0		7.7			
LOS	D	A			C		F		A			
Approach Delay		10.7			28.0				65.6			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	33.0	12.0	16.8
Total Split (%)	24%	9%	12%
Maximum Green (s)	26.2	5.2	10.0
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			E					
Queue Length 50th (ft)	240	104			213		151		0			
Queue Length 95th (ft)	290	73			282		#240		34			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	1255	4118			2008		348		332			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.55	0.55			0.77		0.92		0.45			

Intersection Summary





















Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 21.3  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd

#3 #4	#3 #4	#3 #4	#3 #4	#3 #4
58 s	33 s	12 s	16.8 s	20.2 s

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Future Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.974			0.962	
Satd. Flow (prot)	3433	4618	0	1805	4893	1524	0	1739	0	0	1732	1568
Flt Permitted	0.950			0.950				0.858			0.786	
Satd. Flow (perm)	3433	4618	0	1805	4893	1524	0	1532	0	0	1415	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				138		10				136
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	334	663	41	19	2223	217	24	11	10	34	9	452
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	704	0	19	2223	217	0	45	0	0	43	452
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	22.0	88.0		13.8	79.8	79.8	38.2	38.2		38.2	38.2	38.2
Total Split (%)	15.7%	62.9%		9.9%	57.0%	57.0%	27.3%	27.3%		27.3%	27.3%	27.3%
Maximum Green (s)	15.2	81.2		7.0	73.0	73.0	31.3	31.3		31.3	31.3	31.3
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	16.6	88.6		8.5	75.0	75.0		32.4			32.4	32.4
Actuated g/C Ratio	0.12	0.63		0.06	0.54	0.54		0.23			0.23	0.23
v/c Ratio	0.82	0.24		0.17	0.85	0.25		0.12			0.13	0.97
Control Delay	75.5	17.1		66.4	31.7	7.1		35.6			43.8	71.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

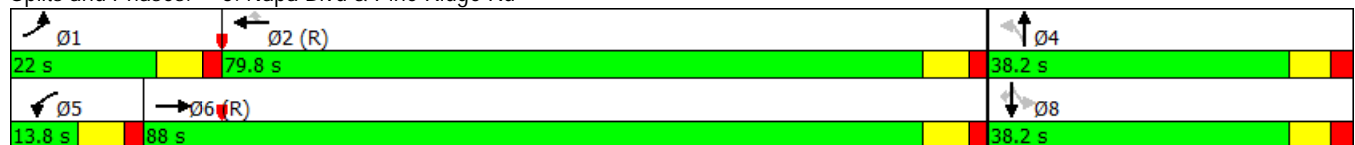
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	75.5	17.1		66.4	31.7	7.1		35.6			43.8	71.4
LOS	E	B		E	C	A		D			D	E
Approach Delay		35.9			29.8			35.6			69.0	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)	165	108		17	617	34		25			31	304
Queue Length 95th (ft)	#231	164		45	687	80		60			66	#525
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	409	2927		109	2622	880		366			331	471
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.82	0.24		0.17	0.85	0.25		0.12			0.13	0.96

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 139 (99%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 36.2 Intersection LOS: D  
 Intersection Capacity Utilization 86.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.





















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Future Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.970			0.958	
Satd. Flow (prot)	3467	5028	0	1805	4988	1599	0	1784	0	0	1773	1599
Flt Permitted	0.950			0.950				0.769			0.719	
Satd. Flow (perm)	3467	5028	0	1805	4988	1599	0	1414	0	0	1331	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				136		10				247
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	374	2055	33	7	1060	106	41	10	16	107	14	459
Shared Lane Traffic (%)												
Lane Group Flow (vph)	374	2088	0	7	1060	106	0	67	0	0	121	459
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	28.4	89.5		13.9	75.0	75.0	36.6	36.6		36.6	36.6	36.6
Total Split (%)	20.3%	63.9%		9.9%	53.6%	53.6%	26.1%	26.1%		26.1%	26.1%	26.1%
Maximum Green (s)	21.6	82.7		7.1	68.2	68.2	29.7	29.7		29.7	29.7	29.7
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	20.9	99.1		8.5	75.7	75.7		27.4			27.4	27.4
Actuated g/C Ratio	0.15	0.71		0.06	0.54	0.54		0.20			0.20	0.20
v/c Ratio	0.72	0.59		0.06	0.39	0.11		0.24			0.47	0.90
Control Delay	70.0	8.0		63.4	20.4	1.5		40.2			54.5	45.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.0	8.0		63.4	20.4	1.5		40.2			54.5	45.6
LOS	E	A		E	C	A		D			D	D
Approach Delay		17.4			19.0			40.2			47.4	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	156	131		6	213	0		43			96	199
Queue Length 95th (ft)	233	288		23	258	17		87			160	#381
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	572	3560		110	2720	933		329			302	554
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.65	0.59		0.06	0.39	0.11		0.20			0.40	0.83

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 2 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 22.2 Intersection LOS: C  
 Intersection Capacity Utilization 68.3% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd





























## **Appendix I**

Synchro Worksheets: 2040 No-Build Condition

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	552	2305	359	491	833	269	420	1091	465
Future Volume (vph)	276	983	210	552	2305	359	491	833	269	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			234			259			206
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		1277		2612			1188			1358		
Travel Time (s)		19.3		39.6			18.0			20.6		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	569	2376	370	506	859	277	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	569	2376	370	506	859	277	433	1125	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	25.0	64.0	64.0	35.0	74.0	74.0	28.0	31.0	31.0	30.0	33.0	33.0
Total Split (%)	15.6%	40.0%	40.0%	21.9%	46.3%	46.3%	17.5%	19.4%	19.4%	18.8%	20.6%	20.6%
Maximum Green (s)	17.9	54.2	54.2	27.9	66.8	66.8	20.8	23.8	23.8	20.1	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.4	55.7	55.7	29.4	69.3	69.3	22.3	25.3	25.3	21.6	27.3	27.3
Actuated g/C Ratio	0.12	0.35	0.35	0.18	0.43	0.43	0.14	0.16	0.16	0.14	0.17	0.17
v/c Ratio	0.74	0.59	0.31	0.97	1.11	0.46	1.08	1.11	0.43	0.94	1.32	1.09
Control Delay	80.8	44.6	5.4	85.8	80.7	4.0	126.8	126.9	10.4	96.1	202.1	104.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

# Lanes, Volumes, Timings

## 1: Livingston Rd & Pine Ridge Rd

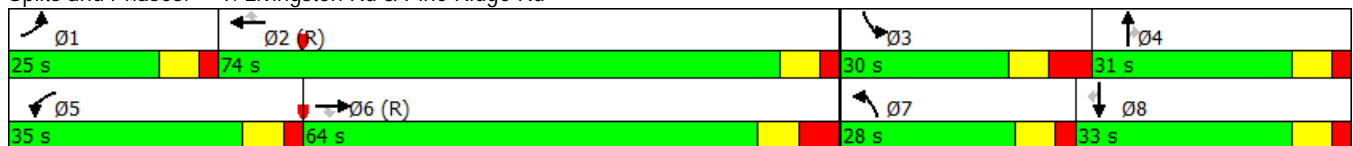
02/05/2018

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.8	44.6	5.4	85.8	80.7	4.0	126.8	126.9	10.4	96.1	202.1	104.2
LOS	F	D	A	F	F	A	F	F	B	F	F	F
Approach Delay	45.9			73.1			107.2			156.6		
Approach LOS	D			E			F			F		
Queue Length 50th (ft)	150	319	0	297	~1041	29	~303	~374	9	234	~555	~374
Queue Length 95th (ft)	203	369	59	m264	m#871	m22	#423	#469	56	#339	#653	#607
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	404	1703	691	584	2138	798	469	773	646	463	851	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.59	0.31	0.97	1.11	0.46	1.08	1.11	0.43	0.94	1.32	1.09

### Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.32  
 Intersection Signal Delay: 94.8      Intersection LOS: F  
 Intersection Capacity Utilization 106.4%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	279	1674	437	356	1095	655	436	849	330
Future Volume (vph)	298	2183	475	279	1674	437	356	1095	655	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340			334			455			267
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	288	1726	451	367	1129	675	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	288	1726	451	367	1129	675	449	875	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	31.0	70.0	70.0	31.0	70.0	70.0	31.0	32.0	32.0	27.0	28.0	28.0
Total Split (%)	19.4%	43.8%	43.8%	19.4%	43.8%	43.8%	19.4%	20.0%	20.0%	16.9%	17.5%	17.5%
Maximum Green (s)	23.9	60.2	60.2	23.9	62.8	62.8	23.8	24.8	24.8	17.1	20.8	20.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.8	66.7	66.7	20.4	68.9	68.9	22.9	26.3	26.3	18.6	24.7	24.7
Actuated g/C Ratio	0.13	0.42	0.42	0.13	0.43	0.43	0.14	0.16	0.16	0.12	0.15	0.15
v/c Ratio	0.68	1.07	0.57	0.67	0.80	0.52	0.75	1.37	0.81	1.14	1.14	0.72
Control Delay	74.1	86.4	13.2	50.7	46.5	21.1	75.6	219.7	29.3	148.5	135.0	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

# Lanes, Volumes, Timings

## 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.1	86.4	13.2	50.7	46.5	21.1	75.6	219.7	29.3	148.5	135.0	24.7
LOS	E	F	B	D	D	C	E	F	C	F	F	C
Approach Delay	73.4			42.3			136.2			116.1		
Approach LOS	E			D			F			F		
Queue Length 50th (ft)	160	-953	111	136	683	226	191	-567	132	-280	-400	70
Queue Length 95th (ft)	208	#1099	240	m151	m691	m309	247	#665	222	#396	#513	198
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	550	2098	864	534	2167	871	542	827	829	395	770	472
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	1.07	0.57	0.54	0.80	0.52	0.68	1.37	0.81	1.14	1.14	0.72

### Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 87.4

Intersection LOS: F

Intersection Capacity Utilization 107.1%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

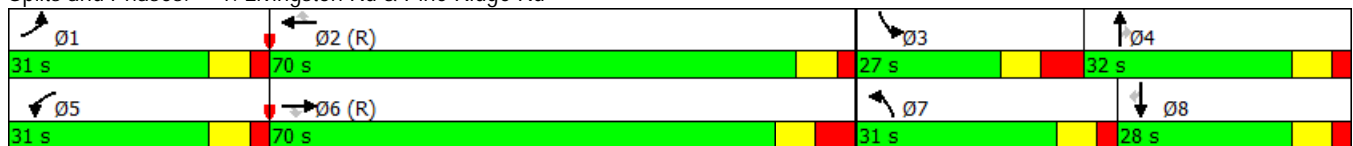
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1276	368	443	2968	228	484	54	192	82	13	185
Future Volume (vph)	138	1276	368	443	2968	228	484	54	192	82	13	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.883			0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1678	0	1641	1533	0
Flt Permitted	0.056			0.115			0.950			0.950		
Satd. Flow (perm)	101	4848	1568	216	4893	1468	3433	1678	0	1641	1533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			379			117		91			115	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	142	1315	379	457	3060	235	499	56	198	85	13	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1315	379	457	3060	235	499	254	0	85	204	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	18.0	77.0	77.0	34.0	93.0	93.0	26.0	26.0		23.0	23.0	
Total Split (%)	11.3%	48.1%	48.1%	21.3%	58.1%	58.1%	16.3%	16.3%		14.4%	14.4%	
Maximum Green (s)	11.2	70.2	70.2	27.2	86.2	86.2	19.3	19.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	84.0	71.7	71.7	108.2	90.6	90.6	20.8	21.5		14.6	15.3	
Actuated g/C Ratio	0.52	0.45	0.45	0.68	0.57	0.57	0.13	0.13		0.09	0.10	
v/c Ratio	0.80	0.61	0.42	1.01	1.10	0.27	1.12	0.84		0.57	0.82	
Control Delay	60.8	57.1	22.8	62.6	84.8	10.1	139.9	65.7		84.2	55.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

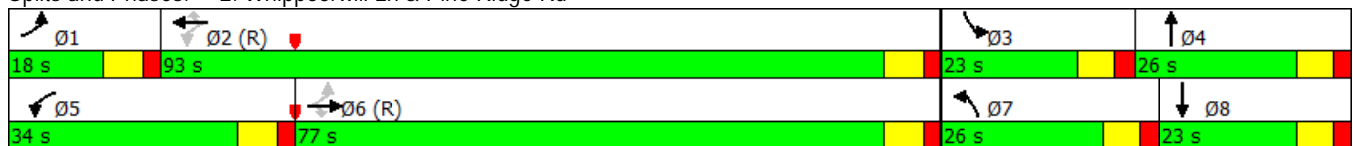
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.8	57.1	22.8	62.6	84.8	10.1	139.9	65.7		84.2	55.0	
LOS	E	E	C	E	F	B	F	E		F	D	
Approach Delay		50.3			77.4			114.9			63.6	
Approach LOS		D			E			F			E	
Queue Length 50th (ft)	100	510	177	~416	~1372	74	~308	170		87	92	
Queue Length 95th (ft)	m#185	m562	m252	m#483	m#1263	m80	#427	#328		146	#207	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	183	2172	911	452	2770	882	446	304		182	272	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.78	0.61	0.42	1.01	1.10	0.27	1.12	0.84		0.47	0.75	

Intersection Summary























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 159 (99%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 73.6 Intersection LOS: E  
 Intersection Capacity Utilization 108.4% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	2748	440	198	1913	266	521	45	365	398	24	253
Future Volume (vph)	454	2748	440	198	1913	266	521	45	365	398	24	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.867			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1618	0	1687	1596	0
Flt Permitted	0.048			0.051			0.950			0.950		
Satd. Flow (perm)	88	5036	1599	95	5036	1553	3467	1618	0	1687	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			264			133		181			182	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	473	2863	458	206	1993	277	543	47	380	415	25	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	2863	458	206	1993	277	543	427	0	415	289	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	30.0	88.0	88.0	25.0	83.0	83.0	24.0	24.0		23.0	23.0	
Total Split (%)	18.8%	55.0%	55.0%	15.6%	51.9%	51.9%	15.0%	15.0%		14.4%	14.4%	
Maximum Green (s)	23.2	81.2	81.2	18.2	76.2	76.2	17.3	17.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	107.5	84.1	84.1	96.0	77.7	77.7	18.8	18.8		17.8	17.8	
Actuated g/C Ratio	0.67	0.53	0.53	0.60	0.49	0.49	0.12	0.12		0.11	0.11	
v/c Ratio	1.51	1.08	0.47	0.83	0.82	0.34	1.33	1.22		2.22	0.85	
Control Delay	280.7	63.4	1.7	73.2	36.2	11.6	217.2	154.9		594.9	48.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	280.7	63.4	1.7	73.2	36.2	11.6	217.2	154.9		594.9	48.3	
LOS	F	E	A	E	D	B	F	F		F	D	
Approach Delay		83.0			36.5			189.8			370.5	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	~631	~1241	27	156	802	88	~378	~371		~696	114	
Queue Length 95th (ft)	m#642	m#1136	m9	m217	m821	m120	#502	#595		#917	#277	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	313	2646	965	264	2445	822	407	349		187	339	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.51	1.08	0.47	0.78	0.82	0.34	1.33	1.22		2.22	0.85	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 36 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.22

Intersection Signal Delay: 107.0

Intersection LOS: F

Intersection Capacity Utilization 128.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

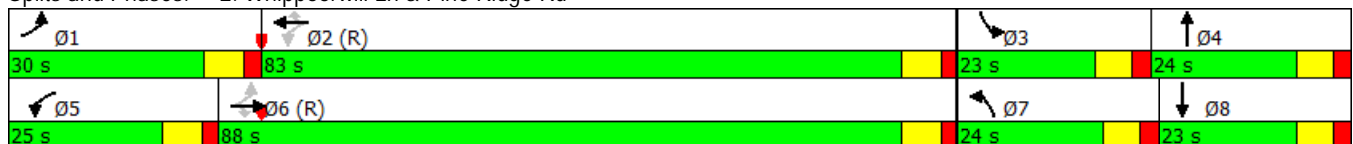
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.













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

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖↗		↗↖
Traffic Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Future Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.162						0.950		
Satd. Flow (perm)	0	4848	1568	296	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			426									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				32.0								
Total Split (%)				20.0%								
Maximum Green (s)				25.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		74.7	74.7	101.4	106.7					42.7		42.7
Actuated g/C Ratio		0.47	0.47	0.63	0.67					0.27		0.27
v/c Ratio		0.52	0.44	0.61	0.85					0.49		1.31
Control Delay		27.0	14.1	39.0	26.6					51.9		187.5
Queue Delay		0.0	0.0	0.0	1.0					0.0		0.0
Total Delay		27.0	14.1	39.0	27.5					51.9		187.5
LOS		C	B	D	C					D		F
Approach Delay		23.6			28.5						148.8	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	37.0	43.0	21.0	27.0
Total Split (%)	23%	27%	13%	17%
Maximum Green (s)	30.2	36.2	14.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						F	
Queue Length 50th (ft)		424	297	130	651					191		~740
Queue Length 95th (ft)		483	m394	m111	m543					246		#893
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2263	959	427	3294					841		796
Starvation Cap Reductn		0	0	0	250					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.52	0.44	0.61	0.92					0.49		1.31

Intersection Summary

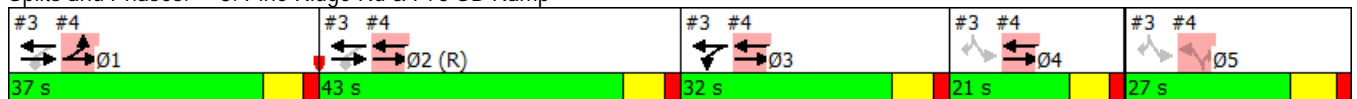
Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 55.9  
 Intersection Capacity Utilization 103.5%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

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

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













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

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖↗		↖↗
Traffic Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Future Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			316									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				23.0								
Total Split (%)				14.4%								
Maximum Green (s)				16.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		84.7	84.7	102.4	107.7					41.7		41.7
Actuated g/C Ratio		0.53	0.53	0.64	0.67					0.26		0.26
v/c Ratio		1.14	0.58	0.64	0.49					0.80		1.05
Control Delay		101.3	17.2	69.9	25.7					63.5		92.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		101.3	17.2	69.9	25.7					63.5		92.1
LOS		F	B	E	C					E		F
Approach Delay		88.1			29.4						79.2	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	60.0	30.0	20.0	27.0
Total Split (%)	38%	19%	13%	17%
Maximum Green (s)	53.2	23.2	13.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F					C			E			
Queue Length 50th (ft)		~1350	202	108	460					358		~491
Queue Length 95th (ft)		m653	m146	m124	510					436		#641
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2665	978	242	3389					877		814
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		1.14	0.58	0.64	0.49					0.80		1.05

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.14  
 Intersection Signal Delay: 70.9  
 Intersection Capacity Utilization 96.4%  
 Analysis Period (min) 15

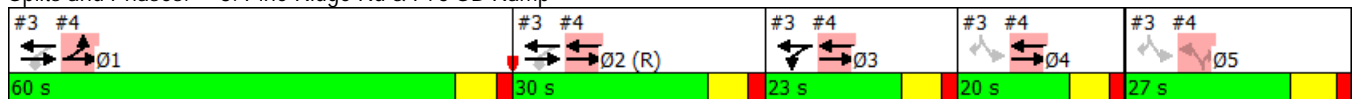
Intersection LOS: E  
 ICU Level of Service F

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

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






















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

### Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 					
Traffic Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Future Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.967				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4777	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4777	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					74				183			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	529	1085	0	0	2561	730	510	0	205	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	529	1085	0	0	3291	0	510	0	205	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	37.0						27.0		27.0			
Total Split (%)	23.1%						16.9%		16.9%			
Maximum Green (s)	30.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	31.7	127.7			90.7		21.0		21.0			
Actuated g/C Ratio	0.20	0.80			0.57		0.13		0.13			
v/c Ratio	0.84	0.28			1.20		1.17		0.55			
Control Delay	87.0	4.7			117.1		155.4		17.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	87.0	4.7			117.1		155.4		17.7			
LOS	F	A			F		F		B			
Approach Delay		31.7			117.1		115.9					



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	43.0	32.0	21.0
Total Split (%)	27%	20%	13%
Maximum Green (s)	36.2	25.2	14.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			F			F				
Queue Length 50th (ft)	252	104			~1501		~325		21			
Queue Length 95th (ft)	#318	116			m#1372		#444		105			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	630	3833			2740		437		370			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.84	0.28			1.20		1.17		0.55			

Intersection Summary

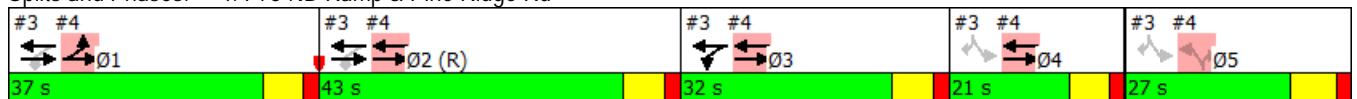
Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 92.4  
 Intersection Capacity Utilization 103.5%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service G

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

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


















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

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Future Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.957				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4840	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4840	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					78				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	909	2772	0	0	1380	551	385	0	181	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	909	2772	0	0	1931	0	385	0	181	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	60.0						27.0		27.0			
Total Split (%)	37.5%						16.9%		16.9%			
Maximum Green (s)	53.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	54.7	127.7			67.7		21.0		21.0			
Actuated g/C Ratio	0.34	0.80			0.42		0.13		0.13			
v/c Ratio	0.80	0.69			0.92		0.86		0.51			
Control Delay	53.3	2.9			67.8		86.3		16.8			
Queue Delay	0.0	0.9			0.0		0.0		0.0			
Total Delay	53.3	3.8			67.8		86.3		16.8			
LOS	D	A			E		F		B			
Approach Delay		16.1			67.8			64.0				

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	30.0	23.0	20.0
Total Split (%)	19%	14%	13%
Maximum Green (s)	23.2	16.2	13.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

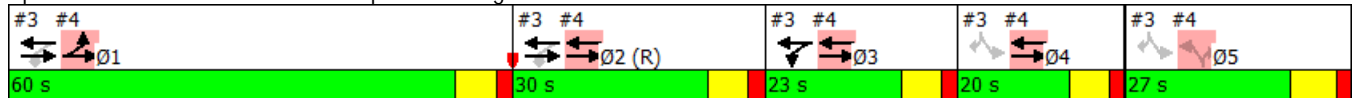
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			E			E					
Queue Length 50th (ft)	374	201			683		206		15			
Queue Length 95th (ft)	m334	m132			m789		#289		93			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	1140	4019			2092		450		353			
Starvation Cap Reductn	0	862			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.80	0.88			0.92		0.86		0.51			

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.14  
 Intersection Signal Delay: 36.6 Intersection LOS: D  
 Intersection Capacity Utilization 96.4% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 						 	
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	4893	1524	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.803			0.760	
Satd. Flow (perm)	3433	4607	0	1805	4893	1524	0	1435	0	0	1378	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				160		7				119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	2742	262	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	23.0	118.0		15.0	110.0	110.0	27.0	27.0		27.0	27.0	27.0
Total Split (%)	14.4%	73.8%		9.4%	68.8%	68.8%	16.9%	16.9%		16.9%	16.9%	16.9%
Maximum Green (s)	16.2	111.2		8.2	103.2	103.2	20.1	20.1		20.1	20.1	20.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	17.7	115.7		9.4	104.7	104.7		21.6			21.6	21.6
Actuated g/C Ratio	0.11	0.72		0.06	0.65	0.65		0.14			0.14	0.14
v/c Ratio	1.07	0.27		0.44	0.86	0.25		0.34			0.32	1.74
Control Delay	147.6	2.1		86.1	25.3	4.7		61.3			68.0	374.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	147.6	2.1		86.1	25.3	4.7		61.3			68.0	374.3
LOS	F	A		F	C	A		E			E	F
Approach Delay		47.2			24.5			61.3			344.0	
Approach LOS		D			C			E			F	
Queue Length 50th (ft)	~223	17		48	782	37		58			58	~734
Queue Length 95th (ft)	#337	33		95	846	75		111			108	#974
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	379	3340		109	3201	1052		199			186	314
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	1.07	0.27		0.43	0.86	0.25		0.34			0.32	1.74

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 97 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.74  
 Intersection Signal Delay: 69.4  
 Intersection Capacity Utilization 100.8%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

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

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





















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	4988	1599	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.590			0.647	
Satd. Flow (perm)	3467	5024	0	1805	4988	1599	0	1085	0	0	1200	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				119		9				290
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1279	128	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	38.0	96.0		24.0	82.0	82.0	40.0	40.0		40.0	40.0	40.0
Total Split (%)	23.8%	60.0%		15.0%	51.3%	51.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	31.2	89.2		17.2	75.2	75.2	33.1	33.1		33.1	33.1	33.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	27.4	108.8		8.9	82.1	82.1		34.5			34.5	34.5
Actuated g/C Ratio	0.17	0.68		0.06	0.51	0.51		0.22			0.22	0.22
v/c Ratio	0.76	0.74		0.14	0.50	0.15		0.75			0.60	0.98
Control Delay	69.2	22.9		74.8	26.8	4.6		75.1			67.6	62.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

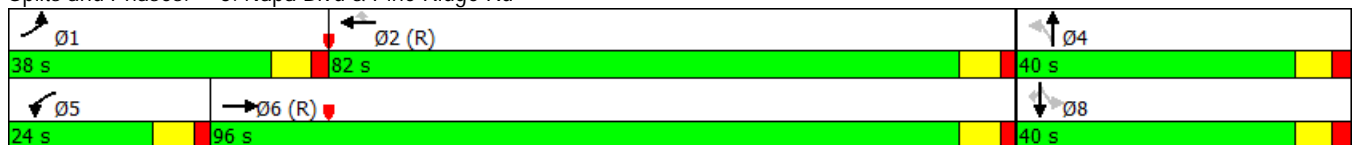
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.2	22.9		74.8	26.8	4.6		75.1			67.6	62.0
LOS	E	C		E	C	A		E			E	E
Approach Delay		29.9			25.3			75.1			63.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	221	873		14	315	5		168			149	326
Queue Length 95th (ft)	268	1040		40	383	42		#283			234	#583
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	708	3417		210	2558	878		241			259	573
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.64	0.74		0.07	0.50	0.15		0.74			0.60	0.98

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 116 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 34.7 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	36	88	1256	15	21	1916
Future Vol, veh/h	36	88	1256	15	21	1916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	4	20	0	4
Mvmt Flow	38	94	1336	16	22	2038

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	2196	668	0	0	1336
Stage 1	1336	-	-	-	-
Stage 2	860	-	-	-	-
Critical Hdwy	5.86	7.1	-	-	5.3
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.16	-	-	-	-
Follow-up Hdwy	3.88	3.9	-	-	3.1
Pot Cap-1 Maneuver	68	347	-	-	273
Stage 1	142	-	-	-	-
Stage 2	327	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	63	347	-	-	273
Mov Cap-2 Maneuver	63	-	-	-	-
Stage 1	142	-	-	-	-
Stage 2	301	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	50.5	0	0.2
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	63	347	273	-
HCM Lane V/C Ratio	-	-	0.608	0.27	0.082	-
HCM Control Delay (s)	-	-	126.9	19.2	19.4	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	2.5	1.1	0.3	-

HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	28	45	1827	37	64	1307
Future Vol, veh/h	28	45	1827	37	64	1307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	4
Mvmt Flow	30	48	1944	39	68	1390

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	2636	972	0	0	1944
Stage 1	1944	-	-	-	-
Stage 2	692	-	-	-	-
Critical Hdwy	5.7	7.14	-	-	5.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-
Follow-up Hdwy	3.8	3.92	-	-	3.1
Pot Cap-1 Maneuver	43	217	-	-	137
Stage 1	63	-	-	-	-
Stage 2	421	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 22	217	-	-	137
Mov Cap-2 Maneuver	~ 22	-	-	-	-
Stage 1	63	-	-	-	-
Stage 2	212	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	236.3	0	2.6
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	22	217	137
HCM Lane V/C Ratio	-	-	1.354	0.221	0.497
HCM Control Delay (s)	-	-	\$ 573.9	26.2	54.8
HCM Lane LOS	-	-	F	D	F
HCM 95th %tile Q(veh)	-	-	3.9	0.8	2.3

**Notes**

























~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

## **Appendix J**

Synchro Worksheets: 2040 Conventional Improvements Condition

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	552	2305	359	491	833	269	420	1091	465
Future Volume (vph)	276	983	210	552	2305	359	491	833	269	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	6166	1583	3183	6225	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	6166	1583	3183	6225	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			275			276			192
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	569	2376	370	506	859	277	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	569	2376	370	506	859	277	433	1125	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	20.0	48.0	48.0	39.6	67.6	67.6	30.0	39.7	39.7	32.7	42.4	42.4
Total Split (%)	12.5%	30.0%	30.0%	24.8%	42.3%	42.3%	18.8%	24.8%	24.8%	20.4%	26.5%	26.5%
Maximum Green (s)	12.9	38.2	38.2	32.5	60.4	60.4	22.8	32.5	32.5	22.8	35.2	35.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	14.4	41.1	41.1	32.6	61.9	61.9	24.3	34.6	34.6	23.7	36.7	36.7
Actuated g/C Ratio	0.09	0.26	0.26	0.20	0.39	0.39	0.15	0.22	0.22	0.15	0.23	0.23
v/c Ratio	0.95	0.64	0.38	0.88	0.99	0.48	0.99	0.81	0.35	0.85	0.98	0.94
Control Delay	111.7	55.3	7.5	59.8	46.3	11.7	104.0	66.9	6.6	82.6	83.6	64.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	111.7	55.3	7.5	59.8	46.3	11.7	104.0	66.9	6.6	82.6	83.6	64.0
LOS	F	E	A	E	D	B	F	E	A	F	F	E
Approach Delay		59.1			44.8			68.2			78.8	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	155	279	0	289	720	146	276	317	0	229	433	325
Queue Length 95th (ft)	#251	321	69	m319	#808	m171	#400	373	44	#307	#536	#556
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	300	1582	567	676	2408	763	511	1057	801	521	1144	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.64	0.38	0.84	0.99	0.48	0.99	0.81	0.35	0.83	0.98	0.94

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 102 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 60.0 Intersection LOS: E  
 Intersection Capacity Utilization 95.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	279	1674	437	356	1095	655	436	849	330
Future Volume (vph)	298	2183	475	279	1674	437	356	1095	655	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	6346	1599	3367	6346	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	6346	1599	3367	6346	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			319			320			302			175
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	288	1726	451	367	1129	675	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	288	1726	451	367	1129	675	449	875	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	26.0	67.0	67.0	20.0	61.0	61.0	26.5	42.6	42.6	30.4	46.5	46.5
Total Split (%)	16.3%	41.9%	41.9%	12.5%	38.1%	38.1%	16.6%	26.6%	26.6%	19.0%	29.1%	29.1%
Maximum Green (s)	18.9	57.2	57.2	12.9	53.8	53.8	19.3	35.4	35.4	20.5	39.3	39.3
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	19.2	58.7	58.7	14.4	56.5	56.5	20.4	36.9	36.9	22.0	41.2	41.2
Actuated g/C Ratio	0.12	0.37	0.37	0.09	0.35	0.35	0.13	0.23	0.23	0.14	0.26	0.26
v/c Ratio	0.74	0.97	0.62	0.95	0.77	0.59	0.84	0.97	0.78	0.96	0.68	0.63
Control Delay	79.1	61.8	17.3	102.1	28.0	14.3	85.3	81.0	38.5	100.6	56.8	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

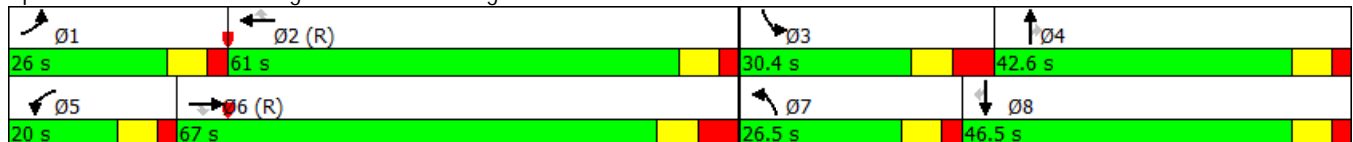
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	79.1	61.8	17.3	102.1	28.0	14.3	85.3	81.0	38.5	100.6	56.8	30.5
LOS	E	E	B	F	C	B	F	F	D	F	E	C
Approach Delay	56.4			34.1			68.5			63.3		
Approach LOS	E			C			E			E		
Queue Length 50th (ft)	160	671	144	148	448	155	195	433	219	244	305	156
Queue Length 95th (ft)	216	#752	273	m#234	499	m355	#269	#532	307	#356	357	272
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	442	2328	788	303	2240	765	446	1161	862	467	1283	541
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.97	0.62	0.95	0.77	0.59	0.82	0.97	0.78	0.96	0.68	0.63

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 54.6 Intersection LOS: D  
 Intersection Capacity Utilization 96.5% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd





Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1276	368	443	2968	228	484	54	192	82	13	185
Future Volume (vph)	138	1276	368	443	2968	228	484	54	192	82	13	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		200	150		125
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr			0.850			0.850			0.850		0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	6108	1568	1787	6166	1468	3433	1900	1615	3183	1533	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	6108	1568	1787	6166	1468	3433	1900	1615	3183	1533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			379			163			198			79
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	142	1315	379	457	3060	235	499	56	198	85	13	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1315	379	457	3060	235	499	56	198	85	204	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7	22.7	11.7	22.7	
Total Split (s)	14.0	53.3	53.3	52.7	92.0	92.0	31.0	39.9	39.9	14.1	23.0	
Total Split (%)	8.8%	33.3%	33.3%	32.9%	57.5%	57.5%	19.4%	24.9%	24.9%	8.8%	14.4%	
Maximum Green (s)	7.2	46.5	46.5	45.9	85.2	85.2	24.3	33.2	33.2	7.4	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.4	4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	9.1	51.8	51.8	44.8	87.5	87.5	25.6	33.6	33.6	8.8	16.8	
Actuated g/C Ratio	0.06	0.32	0.32	0.28	0.55	0.55	0.16	0.21	0.21	0.06	0.10	
v/c Ratio	0.75	0.67	0.50	0.92	0.91	0.27	0.91	0.14	0.40	0.49	0.88	
Control Delay	123.8	38.5	18.3	74.7	35.6	9.7	87.1	51.9	8.7	83.1	77.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

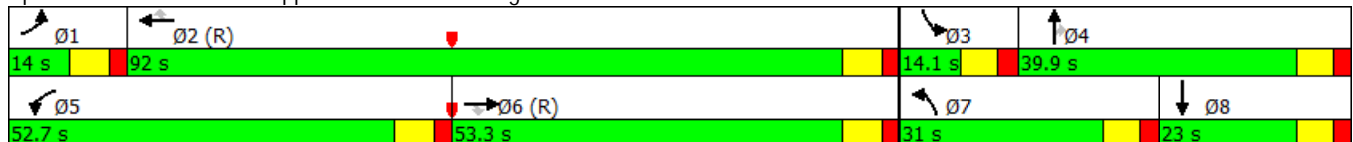
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	123.8	38.5	18.3	74.7	35.6	9.7	87.1	51.9	8.7	83.1	77.5	
LOS	F	D	B	E	D	A	F	D	A	F	E	
Approach Delay		40.9			38.7			63.9			79.1	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	74	413	181	474	669	43	268	48	0	45	133	
Queue Length 95th (ft)	m#119	438	m239	m#581	m730	m78	#368	90	69	76	#278	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375		200	150		
Base Capacity (vph)	189	1977	763	529	3371	876	553	412	505	177	240	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.67	0.50	0.86	0.91	0.27	0.90	0.14	0.39	0.48	0.85	

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 29 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 44.0 Intersection LOS: D  
 Intersection Capacity Utilization 92.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	2748	440	198	1913	266	521	45	365	398	24	253
Future Volume (vph)	454	2748	440	198	1913	266	521	45	365	398	24	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		200	150		125
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr			0.850			0.850			0.850		0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	6346	1599	1770	6346	1553	3467	1900	1583	3273	1596	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3367	6346	1599	1770	6346	1553	3467	1900	1583	3273	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			164			196		251	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	473	2863	458	206	1993	277	543	47	380	415	25	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	2863	458	206	1993	277	543	47	380	415	289	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7	22.7	11.7	22.7	
Total Split (s)	37.0	79.0	79.0	25.0	67.0	67.0	32.0	30.0	30.0	26.0	24.0	
Total Split (%)	23.1%	49.4%	49.4%	15.6%	41.9%	41.9%	20.0%	18.8%	18.8%	16.3%	15.0%	
Maximum Green (s)	30.2	72.2	72.2	18.2	60.2	60.2	25.3	23.3	23.3	19.3	17.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.4	4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	28.4	74.5	74.5	20.1	66.2	66.2	26.8	23.6	23.6	20.8	17.6	
Actuated g/C Ratio	0.18	0.47	0.47	0.13	0.41	0.41	0.17	0.15	0.15	0.13	0.11	
v/c Ratio	0.79	0.97	0.51	0.93	0.76	0.38	0.94	0.17	0.95	0.98	0.72	
Control Delay	63.1	43.4	9.8	114.0	22.5	7.3	89.7	60.5	66.0	106.3	23.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

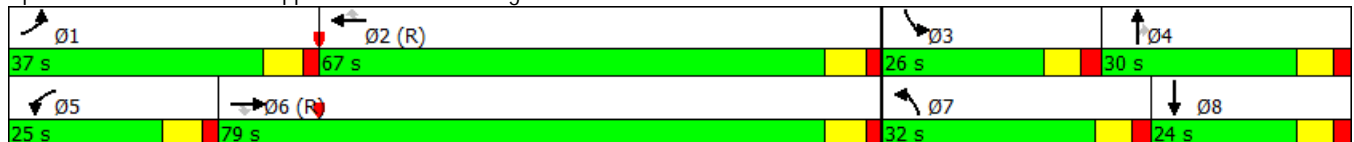
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.1	43.4	9.8	114.0	22.5	7.3	89.7	60.5	66.0	106.3	23.1	
LOS	E	D	A	F	C	A	F	E	E	F	C	
Approach Delay		41.8			28.4			79.0			72.1	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	217	868	216	223	361	51	293	43	206	226	37	
Queue Length 95th (ft)	m234	#949	m250	m#351	419	m71	#405	85	#411	#339	145	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375		200	150		
Base Capacity (vph)	667	2955	904	221	2626	738	580	294	410	425	409	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.71	0.97	0.51	0.93	0.76	0.38	0.94	0.16	0.93	0.98	0.71	

Intersection Summary













Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 124 (78%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 44.9 Intersection LOS: D  
 Intersection Capacity Utilization 100.0% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘	↑↑↑					↖		↗
Traffic Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Future Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.86	1.00	1.00	0.86	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6108	1568	1736	6225	0	0	0	0	3155	0	2656
Flt Permitted				0.169						0.950		
Satd. Flow (perm)	0	6108	1568	309	6225	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			426									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			694				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				17.0								
Total Split (%)				10.6%								
Maximum Green (s)				10.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		73.7	73.7	85.4	90.7					58.7		58.7
Actuated g/C Ratio		0.46	0.46	0.53	0.57					0.37		0.37
v/c Ratio		0.42	0.45	0.97	0.79					0.36		0.99
Control Delay		12.6	5.6	76.8	37.1					38.1		70.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		12.6	5.6	76.8	37.1					38.1		70.1
LOS		B	A	E	D					D		E
Approach Delay		10.7			40.5						60.9	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	33.0	46.0	33.0	31.0
Total Split (%)	21%	29%	21%	19%
Maximum Green (s)	26.2	39.2	26.2	23.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

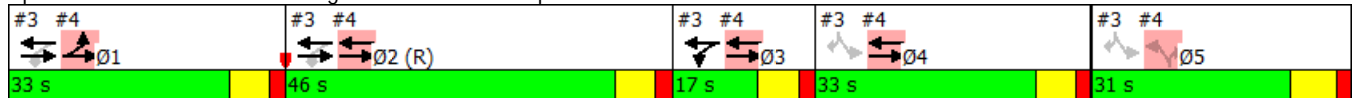
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			D						E	
Queue Length 50th (ft)		55	22	177	601					163		565
Queue Length 95th (ft)		118	110	m#194	m#634					211		#741
Internal Link Dist (ft)		1856			931			614			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2813	952	269	3528					1157		1049
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.42	0.45	0.97	0.79					0.36		0.99

Intersection Summary













Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 51 (32%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 37.6  
 Intersection Capacity Utilization 88.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘	↑↑↑					↖		↗
Traffic Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Future Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.86	1.00	1.00	0.86	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6346	1568	1770	6346	0	0	0	0	3367	0	2787
Flt Permitted				0.050						0.950		
Satd. Flow (perm)	0	6346	1568	93	6346	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			374									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			694				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				18.0								
Total Split (%)				11.3%								
Maximum Green (s)				11.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		79.7	79.7	92.4	97.7					51.7		51.7
Actuated g/C Ratio		0.50	0.50	0.58	0.61					0.32		0.32
v/c Ratio		0.96	0.59	0.83	0.43					0.65		0.87
Control Delay		21.2	2.1	86.0	24.6					49.7		54.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		21.2	2.1	86.0	24.6					49.7		54.1
LOS		C	A	F	C					D		D
Approach Delay		18.2			29.9						52.1	



# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	54.0	31.0	31.0	26.0
Total Split (%)	34%	19%	19%	16%
Maximum Green (s)	47.2	24.2	24.2	18.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B					C					D	
Queue Length 50th (ft)		304	19	104	355					326		421
Queue Length 95th (ft)		m473	m26	m#206	404					397		523
Internal Link Dist (ft)		1856			931			614			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		3161	968	186	3875					1087		981
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.96	0.59	0.83	0.43					0.65		0.87

Intersection Summary


















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 25 (16%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 28.8  
 Intersection Capacity Utilization 82.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Future Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.967				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	6052	0	0	6019	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	6052	0	0	6019	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					74				173			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	529	1085	0	0	2561	730	510	0	205	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	529	1085	0	0	3291	0	510	0	205	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	33.0						31.0		31.0			
Total Split (%)	20.6%						19.4%		19.4%			
Maximum Green (s)	26.2						23.5		23.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	27.7	123.7			90.7		25.0		25.0			
Actuated g/C Ratio	0.17	0.77			0.57		0.16		0.16			
v/c Ratio	0.96	0.23			0.96		0.98		0.52			
Control Delay	99.9	5.1			16.6		100.7		17.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	99.9	5.1			16.6		100.7		17.7			
LOS	F	A			B		F		B			
Approach Delay		36.2			16.6				76.9			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	46.0	17.0	33.0
Total Split (%)	29%	11%	21%
Maximum Green (s)	39.2	10.2	26.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

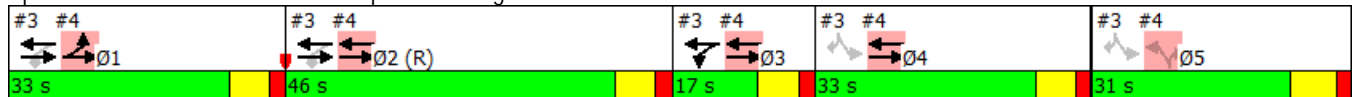
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			E					
Queue Length 50th (ft)	269	60			307		277		29			
Queue Length 95th (ft)	#385	73			340		#398		113			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	551	4678			3444		521		398			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.96	0.23			0.96		0.98		0.52			

Intersection Summary


















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 51 (32%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 29.9 Intersection LOS: C  
 Intersection Capacity Utilization 88.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Future Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.957				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	6346	0	0	6098	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	6346	0	0	6098	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					84				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	909	2772	0	0	1380	551	385	0	181	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	909	2772	0	0	1931	0	385	0	181	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	54.0						26.0		26.0			
Total Split (%)	33.8%						16.3%		16.3%			
Maximum Green (s)	47.2						18.5		18.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	48.7	128.7			74.7		20.0		20.0			
Actuated g/C Ratio	0.30	0.80			0.47		0.12		0.12			
v/c Ratio	0.90	0.54			0.67		0.90		0.53			
Control Delay	66.8	3.7			22.5		92.6		17.4			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	66.8	3.7			22.5		92.6		17.4			
LOS	E	A			C		F		B			
Approach Delay		19.3			22.5				68.5			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	31.0	18.0	31.0
Total Split (%)	19%	11%	19%
Maximum Green (s)	24.2	11.2	24.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			E					
Queue Length 50th (ft)	408	141			295		208		15			
Queue Length 95th (ft)	m458	149			318		#301		94			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	1015	5104			2891		429		344			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.90	0.54			0.67		0.90		0.53			

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 25 (16%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 24.8  
 Intersection Capacity Utilization 82.4%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service E

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

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd
























# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.987			0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	6086	0	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.795			0.743	
Satd. Flow (perm)	3433	4607	0	1805	6086	0	0	1421	0	0	1347	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			20			7				26
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	3004	0	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases							4			8		8
Detector Phase	1	6		5	2		4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0		8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	16.8	26.8		13.8	26.8		22.9	22.9		22.9	22.9	16.8
Total Split (s)	48.0	123.0		14.0	89.0		23.0	23.0		23.0	23.0	48.0
Total Split (%)	30.0%	76.9%		8.8%	55.6%		14.4%	14.4%		14.4%	14.4%	30.0%
Maximum Green (s)	41.2	116.2		7.2	82.2		16.1	16.1		16.1	16.1	41.2
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3			5.4			5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	43.9	123.4		9.6	86.4			13.8			13.8	63.0
Actuated g/C Ratio	0.27	0.77		0.06	0.54			0.09			0.09	0.39
v/c Ratio	0.43	0.25		0.44	0.91			0.52			0.52	0.86
Control Delay	46.6	13.0		85.5	38.8			76.5			85.1	56.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	46.6	13.0		85.5	38.8			76.5			85.1	56.8
LOS	D	B		F	D			E			F	E
Approach Delay		23.4			39.6			76.5			59.6	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	207	177		48	836			61			61	487
Queue Length 95th (ft)	260	169		96	884			114			111	661
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274								
Base Capacity (vph)	955	3561		109	3294			162			148	639
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.42	0.25		0.43	0.91			0.41			0.41	0.85

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 30 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 38.3  
 Intersection Capacity Utilization 92.5%  
 Analysis Period (min) 15




















Intersection LOS: D  
 ICU Level of Service F

### Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.986			0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	6213	0	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.573			0.647	
Satd. Flow (perm)	3467	5024	0	1805	6213	0	0	1054	0	0	1200	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			19			9				26
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1267			1091			605				459
Travel Time (s)		28.8			24.8			13.8				10.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1407	0	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases							4			8		8
Detector Phase	1	6		5	2		4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0		8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	16.8	26.8		13.8	26.8		22.9	22.9		22.9	22.9	16.8
Total Split (s)	50.0	114.0		14.0	78.0		32.0	32.0		32.0	32.0	50.0
Total Split (%)	31.3%	71.3%		8.8%	48.8%		20.0%	20.0%		20.0%	20.0%	31.3%
Maximum Green (s)	43.2	107.2		7.2	71.2		25.1	25.1		25.1	25.1	43.2
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3			5.4			5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	34.7	111.8		8.6	77.4			31.9			31.9	72.0
Actuated g/C Ratio	0.22	0.70		0.05	0.48			0.20			0.20	0.45
v/c Ratio	0.60	0.72		0.15	0.47			0.82			0.65	0.76
Control Delay	72.9	3.5		75.8	28.0			87.3			74.3	42.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

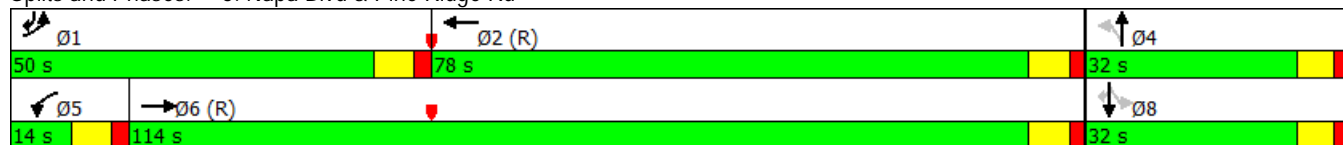
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	72.9	3.5		75.8	28.0			87.3			74.3	42.7
LOS	E	A		E	C			F			E	D
Approach Delay		14.0			28.5			87.3			49.6	
Approach LOS		B			C			F			D	
Queue Length 50th (ft)	209	33		14	268			181			159	481
Queue Length 95th (ft)	245	230		40	328			#348			#278	595
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274								
Base Capacity (vph)	968	3516		98	3016			217			239	832
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.47	0.72		0.14	0.47			0.82			0.65	0.67

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 25.2 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.













Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 6: Livingston Rd & Marbella Lakes Dr

02/05/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	88	1256	15	21	1916
Future Volume (vph)	36	88	1256	15	21	1916
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	320		300	400	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1671	1615	4988	1346	1805	4988
Flt Permitted	0.950				0.158	
Satd. Flow (perm)	1671	1615	4988	1346	300	4988
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		94		16		
Link Speed (mph)	30		30			30
Link Distance (ft)	1311		1275			4157
Travel Time (s)	29.8		29.0			94.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	0%	4%	20%	0%	4%
Adj. Flow (vph)	38	94	1336	16	22	2038
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	94	1336	16	22	2038
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	20.0	20.0	5.0	20.0
Minimum Split (s)	16.5	16.5	26.5	26.5	11.5	26.5
Total Split (s)	19.0	19.0	48.0	48.0	13.0	61.0
Total Split (%)	23.8%	23.8%	60.0%	60.0%	16.3%	76.3%
Maximum Green (s)	12.5	12.5	41.5	41.5	6.5	54.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	11.5	11.5	55.1	55.1	59.1	60.1
Actuated g/C Ratio	0.15	0.15	0.71	0.71	0.77	0.78
v/c Ratio	0.15	0.29	0.38	0.02	0.06	0.53
Control Delay	30.6	9.9	6.9	3.8	3.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	9.9	6.9	3.8	3.3	4.9
LOS	C	A	A	A	A	A
Approach Delay	15.8		6.9			4.9

Lanes, Volumes, Timings  
 6: Livingston Rd & Marbella Lakes Dr

02/05/2018



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	B		A			A
Queue Length 50th (ft)	16	0	71	0	2	136
Queue Length 95th (ft)	42	39	164	8	8	167
Internal Link Dist (ft)	1231		1195			4077
Turn Bay Length (ft)		320		300	400	
Base Capacity (vph)	302	369	3558	965	385	3881
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.25	0.38	0.02	0.06	0.53

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 77.2  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.53  
 Intersection Signal Delay: 6.1  
 Intersection Capacity Utilization 53.7%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

















Splits and Phases: 6: Livingston Rd & Marbella Lakes Dr



# Lanes, Volumes, Timings

## 6: Livingston Rd & Marbella Lakes Dr

02/05/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			  
Traffic Volume (vph)	28	45	1827	37	64	1307
Future Volume (vph)	28	45	1827	37	64	1307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	320		300	400	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1583	5085	1615	1805	4988
Flt Permitted	0.950				0.071	
Satd. Flow (perm)	1805	1583	5085	1615	135	4988
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		48		39		
Link Speed (mph)	30		30			30
Link Distance (ft)	1311		1275			4157
Travel Time (s)	29.8		29.0			94.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	2%	0%	0%	4%
Adj. Flow (vph)	30	48	1944	39	68	1390
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	48	1944	39	68	1390
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	20.0	20.0	5.0	20.0
Minimum Split (s)	16.5	16.5	26.5	26.5	11.5	26.5
Total Split (s)	17.0	17.0	51.0	51.0	12.0	63.0
Total Split (%)	21.3%	21.3%	63.8%	63.8%	15.0%	78.8%
Maximum Green (s)	10.5	10.5	44.5	44.5	5.5	56.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	11.6	11.6	56.7	56.7	61.4	63.6
Actuated g/C Ratio	0.15	0.15	0.75	0.75	0.81	0.84
v/c Ratio	0.11	0.17	0.51	0.03	0.26	0.33
Control Delay	30.4	11.4	8.5	2.7	5.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	11.4	8.5	2.7	5.5	3.0
LOS	C	B	A	A	A	A
Approach Delay	18.7		8.4			3.1

Lanes, Volumes, Timings  
 6: Livingston Rd & Marbella Lakes Dr

02/05/2018



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	B		A		A	
Queue Length 50th (ft)	13	0	220	0	8	76
Queue Length 95th (ft)	37	29	269	12	20	95
Internal Link Dist (ft)	1231		1195		4077	
Turn Bay Length (ft)	320		300		400	
Base Capacity (vph)	287	292	3799	1216	264	4179
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.16	0.51	0.03	0.26	0.33

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 75.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.51  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 60.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 6: Livingston Rd & Marbella Lakes Dr





## **Appendix K1**

Synchro Worksheets: 2040 Innovative Improvements Condition

AM Period
























Continuous Flow Intersection (CFI) +

Restricted Crossing U-Turn (RCUT) +

Diverging Diamond Interchange (DDI)

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		  	  	
Traffic Volume (vph)	0	0	0	0	0	359	0	1109	0	420	1091	465
Future Volume (vph)	0	0	0	0	0	359	0	1109	0	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	400		150
Storage Lanes	0		0	0		1	0		0	2		1
Taper Length (ft)	25			25			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt						0.865						0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	1565	0	4893	0	3433	4988	1568
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1565	0	4893	0	3433	4988	1568
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)						54						
Link Speed (mph)		35			35			35				35
Link Distance (ft)		560			609			527				695
Travel Time (s)		10.9			11.9			10.3				13.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	6%	0%	2%	4%	3%
Adj. Flow (vph)	0	0	0	0	0	370	0	1143	0	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	370	0	1143	0	433	1125	479
Turn Type						Over		NA		Prot	NA	Perm
Protected Phases						1		2		1	Free	
Permitted Phases												Free
Detector Phase						1		2		1		
Switch Phase												
Minimum Initial (s)						7.0		7.0		7.0		
Minimum Split (s)						14.2		23.2		14.2		
Total Split (s)						68.0		82.0		68.0		
Total Split (%)						45.3%		54.7%		45.3%		
Maximum Green (s)						60.8		74.8		60.8		
Yellow Time (s)						4.8		4.8		4.8		
All-Red Time (s)						2.4		2.4		2.4		
Lost Time Adjust (s)						-1.5		-1.5		-1.5		
Total Lost Time (s)						5.7		5.7		5.7		
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.0		3.0		3.0		
Recall Mode						None		C-Min		None		
Walk Time (s)								5.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)						42.2		96.4		42.2	150.0	150.0
Actuated g/C Ratio						0.28		0.64		0.28	1.00	1.00
v/c Ratio						0.77		0.36		0.45	0.23	0.31
Control Delay						42.9		0.3		44.6	0.1	0.5
Queue Delay						0.0		0.2		0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

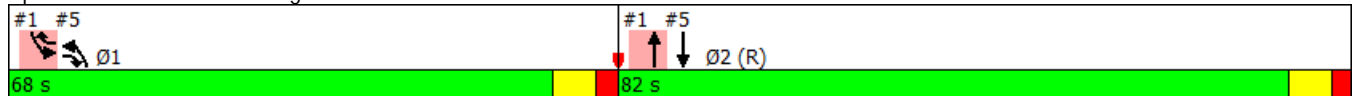
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay						42.9		0.5		44.6	0.1	0.5
LOS						D		A		D	A	A
Approach Delay					42.9			0.5			9.7	
Approach LOS					D			A			A	
Queue Length 50th (ft)						285		0		180	0	0
Queue Length 95th (ft)						339		0		203	0	0
Internal Link Dist (ft)		480			529			447			615	
Turn Bay Length (ft)										400		150
Base Capacity (vph)						681		3143		1425	4988	1568
Starvation Cap Reductn						9		1037		0	0	0
Spillback Cap Reductn						0		0		0	123	26
Storage Cap Reductn						0		0		0	0	0
Reduced v/c Ratio						0.55		0.54		0.30	0.23	0.31

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 96 (64%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 10.2  
 Intersection Capacity Utilization 53.2%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A













Splits and Phases: 1: Livingston Rd & SB CFI



## Lanes, Volumes, Timings

### 2: NB CFI & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑		↖↖					↗
Traffic Volume (vph)	0	1259	210	0	2305	0	491	0	0	0	0	465
Future Volume (vph)	0	1259	210	0	2305	0	491	0	0	0	0	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		3	0		0	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	7259	1583	0	4940	0	3367	0	0	0	0	1596
Flt Permitted							0.950					
Satd. Flow (perm)	0	7259	1583	0	4940	0	3367	0	0	0	0	1596
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)			216									83
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		808			185			681			560	
Travel Time (s)		15.7			3.6			13.3			10.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	6%	2%	0%	5%	0%	4%	0%	0%	0%	0%	3%
Adj. Flow (vph)	0	1298	216	0	2376	0	506	0	0	0	0	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1298	216	0	2376	0	506	0	0	0	0	479
Turn Type		NA	Perm		NA		Prot					custom
Protected Phases		2 5			6		8					5
Permitted Phases			2 5									4 5
Detector Phase		2 5	2 5		6		8					5
Switch Phase												
Minimum Initial (s)					7.0		7.0					7.0
Minimum Split (s)					23.2		23.2					14.2
Total Split (s)					82.0		44.0					24.0
Total Split (%)					54.7%		29.3%					16.0%
Maximum Green (s)					74.8		36.8					16.8
Yellow Time (s)					4.8		4.8					4.8
All-Red Time (s)					2.4		2.4					2.4
Lost Time Adjust (s)					-1.5		-1.5					-1.5
Total Lost Time (s)					5.7		5.7					5.7
Lead/Lag					Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0					3.0
Recall Mode					C-Min		None					None
Walk Time (s)					5.0		5.0					
Flash Dont Walk (s)					11.0		11.0					
Pedestrian Calls (#/hr)					0		0					
Act Effct Green (s)		76.6	76.6		76.3		38.3					62.3
Actuated g/C Ratio		0.51	0.51		0.51		0.26					0.42
v/c Ratio		0.35	0.24		0.95		0.59					0.67
Control Delay		12.6	1.9		6.8		42.3					34.4
Queue Delay		0.0	0.0		0.0		0.0					1.1

## Lanes, Volumes, Timings 2: NB CFI & Pine Ridge Rd

02/05/2018

Lane Group	Ø1	Ø2	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	42.0	64.0	44.0
Total Split (%)	28%	43%	29%
Maximum Green (s)	34.8	56.8	36.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

# Lanes, Volumes, Timings

## 2: NB CFI & Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		12.6	1.9		6.8		42.3					35.5
LOS		B	A		A		D					D
Approach Delay		11.1			6.8			42.3			35.5	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)		118	0		20		272					316
Queue Length 95th (ft)		133	27		45		331					451
Internal Link Dist (ft)		728			105			601			480	
Turn Bay Length (ft)			300									
Base Capacity (vph)		3706	914		2512		859					711
Starvation Cap Reductn		0	0		0		0					82
Spillback Cap Reductn		481	0		0		0					0
Storage Cap Reductn		0	0		0		0					0
Reduced v/c Ratio		0.40	0.24		0.95		0.59					0.76

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 14.7  
 Intersection Capacity Utilization 100.2%  
 Analysis Period (min) 15

























Intersection LOS: B  
 ICU Level of Service G

### Splits and Phases: 2: NB CFI & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (vph)	276	983	0	552	2305	0	0	833	0	0	1091	0
Future Volume (vph)	276	983	0	552	2305	0	0	833	0	0	1091	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt												
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3335	4893	0	3183	4940	0	0	4893	0	0	4988	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3335	4893	0	3183	4940	0	0	4893	0	0	4988	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		185			164			581			527	
Travel Time (s)		3.6			3.2			11.3			10.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	0%	10%	5%	0%	0%	6%	5%	0%	4%	3%
Adj. Flow (vph)	285	1013	0	569	2376	0	0	859	0	0	1125	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	0	569	2376	0	0	859	0	0	1125	0
Turn Type	Prot	NA		Prot	NA			NA			NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases												
Detector Phase	5	2		1	6			8			4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Minimum Split (s)	14.2	23.2		14.2	23.2			23.2			23.2	
Total Split (s)	24.0	64.0		42.0	82.0			44.0			44.0	
Total Split (%)	16.0%	42.7%		28.0%	54.7%			29.3%			29.3%	
Maximum Green (s)	16.8	56.8		34.8	74.8			36.8			36.8	
Yellow Time (s)	4.8	4.8		4.8	4.8			4.8			4.8	
All-Red Time (s)	2.4	2.4		2.4	2.4			2.4			2.4	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	5.7	5.7		5.7	5.7			5.7			5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Recall Mode	None	C-Min		None	C-Min			None			None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	18.3	58.3		36.3	76.3			38.3			38.3	
Actuated g/C Ratio	0.12	0.39		0.24	0.51			0.26			0.26	
v/c Ratio	0.70	0.53		0.74	0.95			0.69			0.88	
Control Delay	60.8	24.2		49.1	27.0			53.8			62.9	
Queue Delay	46.8	0.3		54.0	0.1			0.0			0.7	
Total Delay	107.5	24.5		103.1	27.1			53.8			63.5	
LOS	F	C		F	C			D			E	
Approach Delay		42.7			41.8			53.8			63.5	

# Lanes, Volumes, Timings

## 3: Livingston Rd & Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	87	278		169	773			279			390	
Queue Length 95th (ft)	117	324		269	828			331			451	
Internal Link Dist (ft)		105			84			501			447	
Turn Bay Length (ft)												
Base Capacity (vph)	406	1901		770	2512			1249			1273	
Starvation Cap Reductn	139	296		334	0			0			27	
Spillback Cap Reductn	0	0		0	5			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.07	0.63		1.31	0.95			0.69			0.90	

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 47.6  
 Intersection Capacity Utilization 87.7%  
 Analysis Period (min) 15

Intersection LOS: D  
 ICU Level of Service E













### Splits and Phases: 3: Livingston Rd & Pine Ridge Rd





Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↗			↗	↘↘		
Traffic Volume (vph)	0	983	0	0	2857	359	0	0	269	420	0	0
Future Volume (vph)	0	983	0	0	2857	359	0	0	269	420	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	0		0	0		0
Storage Lanes	0		0	0		3	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt						0.850			0.865			
Flt Protected										0.950		
Satd. Flow (prot)	0	4940	0	0	7329	1538	0	0	1565	3433	0	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	4940	0	0	7329	1538	0	0	1565	3433	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						370			32			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		164			1740			642			609	
Travel Time (s)		3.2			33.9			12.5			11.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	5%	0%	4%	5%	5%	0%	0%	5%	2%	0%	0%
Adj. Flow (vph)	0	1013	0	0	2945	370	0	0	277	433	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1013	0	0	2945	370	0	0	277	433	0	0
Turn Type		NA			NA	Perm			custom	Prot		
Protected Phases		2			1	6			1	4		
Permitted Phases						1	6		1	8		
Detector Phase		2			1	6	1	6	1	4		
Switch Phase												
Minimum Initial (s)		7.0							7.0	7.0		
Minimum Split (s)		23.2							14.2	23.2		
Total Split (s)		64.0							42.0	44.0		
Total Split (%)		42.7%							28.0%	29.3%		
Maximum Green (s)		56.8							34.8	36.8		
Yellow Time (s)		4.8							4.8	4.8		
All-Red Time (s)		2.4							2.4	2.4		
Lost Time Adjust (s)		-1.5							-1.5	-1.5		
Total Lost Time (s)		5.7							5.7	5.7		
Lead/Lag		Lag							Lead			
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0							3.0	3.0		
Recall Mode		C-Min							None	None		
Walk Time (s)		5.0								5.0		
Flash Dont Walk (s)		11.0								11.0		
Pedestrian Calls (#/hr)		0								0		
Act Effct Green (s)		58.3			100.3	100.3			80.3	38.3		
Actuated g/C Ratio		0.39			0.67	0.67			0.54	0.26		
v/c Ratio		0.53			0.60	0.32			0.33	0.49		
Control Delay		2.8			9.1	1.0			18.4	42.1		
Queue Delay		0.0			0.2	0.0			0.0	0.0		

# Lanes, Volumes, Timings

## 4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	24.0	82.0	44.0
Total Split (%)	16%	55%	29%
Maximum Green (s)	16.8	74.8	36.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		2.8			9.2	1.0			18.4	42.1		
LOS		A			A	A			B	D		
Approach Delay		2.8			8.3			18.4			42.1	
Approach LOS		A			A			B			D	
Queue Length 50th (ft)		8			320	14			130	232		
Queue Length 95th (ft)		9			270	21			194	290		
Internal Link Dist (ft)		84			1660			562			529	
Turn Bay Length (ft)						400						
Base Capacity (vph)		1920			4900	1151			852	876		
Starvation Cap Reductn		16			0	0			0	0		
Spillback Cap Reductn		0			803	0			0	0		
Storage Cap Reductn		0			0	0			0	0		
Reduced v/c Ratio		0.53			0.72	0.32			0.33	0.49		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 10.7  
 Intersection Capacity Utilization 60.5%  
 Analysis Period (min) 15























Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 4: Pine Ridge Rd & SB CFI



Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations							 	  			  	
Traffic Volume (vph)	0	0	210	0	0	0	491	833	269	0	1643	0
Future Volume (vph)	0	0	210	0	0	0	491	833	269	0	1643	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		150	0		0
Storage Lanes	0		1	0		0	2		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.865						0.850			
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	0	3367	4893	1538	0	4988	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	0	3367	4893	1538	0	4988	0
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			31									
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			642			2204			581	
Travel Time (s)		13.3			12.5			42.9			11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	4%	2%	0%	0%	0%	4%	6%	5%	0%	4%	0%
Adj. Flow (vph)	0	0	216	0	0	0	506	859	277	0	1694	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	216	0	0	0	506	859	277	0	1694	0
Turn Type			Over				Prot	NA	Perm		NA	
Protected Phases			1				1	Free			2	
Permitted Phases									Free			
Detector Phase			1				1				2	
Switch Phase												
Minimum Initial (s)			7.0				7.0				7.0	
Minimum Split (s)			14.2				14.2				23.2	
Total Split (s)			68.0				68.0				82.0	
Total Split (%)			45.3%				45.3%				54.7%	
Maximum Green (s)			60.8				60.8				74.8	
Yellow Time (s)			4.8				4.8				4.8	
All-Red Time (s)			2.4				2.4				2.4	
Lost Time Adjust (s)			-1.5				-1.5				-1.5	
Total Lost Time (s)			5.7				5.7				5.7	
Lead/Lag			Lead				Lead				Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0				3.0				3.0	
Recall Mode			None				None				C-Min	
Walk Time (s)											5.0	
Flash Dont Walk (s)											11.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)			42.2				42.2	150.0	150.0		96.4	
Actuated g/C Ratio			0.28				0.28	1.00	1.00		0.64	
v/c Ratio			0.45				0.53	0.18	0.18		0.53	
Control Delay			37.8				46.6	0.1	0.3		1.0	
Queue Delay			0.0				0.0	0.0	0.0		0.2	

Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

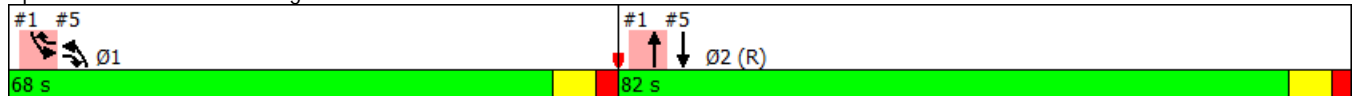
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			37.8				46.6	0.1	0.3		1.3	
LOS			D				D	A	A		A	
Approach Delay		37.8						14.5			1.3	
Approach LOS		D						B			A	
Queue Length 50th (ft)			149				216	0	0		0	
Queue Length 95th (ft)			202				239	0	0		0	
Internal Link Dist (ft)		601			562			2124			501	
Turn Bay Length (ft)							400		150			
Base Capacity (vph)			687				1398	4893	1538		3204	
Starvation Cap Reductn			0				0	0	0		638	
Spillback Cap Reductn			0				0	0	0		0	
Storage Cap Reductn			0				0	0	0		0	
Reduced v/c Ratio			0.31				0.36	0.18	0.18		0.66	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 96 (64%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 9.6  
 Intersection Capacity Utilization 55.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 5: Livingston Rd & NB CFI



Lanes, Volumes, Timings  
6: Adv. RCUT W & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↓↓		↑↑↑		
Traffic Volume (vph)	1782	0	95	0	3637	0	0
Future Volume (vph)	1782	0	95	0	3637	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		250		0	0
Storage Lanes		0		2		0	0
Taper Length (ft)				100		25	
Lane Util. Factor	0.91	1.00	0.97	1.00	0.91	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	4893	0	3213	0	4893	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	4893	0	3213	0	4893	0	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	1740				668	74	
Travel Time (s)	33.9				13.0	1.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	0%	9%	0%	6%	0%	0%
Adj. Flow (vph)	1837	0	98	0	3749	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1837	0	98	0	3749	0	0
Turn Type	NA		Prot		NA		
Protected Phases	2		1		Free		
Permitted Phases							
Detector Phase	2		1				
Switch Phase							
Minimum Initial (s)	7.0		7.0				
Minimum Split (s)	23.0		14.0				
Total Split (s)	116.0		34.0				
Total Split (%)	77.3%		22.7%				
Maximum Green (s)	109.3		27.3				
Yellow Time (s)	4.4		4.4				
All-Red Time (s)	2.3		2.3				
Lost Time Adjust (s)	-1.5		-1.5				
Total Lost Time (s)	5.2		5.2				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0				
Recall Mode	C-Min		None				
Walk Time (s)	5.0						
Flash Dont Walk (s)	11.0						
Pedestrian Calls (#/hr)	0						
Act Effct Green (s)	128.1		11.5		150.0		
Actuated g/C Ratio	0.85		0.08		1.00		
v/c Ratio	0.44		0.40		0.77		
Control Delay	1.5		62.0		0.6		
Queue Delay	0.0		0.0		0.0		

Lanes, Volumes, Timings  
 6: Adv. RCUT West & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Total Delay	1.5		62.0		0.6		
LOS	A		E		A		
Approach Delay	1.5				2.2		
Approach LOS	A				A		
Queue Length 50th (ft)	17		47		0		
Queue Length 95th (ft)	21		m52		0		
Internal Link Dist (ft)	1660				588	1	
Turn Bay Length (ft)			250				
Base Capacity (vph)	4179		616		4893		
Starvation Cap Reductn	0		0		0		
Spillback Cap Reductn	0		0		0		
Storage Cap Reductn	0		0		0		
Reduced v/c Ratio	0.44		0.16		0.77		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 95 (63%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 2.0 Intersection LOS: A  
 Intersection Capacity Utilization 73.6% ICU Level of Service D  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Adv. RCUT W & Pine Ridge Rd



Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1358	381	443	3452	282	0	0	730	0	0	280
Future Volume (vph)	138	1358	381	443	3452	282	0	0	730	0	0	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		175	0		400	0		150
Storage Lanes	1		1	1		1	0		2	0		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.76	1.00	1.00	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	0	0	3610	0	0	2656
Flt Permitted	0.040			0.145								
Satd. Flow (perm)	72	4848	1568	273	4893	1468	0	0	3610	0	0	2656
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			288			200						76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		668			1025			624			321	
Travel Time (s)		10.1			15.5			14.2			7.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	0%	0%	2%	0%	0%	7%
Adj. Flow (vph)	142	1400	393	457	3559	291	0	0	753	0	0	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1400	393	457	3559	291	0	0	753	0	0	289
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm			Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6			1			5
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0			7.0			7.0
Minimum Split (s)	14.0	23.0	23.0	14.0	23.0	23.0			14.0			14.0
Total Split (s)	27.0	92.0	92.0	58.0	123.0	123.0			58.0			27.0
Total Split (%)	18.0%	61.3%	61.3%	38.7%	82.0%	82.0%			38.7%			18.0%
Maximum Green (s)	20.3	85.3	85.3	51.3	116.3	116.3			51.3			20.3
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4			4.4			4.4
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3			2.3			2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5			-1.5			-1.5
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2			5.2			5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0			3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min			None			None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	117.7	99.3	99.3	144.8	121.2	121.2			40.3			18.4
Actuated g/C Ratio	0.78	0.66	0.66	0.97	0.81	0.81			0.27			0.12
v/c Ratio	0.55	0.44	0.35	0.68	0.90	0.24			0.78			0.74
Control Delay	64.0	7.9	3.5	26.0	6.2	0.5			56.3			57.8
Queue Delay	0.0	0.2	0.0	0.0	1.4	0.0			0.0			0.0



Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

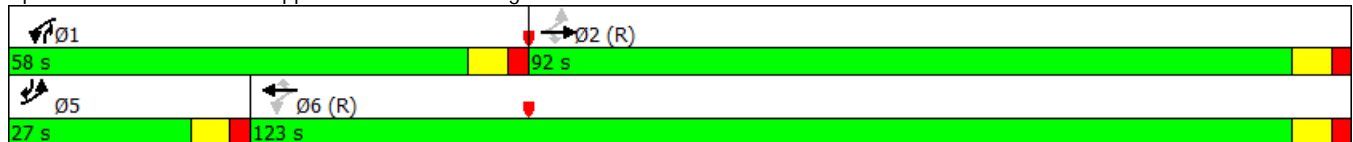
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	64.0	8.1	3.5	26.0	7.6	0.5			56.3			57.8
LOS	E	A	A	C	A	A			E			E
Approach Delay		11.3			9.1			56.3			57.8	
Approach LOS		B			A			E			E	
Queue Length 50th (ft)	98	258	56	205	348	4			300			115
Queue Length 95th (ft)	173	327	192	m189	m512	m4			338			171
Internal Link Dist (ft)		588			945			544			241	
Turn Bay Length (ft)	300		300	300		175			400			150
Base Capacity (vph)	297	3208	1135	796	3952	1224			1270			450
Starvation Cap Reductn	0	816	0	0	214	0			0			0
Spillback Cap Reductn	0	0	0	0	0	0			0			0
Storage Cap Reductn	0	0	0	0	0	0			0			0
Reduced v/c Ratio	0.48	0.59	0.35	0.57	0.95	0.24			0.59			0.64

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 88 (59%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 16.5  
 Intersection Capacity Utilization 85.2%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Whippoorwill Ln & Pine Ridge Rd



# Lanes, Volumes, Timings

## 8: Pine Ridge Rd & Adv RCUT East

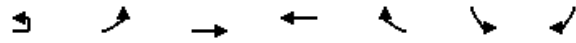
02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	▬▬		↑↑↑	↑↑↑			
Traffic Volume (vph)	538	0	1550	3639	0	0	0
Future Volume (vph)	538	0	1550	3639	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		500			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		100				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	4893	4893	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	4893	4893	0	0	0
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			1025	535		68	
Travel Time (s)			20.0	10.4		1.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	6%	6%	0%	0%	0%
Adj. Flow (vph)	555	0	1598	3752	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	555	0	1598	3752	0	0	0
Turn Type	Prot		NA	NA			
Protected Phases	5		Free	6			
Permitted Phases							
Detector Phase	5			6			
Switch Phase							
Minimum Initial (s)	7.0			7.0			
Minimum Split (s)	14.0			23.0			
Total Split (s)	29.5			120.5			
Total Split (%)	19.7%			80.3%			
Maximum Green (s)	22.8			113.8			
Yellow Time (s)	4.4			4.4			
All-Red Time (s)	2.3			2.3			
Lost Time Adjust (s)	-1.5			-1.5			
Total Lost Time (s)	5.2			5.2			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Min			
Walk Time (s)				5.0			
Flash Dont Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effct Green (s)	24.3		150.0	115.3			
Actuated g/C Ratio	0.16		1.00	0.77			
v/c Ratio	1.00		0.33	1.00			
Control Delay	104.2		0.2	17.7			
Queue Delay	0.0		0.0	5.4			

Lanes, Volumes, Timings  
 8: Pine Ridge Rd & Adv RCUT East

02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	104.2		0.2	23.1			
LOS	F		A	C			
Approach Delay			27.0	23.1			
Approach LOS			C	C			
Queue Length 50th (ft)	291		0	440			
Queue Length 95th (ft)	#415		0	#931			
Internal Link Dist (ft)			945	455		1	
Turn Bay Length (ft)	500						
Base Capacity (vph)	556		4893	3761			
Starvation Cap Reductn	0		0	39			
Spillback Cap Reductn	0		0	72			
Storage Cap Reductn	0		0	0			
Reduced v/c Ratio	1.00		0.33	1.02			

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 44 (29%), Referenced to phase 2: and 6:WBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 24.5 Intersection LOS: C  
 Intersection Capacity Utilization 94.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.











Splits and Phases: 8: Pine Ridge Rd & Adv RCUT East



# Lanes, Volumes, Timings

## 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Lane Configurations		↑↑↑			↑↑↑					↑↑↑
Traffic Volume (vph)	0	1120	405	0	2650	0	0	0	0	989
Future Volume (vph)	0	1120	405	0	2650	0	0	0	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	0	0	0	0
Storage Lanes	0		1	0		0	0	0	0	3
Taper Length (ft)	25			25			25		25	
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.76
Frt		0.960								0.850
Flt Protected										
Satd. Flow (prot)	0	5923	0	0	4940	0	0	0	0	3441
Flt Permitted										
Satd. Flow (perm)	0	5923	0	0	4940	0	0	0	0	3441
Right Turn on Red			No			No				No
Satd. Flow (RTOR)										
Link Speed (mph)		35			35		35		35	
Link Distance (ft)		535			327		536		554	
Travel Time (s)		10.4			6.4		10.4		10.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	0%	5%	0%	0%	0%	0%	7%
Adj. Flow (vph)	0	1179	426	0	2789	0	0	0	0	1041
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	1605	0	0	2789	0	0	0	0	1041
Turn Type		NA			NA					Prot
Protected Phases		Free			2					4
Permitted Phases										
Detector Phase					2					4
Switch Phase										
Minimum Initial (s)					7.0					7.0
Minimum Split (s)					23.0					23.0
Total Split (s)					95.0					55.0
Total Split (%)					63.3%					36.7%
Maximum Green (s)					88.0					48.0
Yellow Time (s)					5.0					5.0
All-Red Time (s)					2.0					2.0
Lost Time Adjust (s)					-1.5					-1.5
Total Lost Time (s)					5.5					5.5
Lead/Lag										
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0					3.0
Recall Mode					Min					C-Min
Walk Time (s)					5.0					5.0
Flash Dont Walk (s)					11.0					11.0
Pedestrian Calls (#/hr)					0					0
Act Effct Green (s)		150.0			89.5					49.5
Actuated g/C Ratio		1.00			0.60					0.33
v/c Ratio		0.27			0.95					0.92
Control Delay		0.1			7.2					61.4
Queue Delay		0.0			5.7					0.0

Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Total Delay		0.1			12.9				61.4	
LOS		A			B				E	
Approach Delay		0.1			12.9				61.4	
Approach LOS		A			B				E	
Queue Length 50th (ft)		0			73				429	
Queue Length 95th (ft)		0			m78				#536	
Internal Link Dist (ft)		455			247		456		474	
Turn Bay Length (ft)										
Base Capacity (vph)		5923			2947				1135	
Starvation Cap Reductn		0			43				0	
Spillback Cap Reductn		1399			149				0	
Storage Cap Reductn		0			0				0	
Reduced v/c Ratio		0.35			1.00				0.92	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 18.4 Intersection LOS: B  
 Intersection Capacity Utilization 98.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Pine Ridge Rd & I-75 SB Ramp



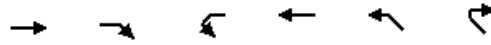
Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑↑				↖↖↖	
Traffic Volume (vph)	1120	0	0	0	2650	0
Future Volume (vph)	1120	0	0	0	2650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	1.00	1.00	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	6108	0	0	0	4848	0
Flt Permitted					0.950	
Satd. Flow (perm)	6108	0	0	0	4848	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	327			340	359	
Travel Time (s)	6.4			6.6	7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	0%	0%	0%	5%	0%
Adj. Flow (vph)	1179	0	0	0	2789	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1179	0	0	0	2789	0
Turn Type	NA				Prot	
Protected Phases	4				2	
Permitted Phases						
Detector Phase	4				2	
Switch Phase						
Minimum Initial (s)	7.0				7.0	
Minimum Split (s)	23.0				23.0	
Total Split (s)	55.0				95.0	
Total Split (%)	36.7%				63.3%	
Maximum Green (s)	48.0				88.0	
Yellow Time (s)	5.0				5.0	
All-Red Time (s)	2.0				2.0	
Lost Time Adjust (s)	-1.5				-1.5	
Total Lost Time (s)	5.5				5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0				3.0	
Recall Mode	C-Min				Min	
Walk Time (s)	5.0				5.0	
Flash Dont Walk (s)	11.0				11.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	49.5				89.5	
Actuated g/C Ratio	0.33				0.60	
v/c Ratio	0.59				0.96	
Control Delay	52.8				27.7	
Queue Delay	3.0				2.7	
Total Delay	55.9				30.4	
LOS	E				C	
Approach Delay	55.9				30.4	

Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS	E			C		
Queue Length 50th (ft)	320			674		
Queue Length 95th (ft)	363			#675		
Internal Link Dist (ft)	247		260		279	
Turn Bay Length (ft)						
Base Capacity (vph)	2015			2892		
Starvation Cap Reductn	704			66		
Spillback Cap Reductn	0			11		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.90			0.99		

Intersection Summary

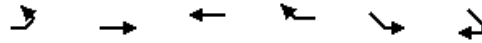
Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 38.0  
 Intersection Capacity Utilization 109.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 10: Pine Ridge Rd



Lanes, Volumes, Timings  
11: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑↑			↔↔	
Traffic Volume (vph)	0	1120	0	0	395	0
Future Volume (vph)	0	1120	0	0	395	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	1.00	1.00	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	6108	0	0	3155	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	6108	0	0	3155	0
Right Turn on Red				No	No	No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	448		330	
Travel Time (s)		6.6	8.7		6.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	0%	0%	11%	0%
Adj. Flow (vph)	0	1179	0	0	416	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1179	0	0	416	0
Turn Type		NA			Prot	
Protected Phases		4			2	
Permitted Phases						
Detector Phase		4			2	
Switch Phase						
Minimum Initial (s)		7.0			7.0	
Minimum Split (s)		23.0			23.0	
Total Split (s)		55.0			95.0	
Total Split (%)		36.7%			63.3%	
Maximum Green (s)		48.0			88.0	
Yellow Time (s)		5.0			5.0	
All-Red Time (s)		2.0			2.0	
Lost Time Adjust (s)		-1.5			-1.5	
Total Lost Time (s)		5.5			5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0			3.0	
Recall Mode		C-Min			Min	
Walk Time (s)		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	
Act Effct Green (s)		49.5			89.5	
Actuated g/C Ratio		0.33			0.60	
v/c Ratio		0.59			0.22	
Control Delay		3.9			14.4	
Queue Delay		0.0			0.0	
Total Delay		3.9			14.4	
LOS		A			B	
Approach Delay		3.9			14.4	



Lanes, Volumes, Timings  
 11: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS		A			B	
Queue Length 50th (ft)		10			93	
Queue Length 95th (ft)		11			122	
Internal Link Dist (ft)		260	368		250	
Turn Bay Length (ft)						
Base Capacity (vph)		2015			1882	
Starvation Cap Reductn		0			0	
Spillback Cap Reductn		0			0	
Storage Cap Reductn		0			0	
Reduced v/c Ratio		0.59			0.22	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 6.6  
 Intersection Capacity Utilization 43.3%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 11: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

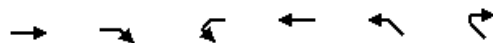
02/05/2018

	→	↘	↙	←	↗	↖
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations				↑↑↑	↑↑	
Traffic Volume (vph)	0	0	0	2407	479	0
Future Volume (vph)	0	0	0	2407	479	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	4940	3335	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	4940	3335	0
Right Turn on Red		No			No	No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	432			314	330	
Travel Time (s)	8.4			6.1	6.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	5%	5%	0%
Adj. Flow (vph)	0	0	0	2561	510	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2561	510	0
Turn Type				NA	Prot	
Protected Phases				2	4	
Permitted Phases						
Detector Phase				2	4	
Switch Phase						
Minimum Initial (s)				7.0	7.0	
Minimum Split (s)				23.0	23.0	
Total Split (s)				98.0	52.0	
Total Split (%)				65.3%	34.7%	
Maximum Green (s)				91.0	45.0	
Yellow Time (s)				5.0	5.0	
All-Red Time (s)				2.0	2.0	
Lost Time Adjust (s)				-1.5	-1.5	
Total Lost Time (s)				5.5	5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)				3.0	3.0	
Recall Mode				Min	C-Min	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)				92.5	46.5	
Actuated g/C Ratio				0.62	0.31	
v/c Ratio				0.84	0.49	
Control Delay				4.4	44.1	
Queue Delay				0.3	0.0	
Total Delay				4.7	44.1	
LOS				A	D	
Approach Delay				4.7	44.1	

# Lanes, Volumes, Timings

## 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS				A	D	
Queue Length 50th (ft)				54	210	
Queue Length 95th (ft)				60	267	
Internal Link Dist (ft)	352			234	250	
Turn Bay Length (ft)						
Base Capacity (vph)				3046	1033	
Starvation Cap Reductn				0	0	
Spillback Cap Reductn				109	0	
Storage Cap Reductn				0	0	
Reduced v/c Ratio				0.87	0.49	

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 11.2  
 Intersection Capacity Utilization 85.9%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 12: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
13: Pine Ridge Rd

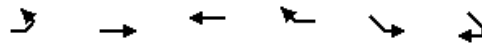
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Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations			↑↑↑		↑↑↑	
Traffic Volume (vph)	0	0	2407	0	1020	0
Future Volume (vph)	0	0	2407	0	1020	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	4940	0	4713	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	4940	0	4713	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		314	260		307	
Travel Time (s)		6.1	5.1		6.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	5%	0%	8%	0%
Adj. Flow (vph)	0	0	2561	0	1085	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2561	0	1085	0
Turn Type			NA		Prot	
Protected Phases			2		4	
Permitted Phases						
Detector Phase			2		4	
Switch Phase						
Minimum Initial (s)			7.0		7.0	
Minimum Split (s)			23.0		23.0	
Total Split (s)			98.0		52.0	
Total Split (%)			65.3%		34.7%	
Maximum Green (s)			91.0		45.0	
Yellow Time (s)			5.0		5.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-1.5		-1.5	
Total Lost Time (s)			5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0		3.0	
Recall Mode			Min		C-Min	
Walk Time (s)			5.0		5.0	
Flash Dont Walk (s)			11.0		11.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)			92.5		46.5	
Actuated g/C Ratio			0.62		0.31	
v/c Ratio			0.84		0.74	
Control Delay			10.2		25.1	
Queue Delay			0.0		0.0	
Total Delay			10.2		25.1	
LOS			B		C	
Approach Delay			10.2		25.1	

# Lanes, Volumes, Timings

## 13: Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS			B		C	
Queue Length 50th (ft)			175		132	
Queue Length 95th (ft)			202		148	
Internal Link Dist (ft)		234	180		227	
Turn Bay Length (ft)						
Base Capacity (vph)			3046		1461	
Starvation Cap Reductn			0		0	
Spillback Cap Reductn			0		0	
Storage Cap Reductn			0		0	
Reduced v/c Ratio			0.84		0.74	

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 14.6  
 Intersection Capacity Utilization 90.4%  
 Analysis Period (min) 15












Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 13: Pine Ridge Rd



Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations		↑↑↑			↑↑↑	↑				↑	
Traffic Volume (vph)	0	1020	0	0	2407	686	0	0	0	193	
Future Volume (vph)	0	1020	0	0	2407	686	0	0	0	193	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		250	0	0	0	0	
Storage Lanes	0		0	0		1	0	0	0	1	
Taper Length (ft)	25			25			25		25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	
Frt						0.850				0.865	
Flt Protected											
Satd. Flow (prot)	0	4803	0	0	4940	1538	0	0	0	1644	
Flt Permitted											
Satd. Flow (perm)	0	4803	0	0	4940	1538	0	0	0	1644	
Right Turn on Red			No			No				No	
Satd. Flow (RTOR)											
Link Speed (mph)		35			35		35		35		
Link Distance (ft)		260			992		477		425		
Travel Time (s)		5.1			19.3		9.3		8.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Heavy Vehicles (%)	0%	8%	0%	0%	5%	5%	0%	0%	0%	0%	
Adj. Flow (vph)	0	1085	0	0	2561	730	0	0	0	205	
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1085	0	0	2561	730	0	0	0	205	
Turn Type		NA			NA	custom				Prot	
Protected Phases		4			Free	Free				2	
Permitted Phases						Free					
Detector Phase		4								2	
Switch Phase											
Minimum Initial (s)		7.0								7.0	
Minimum Split (s)		23.0								23.0	
Total Split (s)		52.0								98.0	
Total Split (%)		34.7%								65.3%	
Maximum Green (s)		45.0								91.0	
Yellow Time (s)		5.0								5.0	
All-Red Time (s)		2.0								2.0	
Lost Time Adjust (s)		-1.5								-1.5	
Total Lost Time (s)		5.5								5.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0								3.0	
Recall Mode		C-Min								Min	
Walk Time (s)		5.0								5.0	
Flash Dont Walk (s)		11.0								11.0	
Pedestrian Calls (#/hr)		0								0	
Act Effct Green (s)		46.5			150.0	150.0				92.5	
Actuated g/C Ratio		0.31			1.00	1.00				0.62	
v/c Ratio		0.73			0.52	0.47				0.20	
Control Delay		4.7			0.1	0.3				13.2	
Queue Delay		0.1			0.0	0.0				0.0	

Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Total Delay		4.7			0.1	0.3				13.2	
LOS		A			A	A				B	
Approach Delay		4.7			0.2				13.2		
Approach LOS		A			A				B		
Queue Length 50th (ft)		10			0	0				84	
Queue Length 95th (ft)		11			m0	m0				125	
Internal Link Dist (ft)		180			912		397		345		
Turn Bay Length (ft)						250					
Base Capacity (vph)		1488			4940	1538				1013	
Starvation Cap Reductn		19			0	0				0	
Spillback Cap Reductn		0			268	0				0	
Storage Cap Reductn		0			0	0				0	
Reduced v/c Ratio		0.74			0.55	0.47				0.20	

Intersection Summary





















Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 1.8  
 Intersection Capacity Utilization 81.9%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
15: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	4893	1524	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.795			0.750	
Satd. Flow (perm)	3433	4607	0	1805	4893	1524	0	1421	0	0	1360	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		992			744			572			470	
Travel Time (s)		19.3			14.5			11.1			9.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	2742	262	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	17.0	27.8		14.8	27.0	27.0	23.5	23.5		23.0	23.0	17.0
Total Split (s)	35.0	110.0		15.0	90.0	90.0	25.0	25.0		25.0	25.0	35.0
Total Split (%)	23.3%	73.3%		10.0%	60.0%	60.0%	16.7%	16.7%		16.7%	16.7%	23.3%
Maximum Green (s)	28.2	103.2		8.2	83.2	83.2	18.1	18.1		18.1	18.1	28.2
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3		5.4			5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	37.2	116.6		10.2	85.8	85.8		14.0			14.0	53.6
Actuated g/C Ratio	0.25	0.78		0.07	0.57	0.57		0.09			0.09	0.36
v/c Ratio	0.48	0.25		0.39	0.98	0.30		0.51			0.47	0.97
Control Delay	82.9	1.0		76.0	44.4	18.0		77.1			75.6	79.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0



Lanes, Volumes, Timings  
 15: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.9	1.0		76.0	44.4	18.0		77.1			75.6	79.5
LOS	F	A		E	D	B		E			E	E
Approach Delay		26.4			42.6			77.1			79.1	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	176	13		45	941	130		64			57	520
Queue Length 95th (ft)	231	17		90	#1089	189		114			104	#761
Internal Link Dist (ft)		912			664			492			390	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	850	3579		126	2797	871		185			177	560
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.48	0.25		0.37	0.98	0.30		0.36			0.34	0.97

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 56 (37%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 43.3  
 Intersection Capacity Utilization 100.7%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 15: Napa Blvd & Pine Ridge Rd



## **Appendix K2**

Synchro Worksheets: 2040 Innovative Improvements Condition

PM Period
























Continuous Flow Intersection (CFI) +

Restricted Crossing U-Turn (RCUT) +

Diverging Diamond Interchange (DDI)

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		  	  	
Traffic Volume (vph)	0	0	0	0	0	437	0	1393	0	436	849	330
Future Volume (vph)	0	0	0	0	0	437	0	1393	0	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	400		150
Storage Lanes	0		0	0		1	0		0	2		1
Taper Length (ft)	25			25			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt						0.865						0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	1611	0	5036	0	3400	4940	1599
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1611	0	5036	0	3400	4940	1599
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)						31						
Link Speed (mph)		35			35			35				35
Link Distance (ft)		560			609			527				695
Travel Time (s)		10.9			11.9			10.3				13.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	3%	0%	3%	5%	1%
Adj. Flow (vph)	0	0	0	0	0	451	0	1436	0	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	451	0	1436	0	449	875	340
Turn Type						Over		NA		Prot	NA	Perm
Protected Phases						1		2		1	Free	
Permitted Phases												Free
Detector Phase						1		2		1		
Switch Phase												
Minimum Initial (s)						7.0		7.0		7.0		
Minimum Split (s)						14.2		23.2		14.2		
Total Split (s)						68.0		82.0		68.0		
Total Split (%)						45.3%		54.7%		45.3%		
Maximum Green (s)						60.8		74.8		60.8		
Yellow Time (s)						4.8		4.8		4.8		
All-Red Time (s)						2.4		2.4		2.4		
Lost Time Adjust (s)						-1.5		-1.5		-1.5		
Total Lost Time (s)						5.7		5.7		5.7		
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.0		3.0		3.0		
Recall Mode						None		C-Min		None		
Walk Time (s)								5.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)						51.9		86.7		51.9	150.0	150.0
Actuated g/C Ratio						0.35		0.58		0.35	1.00	1.00
v/c Ratio						0.78		0.49		0.38	0.18	0.21
Control Delay						48.1		1.4		36.9	0.1	0.3
Queue Delay						0.2		0.4		0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

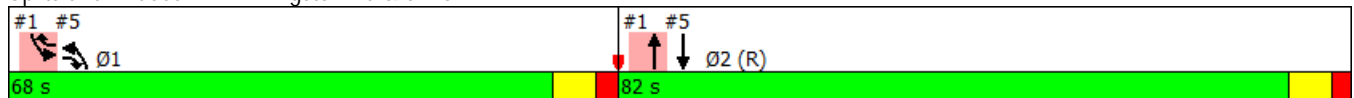
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay						48.4		1.8		36.9	0.1	0.3
LOS						D		A		D	A	A
Approach Delay					48.4			1.8			10.1	
Approach LOS					D			A			B	
Queue Length 50th (ft)						407		0		168	0	0
Queue Length 95th (ft)						511		0		195	0	0
Internal Link Dist (ft)		480			529			447			615	
Turn Bay Length (ft)										400		150
Base Capacity (vph)						687		2910		1412	4940	1599
Starvation Cap Reductn						25		830		0	0	0
Spillback Cap Reductn						0		0		0	0	0
Storage Cap Reductn						0		0		0	0	0
Reduced v/c Ratio						0.68		0.69		0.32	0.18	0.21

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 12 (8%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 11.6  
 Intersection Capacity Utilization 63.5%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B













Splits and Phases: 1: Livingston Rd & SB CFI



## Lanes, Volumes, Timings

### 2: NB CFI & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑		↖					↗
Traffic Volume (vph)	0	2481	475	0	1674	0	356	0	0	0	0	330
Future Volume (vph)	0	2481	475	0	1674	0	356	0	0	0	0	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		3	0		0	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	7471	1599	0	5036	0	3433	0	0	0	0	1627
Flt Permitted							0.950					
Satd. Flow (perm)	0	7471	1599	0	5036	0	3433	0	0	0	0	1627
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)			490									31
Link Speed (mph)		35			35			35				35
Link Distance (ft)		808			185			681				560
Travel Time (s)		15.7			3.6			13.3				10.9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	1%	0%	3%	0%	2%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	2558	490	0	1726	0	367	0	0	0	0	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2558	490	0	1726	0	367	0	0	0	0	340
Turn Type		NA	Perm		NA		Prot					custom
Protected Phases		2 5			6		8					5
Permitted Phases			2 5									4 5
Detector Phase		2 5	2 5		6		8					5
Switch Phase												
Minimum Initial (s)					7.0		7.0					7.0
Minimum Split (s)					23.2		23.2					14.2
Total Split (s)					80.0		43.0					27.0
Total Split (%)					53.3%		28.7%					18.0%
Maximum Green (s)					72.8		35.8					19.8
Yellow Time (s)					4.8		4.8					4.8
All-Red Time (s)					2.4		2.4					2.4
Lost Time Adjust (s)					-1.5		-1.5					-1.5
Total Lost Time (s)					5.7		5.7					5.7
Lead/Lag					Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0					3.0
Recall Mode					C-Min		None					None
Walk Time (s)					5.0		5.0					
Flash Dont Walk (s)					11.0		11.0					
Pedestrian Calls (#/hr)					0		0					
Act Effct Green (s)		92.6	92.6		74.3		37.3					64.3
Actuated g/C Ratio		0.62	0.62		0.50		0.25					0.43
v/c Ratio		0.55	0.42		0.69		0.43					0.48
Control Delay		13.7	1.8		2.7		46.7					30.4
Queue Delay		0.1	0.0		0.0		0.0					0.7

## Lanes, Volumes, Timings 2: NB CFI & Pine Ridge Rd

02/05/2018

Lane Group	Ø1	Ø2	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	30.0	77.0	43.0
Total Split (%)	20%	51%	29%
Maximum Green (s)	22.8	69.8	35.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

Lanes, Volumes, Timings  
2: NB CFI & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		13.8	1.8		2.7		46.7					31.0
LOS		B	A		A		D					C
Approach Delay		11.9			2.7			46.7			31.0	
Approach LOS		B			A			D			C	
Queue Length 50th (ft)		284	0		13		197					215
Queue Length 95th (ft)		304	35		11		245					309
Internal Link Dist (ft)		728			105			601			480	
Turn Bay Length (ft)			300									
Base Capacity (vph)		4612	1174		2494		853					715
Starvation Cap Reductn		0	0		0		0					141
Spillback Cap Reductn		629	0		0		0					0
Storage Cap Reductn		0	0		0		0					0
Reduced v/c Ratio		0.64	0.42		0.69		0.43					0.59

Intersection Summary





























Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 12.5  
 Intersection Capacity Utilization 75.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 2: NB CFI & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (vph)	298	2183	0	279	1674	0	0	1095	0	0	849	0
Future Volume (vph)	298	2183	0	279	1674	0	0	1095	0	0	849	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt												
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3467	5036	0	3367	5036	0	0	5036	0	0	4988	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3467	5036	0	3367	5036	0	0	5036	0	0	4988	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35				35
Link Distance (ft)		185			164			581				527
Travel Time (s)		3.6			3.2			11.3				10.3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	0%	4%	3%	0%	0%	3%	0%	0%	4%	0%
Adj. Flow (vph)	307	2251	0	288	1726	0	0	1129	0	0	875	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	0	288	1726	0	0	1129	0	0	875	0
Turn Type	Prot	NA		Prot	NA			NA			NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases												
Detector Phase	5	2		1	6			8			4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Minimum Split (s)	14.2	23.2		14.2	23.2			23.2			23.2	
Total Split (s)	27.0	77.0		30.0	80.0			43.0			43.0	
Total Split (%)	18.0%	51.3%		20.0%	53.3%			28.7%			28.7%	
Maximum Green (s)	19.8	69.8		22.8	72.8			35.8			35.8	
Yellow Time (s)	4.8	4.8		4.8	4.8			4.8			4.8	
All-Red Time (s)	2.4	2.4		2.4	2.4			2.4			2.4	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	5.7	5.7		5.7	5.7			5.7			5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Recall Mode	None	C-Min		None	C-Min			None			None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	21.3	71.3		24.3	74.3			37.3			37.3	
Actuated g/C Ratio	0.14	0.48		0.16	0.50			0.25			0.25	
v/c Ratio	0.62	0.94		0.53	0.69			0.90			0.71	
Control Delay	68.6	32.3		50.7	23.4			65.1			55.0	
Queue Delay	59.1	0.1		60.8	0.0			0.0			0.0	
Total Delay	127.8	32.3		111.5	23.4			65.1			55.0	
LOS	F	C		F	C			E			D	
Approach Delay		43.8			36.0			65.1			55.0	



Lanes, Volumes, Timings  
 3: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	107	753		74	551			394			287	
Queue Length 95th (ft)	163	828		111	624			#460			340	
Internal Link Dist (ft)		105			84			501			447	
Turn Bay Length (ft)												
Base Capacity (vph)	492	2393		545	2494			1252			1240	
Starvation Cap Reductn	217	0		290	0			0			0	
Spillback Cap Reductn	0	3		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.12	0.94		1.13	0.69			0.90			0.71	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 46.6  
 Intersection Capacity Utilization 85.5%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.













Splits and Phases: 3: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 4: Pine Ridge Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↗			↗	↘↘		
Traffic Volume (vph)	0	2183	0	0	1953	437	0	0	655	436	0	0
Future Volume (vph)	0	2183	0	0	1953	437	0	0	655	436	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	0		0	0		0
Storage Lanes	0		0	0		3	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt						0.850			0.865			
Flt Protected										0.950		
Satd. Flow (prot)	0	5036	0	0	7471	1583	0	0	1580	3400	0	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	5036	0	0	7471	1583	0	0	1580	3400	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						451			31			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		164			1740			642			609	
Travel Time (s)		3.2			33.9			12.5			11.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	0%	3%	2%	0%	0%	4%	3%	0%	0%
Adj. Flow (vph)	0	2251	0	0	2013	451	0	0	675	449	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2251	0	0	2013	451	0	0	675	449	0	0
Turn Type		NA			NA	Perm			custom	Prot		
Protected Phases		2			1	6			1	4		
Permitted Phases						1	6		1	8		
Detector Phase		2			1	6	1		1	4		
Switch Phase												
Minimum Initial (s)		7.0							7.0	7.0		
Minimum Split (s)		23.2							14.2	23.2		
Total Split (s)		77.0							30.0	43.0		
Total Split (%)		51.3%							20.0%	28.7%		
Maximum Green (s)		69.8							22.8	35.8		
Yellow Time (s)		4.8							4.8	4.8		
All-Red Time (s)		2.4							2.4	2.4		
Lost Time Adjust (s)		-1.5							-1.5	-1.5		
Total Lost Time (s)		5.7							5.7	5.7		
Lead/Lag		Lag							Lead			
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0							3.0	3.0		
Recall Mode		C-Min							None	None		
Walk Time (s)		5.0								5.0		
Flash Dont Walk (s)		11.0								11.0		
Pedestrian Calls (#/hr)		0								0		
Act Effct Green (s)		71.3			98.6	98.6			67.3	37.3		
Actuated g/C Ratio		0.48			0.66	0.66			0.45	0.25		
v/c Ratio		0.94			0.41	0.38			0.93	0.53		
Control Delay		6.7			9.3	1.7			56.7	50.0		
Queue Delay		0.0			0.0	0.0			4.4	0.0		

# Lanes, Volumes, Timings

## 4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	27.0	80.0	43.0
Total Split (%)	18%	53%	29%
Maximum Green (s)	19.8	72.8	35.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		6.7			9.4	1.8			61.1	50.0		
LOS		A			A	A			E	D		
Approach Delay		6.7			8.0			61.1			50.0	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)		18			208	30			597	241		
Queue Length 95th (ft)		39			196	32			#862	300		
Internal Link Dist (ft)		84			1660			562			529	
Turn Bay Length (ft)						400						
Base Capacity (vph)		2393			4910	1195			725	845		
Starvation Cap Reductn		0			0	0			27	0		
Spillback Cap Reductn		0			693	46			0	0		
Storage Cap Reductn		0			0	0			0	0		
Reduced v/c Ratio		0.94			0.48	0.39			0.97	0.53		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 16.9 Intersection LOS: B  
 Intersection Capacity Utilization 108.0% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.























Splits and Phases: 4: Pine Ridge Rd & SB CFI



# Lanes, Volumes, Timings

## 5: Livingston Rd & NB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations							 	  			  	
Traffic Volume (vph)	0	0	475	0	0	0	356	1095	655	0	1128	0
Future Volume (vph)	0	0	475	0	0	0	356	1095	655	0	1128	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		150	0		0
Storage Lanes	0		1	0		0	2		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.865						0.850			
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	0	3433	5036	1553	0	4988	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	0	3433	5036	1553	0	4988	0
Right Turn on Red			Yes				No		No			No
Satd. Flow (RTOR)			51									
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			642			2204			581	
Travel Time (s)		13.3			12.5			42.9			11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	2%	3%	4%	0%	4%	0%
Adj. Flow (vph)	0	0	490	0	0	0	367	1129	675	0	1163	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	490	0	0	0	367	1129	675	0	1163	0
Turn Type			Over				Prot	NA	Perm		NA	
Protected Phases			1				1	Free			2	
Permitted Phases									Free			
Detector Phase			1				1				2	
Switch Phase												
Minimum Initial (s)			7.0				7.0				7.0	
Minimum Split (s)			14.2				14.2				23.2	
Total Split (s)			68.0				68.0				82.0	
Total Split (%)			45.3%				45.3%				54.7%	
Maximum Green (s)			60.8				60.8				74.8	
Yellow Time (s)			4.8				4.8				4.8	
All-Red Time (s)			2.4				2.4				2.4	
Lost Time Adjust (s)			-1.5				-1.5				-1.5	
Total Lost Time (s)			5.7				5.7				5.7	
Lead/Lag			Lead				Lead				Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0				3.0				3.0	
Recall Mode			None				None				C-Min	
Walk Time (s)											5.0	
Flash Dont Walk (s)											11.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)			51.9				51.9	150.0	150.0		86.7	
Actuated g/C Ratio			0.35				0.35	1.00	1.00		0.58	
v/c Ratio			0.82				0.31	0.22	0.43		0.40	
Control Delay			49.7				35.5	0.1	0.9		1.6	
Queue Delay			0.1				0.0	0.0	0.1		0.1	

Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

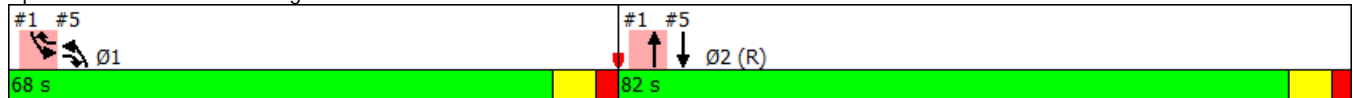
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			49.7				35.5	0.1	1.0		1.8	
LOS			D				D	A	A		A	
Approach Delay		49.7						6.4			1.8	
Approach LOS		D						A			A	
Queue Length 50th (ft)			394				133	0	0		1	
Queue Length 95th (ft)			492				158	0	0		0	
Internal Link Dist (ft)		601			562			2124			501	
Turn Bay Length (ft)							400		150			
Base Capacity (vph)			705				1425	5036	1553		2882	
Starvation Cap Reductn			6				0	0	0		681	
Spillback Cap Reductn			0				0	0	202		0	
Storage Cap Reductn			0				0	0	0		0	
Reduced v/c Ratio			0.70				0.26	0.22	0.50		0.53	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 12 (8%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 5: Livingston Rd & NB CFI



Lanes, Volumes, Timings  
6: Adv. RCUT West & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↓↓		↑↑↑		
Traffic Volume (vph)	3642	0	422	0	2687	0	0
Future Volume (vph)	3642	0	422	0	2687	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		250		0	0
Storage Lanes		0		2		0	0
Taper Length (ft)				100		25	
Lane Util. Factor	0.91	1.00	0.97	1.00	0.91	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	5036	0	3433	0	5036	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	5036	0	3433	0	5036	0	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	1740				668	74	
Travel Time (s)	33.9				13.0	1.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	2%	0%	3%	0%	0%
Adj. Flow (vph)	3794	0	440	0	2799	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	3794	0	440	0	2799	0	0
Turn Type	NA		Prot		NA		
Protected Phases	2		1		Free		
Permitted Phases							
Detector Phase	2		1				
Switch Phase							
Minimum Initial (s)	7.0		7.0				
Minimum Split (s)	23.0		14.0				
Total Split (s)	123.0		27.0				
Total Split (%)	82.0%		18.0%				
Maximum Green (s)	116.3		20.3				
Yellow Time (s)	4.4		4.4				
All-Red Time (s)	2.3		2.3				
Lost Time Adjust (s)	-1.5		-1.5				
Total Lost Time (s)	5.2		5.2				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0				
Recall Mode	C-Min		None				
Walk Time (s)	5.0						
Flash Dont Walk (s)	11.0						
Pedestrian Calls (#/hr)	0						
Act Effct Green (s)	117.9		21.7		150.0		
Actuated g/C Ratio	0.79		0.14		1.00		
v/c Ratio	0.96		0.89		0.56		
Control Delay	10.7		72.8		0.3		
Queue Delay	44.0		0.0		0.0		

Lanes, Volumes, Timings  
6: Adv. RCUT West & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Total Delay	54.6		72.8		0.3		
LOS	D		E		A		
Approach Delay	54.6				10.1		
Approach LOS	D				B		
Queue Length 50th (ft)	193		232		0		
Queue Length 95th (ft)	213		#319		0		
Internal Link Dist (ft)	1660				588	1	
Turn Bay Length (ft)			250				
Base Capacity (vph)	3958		498		5036		
Starvation Cap Reductn	0		0		0		
Spillback Cap Reductn	637		0		0		
Storage Cap Reductn	0		0		0		
Reduced v/c Ratio	1.14		0.88		0.56		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 93 (62%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 34.1  
 Intersection Capacity Utilization 91.1%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Adv. RCUT West & Pine Ridge Rd





Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	3146	464	198	2434	311	0	0	931	0	0	675
Future Volume (vph)	454	3146	464	198	2434	311	0	0	931	0	0	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		175	0		400	0		150
Storage Lanes	1		1	1		1	0		2	0		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.76	1.00	1.00	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	0	0	3610	0	0	2707
Flt Permitted	0.040			0.042								
Satd. Flow (perm)	73	5036	1599	78	5036	1553	0	0	3610	0	0	2707
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			368			170						27
Link Speed (mph)		45			45			30				30
Link Distance (ft)		668			1025			634				321
Travel Time (s)		10.1			15.5			14.4				7.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	0%	0%	2%	0%	0%	5%
Adj. Flow (vph)	473	3277	483	206	2535	324	0	0	970	0	0	703
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	3277	483	206	2535	324	0	0	970	0	0	703
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm			Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6			1			5
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0			7.0			7.0
Minimum Split (s)	14.0	23.0	23.0	14.0	23.0	23.0			14.0			14.0
Total Split (s)	54.0	104.0	104.0	46.0	96.0	96.0			46.0			54.0
Total Split (%)	36.0%	69.3%	69.3%	30.7%	64.0%	64.0%			30.7%			36.0%
Maximum Green (s)	47.3	97.3	97.3	39.3	89.3	89.3			39.3			47.3
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4			4.4			4.4
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3			2.3			2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5			-1.5			-1.5
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2			5.2			5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0			3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min			None			None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	142.2	98.8	98.8	135.9	95.1	95.1			40.8			44.5
Actuated g/C Ratio	0.95	0.66	0.66	0.91	0.63	0.63			0.27			0.30
v/c Ratio	0.84	0.99	0.41	0.39	0.79	0.31			0.99			0.86
Control Delay	53.1	25.0	1.1	37.0	16.5	3.9			80.0			58.7
Queue Delay	0.1	40.7	0.5	0.0	0.1	0.0			0.0			0.0

Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

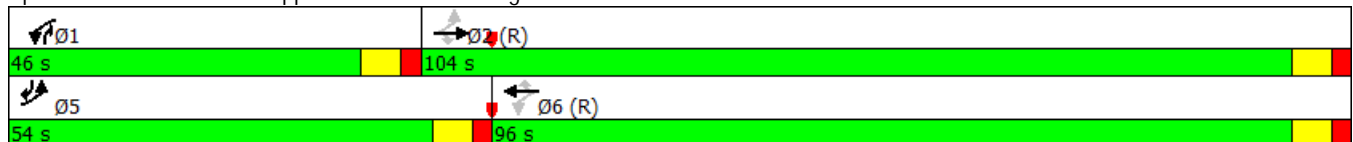
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	53.2	65.7	1.6	37.0	16.6	3.9			80.0			58.7
LOS	D	E	A	D	B	A			E			E
Approach Delay		57.0			16.7			80.0			58.7	
Approach LOS		E			B			E			E	
Queue Length 50th (ft)	372	1049	16	122	541	29			417			352
Queue Length 95th (ft)	m380	#1272	m24	204	791	41			#540			430
Internal Link Dist (ft)		588			945			554			241	
Turn Bay Length (ft)	300		300	300		175			400			150
Base Capacity (vph)	611	3317	1178	530	3193	1047			981			898
Starvation Cap Reductn	3	395	337	0	78	0			0			0
Spillback Cap Reductn	0	0	0	0	0	0			0			0
Storage Cap Reductn	0	0	0	0	0	0			0			0
Reduced v/c Ratio	0.78	1.12	0.57	0.39	0.81	0.31			0.99			0.78

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 131 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 45.8 Intersection LOS: D  
 Intersection Capacity Utilization 91.2% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Whippoorwill Ln & Pine Ridge Rd



# Lanes, Volumes, Timings

## 8: Pine Ridge Rd & Adv. RCUT East

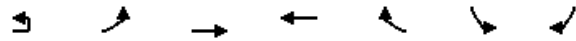
02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	AA		AAA	AAA			
Traffic Volume (vph)	566	0	3511	2377	0	0	0
Future Volume (vph)	566	0	3511	2377	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		500			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		100				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	5036	5036	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	5036	5036	0	0	0
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			1025	535		68	
Travel Time (s)			20.0	10.4		1.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	3%	3%	0%	0%	0%
Adj. Flow (vph)	590	0	3657	2476	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	590	0	3657	2476	0	0	0
Turn Type	Prot		NA	NA			
Protected Phases	5		Free	6			
Permitted Phases							
Detector Phase	5			6			
Switch Phase							
Minimum Initial (s)	7.0			7.0			
Minimum Split (s)	14.0			23.0			
Total Split (s)	45.0			105.0			
Total Split (%)	30.0%			70.0%			
Maximum Green (s)	38.3			98.3			
Yellow Time (s)	4.4			4.4			
All-Red Time (s)	2.3			2.3			
Lost Time Adjust (s)	-1.5			-1.5			
Total Lost Time (s)	5.2			5.2			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Min			
Walk Time (s)				5.0			
Flash Dont Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effct Green (s)	32.7		150.0	106.9			
Actuated g/C Ratio	0.22		1.00	0.71			
v/c Ratio	0.79		0.73	0.69			
Control Delay	52.3		0.2	5.1			
Queue Delay	0.0		0.0	0.5			

Lanes, Volumes, Timings  
 8: Pine Ridge Rd & Adv. RCUT East

02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	52.3		0.2	5.6			
LOS	D		A	A			
Approach Delay			7.5	5.6			
Approach LOS			A	A			
Queue Length 50th (ft)	288		0	95			
Queue Length 95th (ft)	m285		m0	114			
Internal Link Dist (ft)			945	455		1	
Turn Bay Length (ft)	500						
Base Capacity (vph)	910		5036	3590			
Starvation Cap Reductn	0		0	577			
Spillback Cap Reductn	0		0	0			
Storage Cap Reductn	0		0	0			
Reduced v/c Ratio	0.65		0.73	0.82			

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 113 (75%), Referenced to phase 2: and 6:WBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 6.8  
 Intersection Capacity Utilization 71.2%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.











Splits and Phases: 8: Pine Ridge Rd & Adv. RCUT East



# Lanes, Volumes, Timings

## 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Lane Configurations		↑↑↑			↑↑↑					↑↑↑
Traffic Volume (vph)	0	2896	540	0	1569	0	0	0	0	808
Future Volume (vph)	0	2896	540	0	1569	0	0	0	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	0	0	0	0
Storage Lanes	0		1	0		0	0	0	0	3
Taper Length (ft)	25			25			25		25	
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.76
Frt		0.976								0.850
Flt Protected										
Satd. Flow (prot)	0	6193	0	0	5036	0	0	0	0	3610
Flt Permitted										
Satd. Flow (perm)	0	6193	0	0	5036	0	0	0	0	3610
Right Turn on Red			No			No				No
Satd. Flow (RTOR)										
Link Speed (mph)		35			35		35		35	
Link Distance (ft)		535			327		536		554	
Travel Time (s)		10.4			6.4		10.4		10.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	0%	3%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	3048	568	0	1652	0	0	0	0	851
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	3616	0	0	1652	0	0	0	0	851
Turn Type		NA			NA					Prot
Protected Phases		Free			2					4
Permitted Phases										
Detector Phase					2					4
Switch Phase										
Minimum Initial (s)					7.0					7.0
Minimum Split (s)					23.0					23.0
Total Split (s)					62.0					88.0
Total Split (%)					41.3%					58.7%
Maximum Green (s)					55.0					81.0
Yellow Time (s)					5.0					5.0
All-Red Time (s)					2.0					2.0
Lost Time Adjust (s)					-1.5					-1.5
Total Lost Time (s)					5.5					5.5
Lead/Lag										
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0					3.0
Recall Mode					Min					C-Min
Walk Time (s)					5.0					5.0
Flash Dont Walk (s)					11.0					11.0
Pedestrian Calls (#/hr)					0					0
Act Effct Green (s)		150.0			56.5					82.5
Actuated g/C Ratio		1.00			0.38					0.55
v/c Ratio		0.58			0.87					0.43
Control Delay		0.3			10.6					20.7
Queue Delay		0.2			0.2					0.0

Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

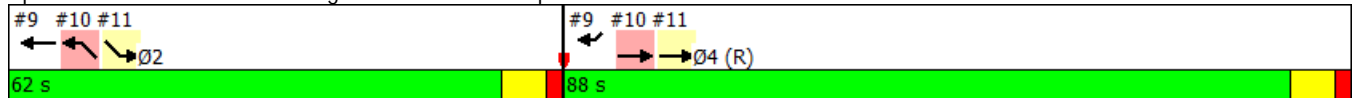
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Total Delay		0.4			10.8					20.7
LOS		A			B					C
Approach Delay		0.4			10.8				20.7	
Approach LOS		A			B				C	
Queue Length 50th (ft)		0			65					208
Queue Length 95th (ft)		0			75					250
Internal Link Dist (ft)		455			247		456		474	
Turn Bay Length (ft)										
Base Capacity (vph)		6193			1896					1985
Starvation Cap Reductn		0			23					0
Spillback Cap Reductn		1251			23					0
Storage Cap Reductn		0			0					0
Reduced v/c Ratio		0.73			0.88					0.43

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 21 (14%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 6.1  
 Intersection Capacity Utilization 101.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service G

Splits and Phases: 9: Pine Ridge Rd & I-75 SB Ramp



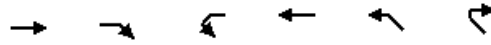
Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑↑				↖↖↖	
Traffic Volume (vph)	2896	0	0	0	1569	0
Future Volume (vph)	2896	0	0	0	1569	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	1.00	1.00	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	6346	0	0	0	4942	0
Flt Permitted					0.950	
Satd. Flow (perm)	6346	0	0	0	4942	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	327			340	359	
Travel Time (s)	6.4			6.6	7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	0%	3%	0%
Adj. Flow (vph)	3048	0	0	0	1652	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3048	0	0	0	1652	0
Turn Type	NA				Prot	
Protected Phases	4				2	
Permitted Phases						
Detector Phase	4				2	
Switch Phase						
Minimum Initial (s)	7.0				7.0	
Minimum Split (s)	23.0				23.0	
Total Split (s)	88.0				62.0	
Total Split (%)	58.7%				41.3%	
Maximum Green (s)	81.0				55.0	
Yellow Time (s)	5.0				5.0	
All-Red Time (s)	2.0				2.0	
Lost Time Adjust (s)	-1.5				-1.5	
Total Lost Time (s)	5.5				5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0				3.0	
Recall Mode	C-Min				Min	
Walk Time (s)	5.0				5.0	
Flash Dont Walk (s)	11.0				11.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	82.5				56.5	
Actuated g/C Ratio	0.55				0.38	
v/c Ratio	0.87				0.89	
Control Delay	24.7				19.6	
Queue Delay	9.4				0.0	
Total Delay	34.1				19.6	
LOS	C				B	
Approach Delay	34.1				19.6	

Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018



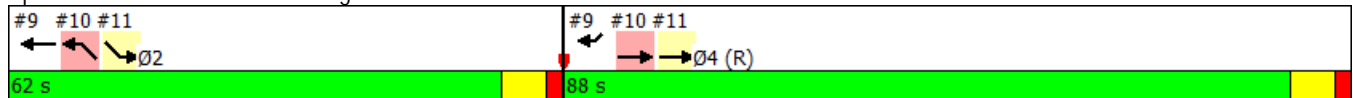
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS	C			B		
Queue Length 50th (ft)	645			139		
Queue Length 95th (ft)	700			150		
Internal Link Dist (ft)	247		260		279	
Turn Bay Length (ft)						
Base Capacity (vph)	3490			1861		
Starvation Cap Reductn	460			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	1.01			0.89		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 21 (14%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 29.0  
 Intersection Capacity Utilization 112.2%  
 Analysis Period (min) 15

Intersection LOS: C  
ICU Level of Service H

Splits and Phases: 10: Pine Ridge Rd





Lanes, Volumes, Timings  
11: Pine Ridge Rd & I-75 SB Ramp

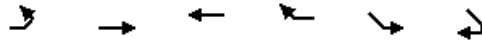
02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑↑			↔↔	
Traffic Volume (vph)	0	2896	0	0	670	0
Future Volume (vph)	0	2896	0	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	1.00	1.00	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	6346	0	0	3367	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	6346	0	0	3367	0
Right Turn on Red				No	No	No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	448		330	
Travel Time (s)		6.6	8.7		6.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%
Adj. Flow (vph)	0	3048	0	0	705	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3048	0	0	705	0
Turn Type		NA			Prot	
Protected Phases		4			2	
Permitted Phases						
Detector Phase		4			2	
Switch Phase						
Minimum Initial (s)		7.0			7.0	
Minimum Split (s)		23.0			23.0	
Total Split (s)		88.0			62.0	
Total Split (%)		58.7%			41.3%	
Maximum Green (s)		81.0			55.0	
Yellow Time (s)		5.0			5.0	
All-Red Time (s)		2.0			2.0	
Lost Time Adjust (s)		-1.5			-1.5	
Total Lost Time (s)		5.5			5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0			3.0	
Recall Mode		C-Min			Min	
Walk Time (s)		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	
Act Effct Green (s)		82.5			56.5	
Actuated g/C Ratio		0.55			0.38	
v/c Ratio		0.87			0.56	
Control Delay		4.6			38.9	
Queue Delay		0.1			0.0	
Total Delay		4.7			38.9	
LOS		A			D	
Approach Delay		4.7			38.9	

Lanes, Volumes, Timings  
 11: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



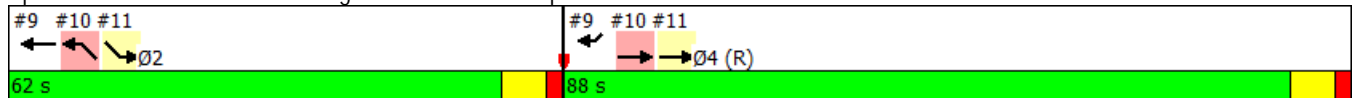
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS		A			D	
Queue Length 50th (ft)		48			279	
Queue Length 95th (ft)		51			343	
Internal Link Dist (ft)		260	368		250	
Turn Bay Length (ft)						
Base Capacity (vph)		3490			1268	
Starvation Cap Reductn		0			0	
Spillback Cap Reductn		33			0	
Storage Cap Reductn		0			0	
Reduced v/c Ratio		0.88			0.56	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 21 (14%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 11.1  
 Intersection Capacity Utilization 69.0%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 11: Pine Ridge Rd & I-75 SB Ramp



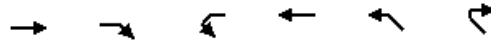
Lanes, Volumes, Timings  
12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations				↑↑↑	↑↑	
Traffic Volume (vph)	0	0	0	1339	373	0
Future Volume (vph)	0	0	0	1339	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	5085	3433	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	5085	3433	0
Right Turn on Red		No			No	No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	432			314	330	
Travel Time (s)	8.4			6.1	6.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	0	0	0	1380	385	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1380	385	0
Turn Type				NA	Prot	
Protected Phases				2	4	
Permitted Phases						
Detector Phase				2	4	
Switch Phase						
Minimum Initial (s)				7.0	7.0	
Minimum Split (s)				23.0	23.0	
Total Split (s)				51.0	99.0	
Total Split (%)				34.0%	66.0%	
Maximum Green (s)				44.0	92.0	
Yellow Time (s)				5.0	5.0	
All-Red Time (s)				2.0	2.0	
Lost Time Adjust (s)				-1.5	-1.5	
Total Lost Time (s)				5.5	5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)				3.0	3.0	
Recall Mode				Min	C-Min	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)				45.5	93.5	
Actuated g/C Ratio				0.30	0.62	
v/c Ratio				0.89	0.18	
Control Delay				11.4	12.2	
Queue Delay				0.0	0.0	
Total Delay				11.4	12.2	
LOS				B	B	
Approach Delay				11.4	12.2	

Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018



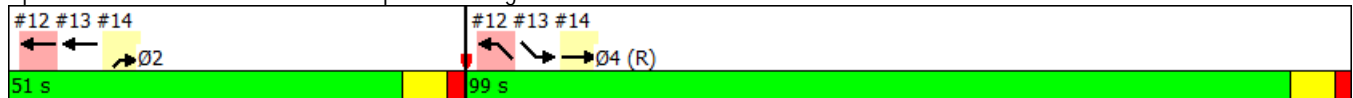
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS				B	B	
Queue Length 50th (ft)				16	78	
Queue Length 95th (ft)				76	103	
Internal Link Dist (ft)	352			234	250	
Turn Bay Length (ft)						
Base Capacity (vph)				1542	2139	
Starvation Cap Reductn				0	0	
Spillback Cap Reductn				0	0	
Storage Cap Reductn				0	0	
Reduced v/c Ratio				0.89	0.18	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 11.6  
 Intersection Capacity Utilization 59.9%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 12: I-75 NB Ramp & Pine Ridge Rd



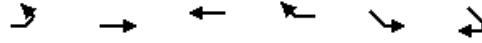
Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations			↑↑↑		↑↑↑	
Traffic Volume (vph)	0	0	1339	0	2689	0
Future Volume (vph)	0	0	1339	0	2689	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	5085	0	4942	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	5085	0	4942	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		314	260		307	
Travel Time (s)		6.1	5.1		6.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	2%	0%	3%	0%
Adj. Flow (vph)	0	0	1380	0	2772	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1380	0	2772	0
Turn Type			NA		Prot	
Protected Phases			2		4	
Permitted Phases						
Detector Phase			2		4	
Switch Phase						
Minimum Initial (s)			7.0		7.0	
Minimum Split (s)			23.0		23.0	
Total Split (s)			51.0		99.0	
Total Split (%)			34.0%		66.0%	
Maximum Green (s)			44.0		92.0	
Yellow Time (s)			5.0		5.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-1.5		-1.5	
Total Lost Time (s)			5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0		3.0	
Recall Mode			Min		C-Min	
Walk Time (s)			5.0		5.0	
Flash Dont Walk (s)			11.0		11.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)			45.5		93.5	
Actuated g/C Ratio			0.30		0.62	
v/c Ratio			0.89		0.90	
Control Delay			50.0		17.5	
Queue Delay			47.2		0.3	
Total Delay			97.2		17.8	
LOS			F		B	
Approach Delay			97.2		17.8	

Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018



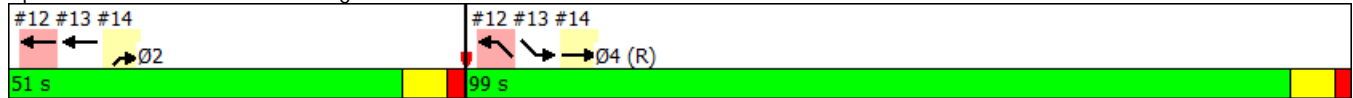
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS			F		B	
Queue Length 50th (ft)			496		333	
Queue Length 95th (ft)			413		411	
Internal Link Dist (ft)		234	180		227	
Turn Bay Length (ft)						
Base Capacity (vph)			1542		3080	
Starvation Cap Reductn			474		56	
Spillback Cap Reductn			9		0	
Storage Cap Reductn			0		0	
Reduced v/c Ratio			1.29		0.92	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 44.2  
 Intersection Capacity Utilization 100.4%  
 Analysis Period (min) 15












Intersection LOS: D  
ICU Level of Service G

Splits and Phases: 13: Pine Ridge Rd



Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations		↑↑↑			↑↑↑	↑				↑	
Traffic Volume (vph)	0	2689	0	0	1339	534	0	0	0	176	
Future Volume (vph)	0	2689	0	0	1339	534	0	0	0	176	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		250	0	0	0	0	
Storage Lanes	0		0	0		1	0	0	0	1	
Taper Length (ft)	25			25			25		25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	
Frt						0.850				0.865	
Flt Protected											
Satd. Flow (prot)	0	5036	0	0	5085	1553	0	0	0	1627	
Flt Permitted											
Satd. Flow (perm)	0	5036	0	0	5085	1553	0	0	0	1627	
Right Turn on Red			No			No				No	
Satd. Flow (RTOR)											
Link Speed (mph)		35			35		35		35		
Link Distance (ft)		260			992		477		425		
Travel Time (s)		5.1			19.3		9.3		8.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	0%	0%	2%	4%	0%	0%	0%	1%	
Adj. Flow (vph)	0	2772	0	0	1380	551	0	0	0	181	
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	2772	0	0	1380	551	0	0	0	181	
Turn Type		NA			NA	custom				Prot	
Protected Phases		4			Free	Free				2	
Permitted Phases						Free					
Detector Phase		4								2	
Switch Phase											
Minimum Initial (s)		7.0								7.0	
Minimum Split (s)		23.0								23.0	
Total Split (s)		99.0								51.0	
Total Split (%)		66.0%								34.0%	
Maximum Green (s)		92.0								44.0	
Yellow Time (s)		5.0								5.0	
All-Red Time (s)		2.0								2.0	
Lost Time Adjust (s)		-1.5								-1.5	
Total Lost Time (s)		5.5								5.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0								3.0	
Recall Mode		C-Min								Min	
Walk Time (s)		5.0								5.0	
Flash Dont Walk (s)		11.0								11.0	
Pedestrian Calls (#/hr)		0								0	
Act Effct Green (s)		93.5			150.0	150.0				45.5	
Actuated g/C Ratio		0.62			1.00	1.00				0.30	
v/c Ratio		0.88			0.27	0.35				0.37	
Control Delay		4.6			0.1	0.5				43.6	
Queue Delay		0.2			0.1	0.0				0.4	

Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

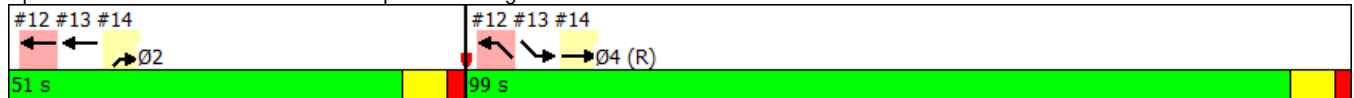


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Total Delay		4.8			0.2	0.5				44.0
LOS		A			A	A				D
Approach Delay		4.8			0.3				44.0	
Approach LOS		A			A				D	
Queue Length 50th (ft)		60			0	0				139
Queue Length 95th (ft)		59			0	0				212
Internal Link Dist (ft)		180			912		397		345	
Turn Bay Length (ft)						250				
Base Capacity (vph)		3139			5085	1553				493
Starvation Cap Reductn		49			0	0				0
Spillback Cap Reductn		36			1931	0				79
Storage Cap Reductn		0			0	0				0
Reduced v/c Ratio		0.90			0.44	0.35				0.44

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 4.5  
 Intersection Capacity Utilization 91.9%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service F


























Splits and Phases: 14: I-75 NB Ramp & Pine Ridge Rd





Lanes, Volumes, Timings  
15: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	4988	1599	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.579			0.648	
Satd. Flow (perm)	3467	5024	0	1805	4988	1599	0	1065	0	0	1201	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		992			744			572			470	
Travel Time (s)		19.3			14.5			11.1			9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1279	128	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	17.0	27.8		14.8	27.0	27.0	23.5	23.5		23.0	23.0	17.0
Total Split (s)	48.0	90.2		14.8	57.0	57.0	45.0	45.0		45.0	45.0	48.0
Total Split (%)	32.0%	60.1%		9.9%	38.0%	38.0%	30.0%	30.0%		30.0%	30.0%	32.0%
Maximum Green (s)	41.2	83.4		8.0	50.2	50.2	38.1	38.1		38.1	38.1	41.2
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	31.7	103.9		8.8	72.7	72.7		29.6			29.6	66.7
Actuated g/C Ratio	0.21	0.69		0.06	0.48	0.48		0.20			0.20	0.44
v/c Ratio	0.62	0.73		0.13	0.53	0.17		0.85			0.66	0.79
Control Delay	57.1	16.9		69.8	29.3	24.9		90.0			67.7	43.4
Queue Delay	0.0	1.2		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
 15: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	57.1	18.0		69.8	29.3	24.9		90.0			67.7	43.4
LOS	E	B		E	C	C		F			E	D
Approach Delay		23.9			29.3			90.0			48.7	
Approach LOS		C			C			F			D	
Queue Length 50th (ft)	205	449		13	312	69		171			142	462
Queue Length 95th (ft)	m209	993		38	424	133		247			207	519
Internal Link Dist (ft)		912			664			492			390	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	986	3478		114	2416	774		281			317	828
Starvation Cap Reductn	0	648		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.46	0.89		0.12	0.53	0.17		0.64			0.49	0.68

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 101 (67%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 30.9 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Napa Blvd & Pine Ridge Rd



### **Appendix K3**

Synchro Worksheets: 2040 Innovative Improvements Condition

Jug-Handle

Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Lane Configurations	↑↑↑	↗		↑↑↑	↖	↗					
Traffic Volume (vph)	1259	210	0	2770	491	420					
Future Volume (vph)	1259	210	0	2770	491	420					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)		300	0		0	350					
Storage Lanes		1	0		2	1					
Taper Length (ft)			25		25						
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	0.88					
Frt		0.850				0.850					
Flt Protected					0.950						
Satd. Flow (prot)	4893	1583	0	4940	3367	2787					
Flt Permitted					0.950						
Satd. Flow (perm)	4893	1583	0	4940	3367	2787					
Right Turn on Red		Yes				No					
Satd. Flow (RTOR)		216									
Link Speed (mph)	35			35	35						
Link Distance (ft)	808			448	821						
Travel Time (s)	15.7			8.7	16.0						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97					
Heavy Vehicles (%)	6%	2%	0%	5%	4%	2%					
Adj. Flow (vph)	1298	216	0	2856	506	433					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1298	216	0	2856	506	433					
Turn Type	NA	Perm		NA	Prot	Perm					
Protected Phases	2 5			1 6	8		1	2	4	5	6
Permitted Phases		2 5				8					
Detector Phase	2 5	2 5		1 6	8	8					
Switch Phase											
Minimum Initial (s)					7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)					23.2	23.2	14.2	23.2	23.2	14.2	23.2
Total Split (s)					45.0	45.0	37.0	68.0	45.0	22.0	83.0
Total Split (%)					30.0%	30.0%	25%	45%	30%	15%	55%
Maximum Green (s)					37.8	37.8	29.8	60.8	37.8	14.8	75.8
Yellow Time (s)					4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)					2.4	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)					-1.5	-1.5					
Total Lost Time (s)					5.7	5.7					
Lead/Lag							Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Min	None	None	C-Min
Walk Time (s)					5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)					11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)					0	0		0	0		0
Act Effct Green (s)	78.6	78.6		99.3	39.3	39.3					
Actuated g/C Ratio	0.52	0.52		0.66	0.26	0.26					
v/c Ratio	0.51	0.23		0.87	0.57	0.59					
Control Delay	15.7	1.9		10.6	50.0	51.1					
Queue Delay	0.3	0.0		0.0	0.0	0.0					

Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Total Delay	16.0	1.9		10.6	50.0	51.1					
LOS	B	A		B	D	D					
Approach Delay	14.0			10.6	50.5						
Approach LOS	B			B	D						
Queue Length 50th (ft)	201	0		209	242	228					
Queue Length 95th (ft)	230	28		270	290	282					
Internal Link Dist (ft)	728			368	741						
Turn Bay Length (ft)		300				350					
Base Capacity (vph)	2563	932		3270	882	730					
Starvation Cap Reductn	0	0		3	0	0					
Spillback Cap Reductn	587	0		0	0	0					
Storage Cap Reductn	0	0		0	0	0					
Reduced v/c Ratio	0.66	0.23		0.87	0.57	0.59					

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 83 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 18.6  
 Intersection Capacity Utilization 77.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 1: Jughandle & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Lane Configurations	↑↑↑	↗		↑↑↑	↖	↗					
Traffic Volume (vph)	2481	475	0	1674	356	436					
Future Volume (vph)	2481	475	0	1674	356	436					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)		300	0		0	350					
Storage Lanes		1	0		2	1					
Taper Length (ft)			25		25						
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	0.88					
Frt		0.850				0.850					
Flt Protected					0.950						
Satd. Flow (prot)	5036	1599	0	5036	3433	2760					
Flt Permitted					0.950						
Satd. Flow (perm)	5036	1599	0	5036	3433	2760					
Right Turn on Red		Yes				No					
Satd. Flow (RTOR)		490									
Link Speed (mph)	35			35	35						
Link Distance (ft)	808			467	837						
Travel Time (s)	15.7			9.1	16.3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97					
Heavy Vehicles (%)	3%	1%	0%	3%	2%	3%					
Adj. Flow (vph)	2558	490	0	1726	367	449					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	2558	490	0	1726	367	449					
Turn Type	NA	Perm		NA	Prot	Perm					
Protected Phases	2 5			1 6	8		1	2	4	5	6
Permitted Phases		2 5				8					
Detector Phase	2 5	2 5		1 6	8	8					
Switch Phase											
Minimum Initial (s)					7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)					23.2	23.2	14.2	23.2	23.2	14.2	23.2
Total Split (s)					41.0	41.0	19.0	90.0	41.0	27.0	82.0
Total Split (%)					27.3%	27.3%	13%	60%	27%	18%	55%
Maximum Green (s)					33.8	33.8	11.8	82.8	33.8	19.8	74.8
Yellow Time (s)					4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)					2.4	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)					-1.5	-1.5					
Total Lost Time (s)					5.7	5.7					
Lead/Lag							Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Min	None	None	C-Min
Walk Time (s)					5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)					11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)					0	0		0	0		0
Act Effct Green (s)	103.3	103.3		89.6	35.3	35.3					
Actuated g/C Ratio	0.69	0.69		0.60	0.24	0.24					
v/c Ratio	0.74	0.39		0.57	0.45	0.69					
Control Delay	16.4	1.6		7.1	72.2	79.8					
Queue Delay	4.7	0.0		0.1	0.0	0.0					

Lanes, Volumes, Timings  
 1: Jughandle & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Total Delay	21.1	1.6		7.2	72.2	79.8					
LOS	C	A		A	E	E					
Approach Delay	18.0			7.2	76.4						
Approach LOS	B			A	E						
Queue Length 50th (ft)	538	0		137	177	239					
Queue Length 95th (ft)	588	34		143	225	305					
Internal Link Dist (ft)	728			387	757						
Turn Bay Length (ft)		300				350					
Base Capacity (vph)	3468	1253		3008	807	649					
Starvation Cap Reductn	0	0		236	0	0					
Spillback Cap Reductn	838	0		0	0	0					
Storage Cap Reductn	0	0		0	0	0					
Reduced v/c Ratio	0.97	0.39		0.62	0.45	0.69					

Intersection Summary

































Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 143 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 23.2 Intersection LOS: C  
 Intersection Capacity Utilization 72.7% ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 1: Jughandle & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  	 		  	
Traffic Volume (vph)	276	1403	0	552	2305	359	0	833	269	0	1511	465
Future Volume (vph)	276	1403	0	552	2305	359	0	833	269	0	1511	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		0	425		325	0		450	0		725
Storage Lanes	2		0	2		1	0		1	0		2
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.88	1.00	0.86	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3335	4893	0	3183	4940	1538	0	4893	2707	0	6285	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3335	4893	0	3183	4940	1538	0	4893	2707	0	6285	1568
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												83
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		448			1910			581			942	
Travel Time (s)		8.7			37.2			11.3			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	0%	10%	5%	5%	0%	6%	5%	0%	4%	3%
Adj. Flow (vph)	285	1446	0	569	2376	370	0	859	277	0	1558	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1446	0	569	2376	370	0	859	277	0	1558	479
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov		NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	6		8	1		4	5
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Minimum Split (s)	14.2	23.2		14.2	23.2	23.2		23.2	14.2		23.2	14.2
Total Split (s)	22.0	68.0		37.0	83.0	83.0		45.0	37.0		45.0	22.0
Total Split (%)	14.7%	45.3%		24.7%	55.3%	55.3%		30.0%	24.7%		30.0%	14.7%
Maximum Green (s)	14.8	60.8		29.8	75.8	75.8		37.8	29.8		37.8	14.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4		2.4	2.4		2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	5.7	5.7		5.7	5.7	5.7		5.7	5.7		5.7	5.7
Lead/Lag	Lead	Lag		Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min		None	None		None	None
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	16.3	62.3		31.3	77.3	77.3		39.3	76.3		39.3	61.3
Actuated g/C Ratio	0.11	0.42		0.21	0.52	0.52		0.26	0.51		0.26	0.41
v/c Ratio	0.79	0.71		0.86	0.93	0.47		0.67	0.20		0.95	0.70
Control Delay	81.5	38.7		64.5	32.5	18.1		52.6	20.7		66.9	36.1
Queue Delay	0.0	0.3		0.0	0.0	0.0		0.0	0.0		0.0	0.0



Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.5	39.0		64.5	32.5	18.1		52.6	20.7		66.9	36.1
LOS	F	D		E	C	B		D	C		E	D
Approach Delay		46.0			36.4			44.8			59.6	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	130	467		269	758	212		277	82		438	323
Queue Length 95th (ft)	#199	523		#367	809	265		328	114		#509	461
Internal Link Dist (ft)		368			1830			501			862	
Turn Bay Length (ft)	425			425		325			450			725
Base Capacity (vph)	362	2032		664	2545	792		1281	1376		1646	689
Starvation Cap Reductn	0	171		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.79	0.78		0.86	0.93	0.47		0.67	0.20		0.95	0.70

Intersection Summary

































Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 83 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 45.3 Intersection LOS: D  
 Intersection Capacity Utilization 88.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  	 		  	
Traffic Volume (vph)	298	2619	0	279	1674	437	0	1095	655	0	1285	330
Future Volume (vph)	298	2619	0	279	1674	437	0	1095	655	0	1285	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		0	425		325	0		450	0		725
Storage Lanes	2		0	2		1	0		1	0		2
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.88	1.00	0.86	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3467	5036	0	3367	5036	1583	0	5036	2733	0	6285	1599
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3467	5036	0	3367	5036	1583	0	5036	2733	0	6285	1599
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												31
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		467			1908			581			917	
Travel Time (s)		9.1			37.2			11.3			17.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	0%	4%	3%	2%	0%	3%	4%	0%	4%	1%
Adj. Flow (vph)	307	2700	0	288	1726	451	0	1129	675	0	1325	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2700	0	288	1726	451	0	1129	675	0	1325	340
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov		NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	6		8	1		4	5
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Minimum Split (s)	14.2	23.2		14.2	23.2	23.2		23.2	14.2		23.2	14.2
Total Split (s)	27.0	90.0		19.0	82.0	82.0		41.0	19.0		41.0	27.0
Total Split (%)	18.0%	60.0%		12.7%	54.7%	54.7%		27.3%	12.7%		27.3%	18.0%
Maximum Green (s)	19.8	82.8		11.8	74.8	74.8		33.8	11.8		33.8	19.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4		2.4	2.4		2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	5.7	5.7		5.7	5.7	5.7		5.7	5.7		5.7	5.7
Lead/Lag	Lead	Lag		Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min		None	None		None	None
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	21.3	84.3		13.3	76.3	76.3		35.3	54.3		35.3	62.3
Actuated g/C Ratio	0.14	0.56		0.09	0.51	0.51		0.24	0.36		0.24	0.42
v/c Ratio	0.62	0.95		0.97	0.67	0.56		0.95	0.68		0.90	0.50
Control Delay	76.9	32.2		106.9	26.2	26.8		72.7	44.6		64.4	32.2
Queue Delay	0.0	11.4		0.0	0.0	0.0		0.0	0.0		0.0	0.0

Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	76.9	43.6		106.9	26.2	26.8		72.7	44.6		64.4	32.2
LOS	E	D		F	C	C		E	D		E	C
Approach Delay		47.0			35.7			62.2			57.9	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	142	925		150	351	247		402	317		368	221
Queue Length 95th (ft)	191	994		#247	436	356		#495	397		415	319
Internal Link Dist (ft)		387			1828			501			837	
Turn Bay Length (ft)	425			425		325			450			725
Base Capacity (vph)	492	2830		298	2561	805		1185	989		1479	682
Starvation Cap Reductn	0	180		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.62	1.02		0.97	0.67	0.56		0.95	0.68		0.90	0.50

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 143 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 49.0 Intersection LOS: D  
 Intersection Capacity Utilization 94.0% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

















Splits and Phases: 2: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Livingston Rd & Jughandle

02/05/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			 	  	  	
Traffic Volume (vph)	0	210	491	1102	1643	420
Future Volume (vph)	0	210	491	1102	1643	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			0
Storage Lanes	0	1	2			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	0.97	0.91	0.91	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	3367	4893	4988	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	3367	4893	4988	1583
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		25				
Link Speed (mph)	35			35	35	
Link Distance (ft)	821			1216	581	
Travel Time (s)	16.0			23.7	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	4%	6%	4%	2%
Adj. Flow (vph)	0	216	506	1136	1694	433
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	216	506	1136	1694	433
Turn Type		Over	Prot	NA	NA	Free
Protected Phases		1	1	Free	2	
Permitted Phases						Free
Detector Phase		1	1		2	
Switch Phase						
Minimum Initial (s)		7.0	7.0		7.0	
Minimum Split (s)		14.2	14.2		23.2	
Total Split (s)		53.0	53.0		97.0	
Total Split (%)		35.3%	35.3%		64.7%	
Maximum Green (s)		45.8	45.8		89.8	
Yellow Time (s)		4.8	4.8		4.8	
All-Red Time (s)		2.4	2.4		2.4	
Lost Time Adjust (s)		-1.5	-1.5		-1.5	
Total Lost Time (s)		5.7	5.7		5.7	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		None	None		C-Min	
Walk Time (s)					5.0	
Flash Dont Walk (s)					11.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)		29.9	29.9	150.0	108.7	150.0
Actuated g/C Ratio		0.20	0.20	1.00	0.72	1.00
v/c Ratio		0.63	0.75	0.23	0.47	0.27
Control Delay		55.2	63.8	0.1	0.9	0.2
Queue Delay		0.0	0.0	0.0	0.4	0.0

Lanes, Volumes, Timings  
5: Livingston Rd & Jughandle

02/05/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay		55.2	63.8	0.1	1.3	0.2
LOS		E	E	A	A	A
Approach Delay	55.2			19.7	1.1	
Approach LOS	E			B	A	
Queue Length 50th (ft)		174	243	0	2	0
Queue Length 95th (ft)		252	290	0	m0	m0
Internal Link Dist (ft)	741			1136	501	
Turn Bay Length (ft)			400			
Base Capacity (vph)		525	1061	4893	3614	1583
Starvation Cap Reductn		0	0	0	1190	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.41	0.48	0.23	0.70	0.27

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 58 (39%), Referenced to phase 2:SBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 11.7  
 Intersection Capacity Utilization 55.3%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

















Splits and Phases: 5: Livingston Rd & Jughandle



# Lanes, Volumes, Timings

## 5: Livingston Rd & Jughandle

02/05/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			 	  	  	
Traffic Volume (vph)	0	475	356	1750	1128	436
Future Volume (vph)	0	475	356	1750	1128	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			0
Storage Lanes	0	1	2			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	0.97	0.91	0.91	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1627	3433	5036	4988	1568
Flt Permitted			0.950			
Satd. Flow (perm)	0	1627	3433	5036	4988	1568
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		51				
Link Speed (mph)	35			35	35	
Link Distance (ft)	837			2204	581	
Travel Time (s)	16.3			42.9	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	2%	3%	4%	3%
Adj. Flow (vph)	0	490	367	1804	1163	449
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	490	367	1804	1163	449
Turn Type		Over	Prot	NA	NA	Perm
Protected Phases		1	1	Free	2	
Permitted Phases						2
Detector Phase		1	1		2	2
Switch Phase						
Minimum Initial (s)		7.0	7.0		7.0	7.0
Minimum Split (s)		14.2	14.2		23.2	23.2
Total Split (s)		68.0	68.0		82.0	82.0
Total Split (%)		45.3%	45.3%		54.7%	54.7%
Maximum Green (s)		60.8	60.8		74.8	74.8
Yellow Time (s)		4.8	4.8		4.8	4.8
All-Red Time (s)		2.4	2.4		2.4	2.4
Lost Time Adjust (s)		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)		5.7	5.7		5.7	5.7
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		None	None		C-Min	C-Min
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					11.0	11.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)		50.1	50.1	150.0	88.5	88.5
Actuated g/C Ratio		0.33	0.33	1.00	0.59	0.59
v/c Ratio		0.85	0.32	0.36	0.40	0.49
Control Delay		53.6	36.9	0.2	4.4	6.9
Queue Delay		0.0	0.0	0.0	0.1	0.4

# Lanes, Volumes, Timings

## 5: Livingston Rd & Jughandle

02/05/2018

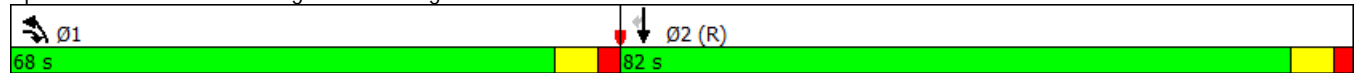


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay		53.6	36.9	0.2	4.5	7.3
LOS		D	D	A	A	A
Approach Delay	53.6			6.4	5.3	
Approach LOS	D			A	A	
Queue Length 50th (ft)		404	137	0	46	49
Queue Length 95th (ft)		493	159	0	m0	m37
Internal Link Dist (ft)	757			2124	501	
Turn Bay Length (ft)			400			
Base Capacity (vph)		705	1425	5036	2943	925
Starvation Cap Reductn		0	0	0	569	144
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.70	0.26	0.36	0.49	0.57

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 90 (60%), Referenced to phase 2:SBT and 6:, Start of Green  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 11.4  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 5: Livingston Rd & Jughandle



## **Appendix K4**

























Synchro Worksheets: 2040 Innovative Improvements Condition

Single Point Urban Interchange (SPUI)



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	552	2305	359	491	83	269	420	109	465
Future Volume (vph)	276	983	210	552	2305	359	491	83	269	420	109	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		2	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	1792	2707	3433	1827	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	1792	2707	3433	1827	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			262			95			144
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	569	2376	370	506	86	277	433	112	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	569	2376	370	506	86	277	433	112	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	17.2	14.1	16.9	17.2	14.1
Total Split (s)	24.0	68.0	68.0	40.0	84.0	84.0	30.5	20.0	40.0	32.0	21.5	24.0
Total Split (%)	15.0%	42.5%	42.5%	25.0%	52.5%	52.5%	19.1%	12.5%	25.0%	20.0%	13.4%	15.0%
Maximum Green (s)	16.9	58.2	58.2	32.9	76.8	76.8	23.3	12.8	32.9	22.1	14.3	16.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.3	5.1	2.4	2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.6	8.4	5.7	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	19.6	62.4	62.4	32.8	78.3	78.3	24.8	13.5	52.1	23.2	14.6	39.9
Actuated g/C Ratio	0.12	0.39	0.39	0.20	0.49	0.49	0.16	0.08	0.33	0.14	0.09	0.25
v/c Ratio	0.70	0.53	0.29	0.87	0.98	0.42	0.97	0.57	0.29	0.87	0.67	0.96
Control Delay	77.7	39.3	4.8	61.0	46.2	15.0	99.1	85.3	26.3	85.2	90.0	72.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

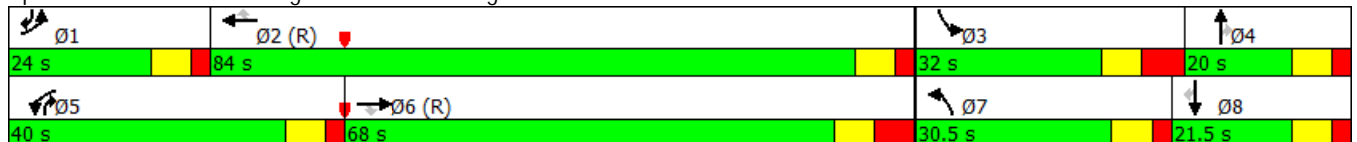
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	77.7	39.3	4.8	61.0	46.2	15.0	99.1	85.3	26.3	85.2	90.0	72.2
LOS	E	D	A	E	D	B	F	F	C	F	F	E
Approach Delay		41.6			45.3			74.5			79.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	151	306	0	318	721	110	275	88	77	231	115	374
Queue Length 95th (ft)	205	354	57	m292	m550	m89	#394	150	120	#315	187	#609
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	407	1908	749	684	2417	886	521	160	970	506	180	499
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.53	0.29	0.83	0.98	0.42	0.97	0.54	0.29	0.86	0.62	0.96

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 53.5 Intersection LOS: D  
 Intersection Capacity Utilization 101.5% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	279	1674	437	356	110	655	436	85	330
Future Volume (vph)	298	2183	475	279	1674	437	356	110	655	436	85	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		2	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	1845	2733	3400	1827	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	1845	2733	3400	1827	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			490			415			95			95
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	288	1726	451	367	113	675	449	88	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	288	1726	451	367	113	675	449	88	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	17.2	14.1	16.9	17.2	14.1
Total Split (s)	32.0	84.0	84.0	27.0	79.0	79.0	26.0	18.0	27.0	31.0	23.0	32.0
Total Split (%)	20.0%	52.5%	52.5%	16.9%	49.4%	49.4%	16.3%	11.3%	16.9%	19.4%	14.4%	20.0%
Maximum Green (s)	24.9	74.2	74.2	19.9	71.8	71.8	18.8	10.8	19.9	21.1	15.8	24.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.3	5.1	2.4	2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.6	8.4	5.7	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	21.0	75.7	75.7	21.5	78.7	78.7	20.0	12.2	39.4	22.6	17.5	44.2
Actuated g/C Ratio	0.13	0.47	0.47	0.13	0.49	0.49	0.12	0.08	0.25	0.14	0.11	0.28
v/c Ratio	0.67	0.95	0.48	0.64	0.70	0.46	0.86	0.81	0.91	0.94	0.44	0.67
Control Delay	73.6	49.7	3.6	51.4	44.6	16.6	87.4	109.1	66.9	95.0	74.4	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

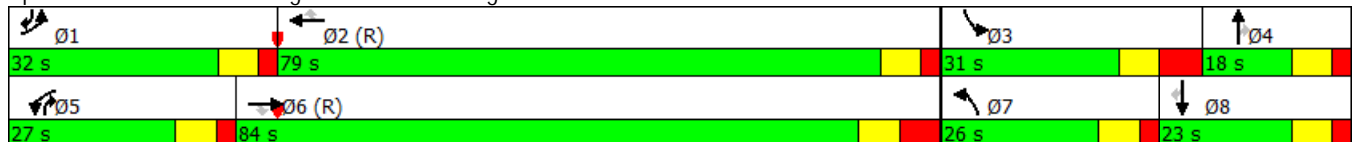
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	73.6	49.7	3.6	51.4	44.6	16.6	87.4	109.1	66.9	95.0	74.4	42.9
LOS	E	D	A	D	D	B	F	F	E	F	E	D
Approach Delay	44.7			40.3			77.6			72.7		
Approach LOS	D			D			E			E		
Queue Length 50th (ft)	160	810	0	134	678	189	196	118	345	243	88	233
Queue Length 95th (ft)	206	884	62	m160	m688	m223	#275	#228	#469	#349	150	335
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425	850		425	325		600	450		550	725	
Base Capacity (vph)	572	2382	1014	451	2478	989	435	141	744	480	199	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.95	0.48	0.64	0.70	0.46	0.84	0.80	0.91	0.94	0.44	0.61

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 51.5 Intersection LOS: D  
 Intersection Capacity Utilization 93.9% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



## **Appendix L**

Synchro Analyses: Future Conditions

With a Whippoorwill Lane – Marbella Lakes Drive Interconnection

























2021 Future w/Livingston Rd-Marbella Lakes Dr Interconnect

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	58.5	1.09	D	D	E	F
	PM Peak-Hour	E	D	58.3	1.13	D	D	F	E
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	C	37.6	0.89	D	C	E	D
	PM Peak-Hour	E	C	32.4	0.97	C	C	E	F
Pine Ridge Rd & I-75 SB Ramp	AM Peak-Hour	E	C	37.4	0.99	D	C		E
	PM Peak-Hour	E	C	33.2	0.93	C	C		D
Pine Ridge Rd & I-75 NB Ramp	AM Peak-Hour	E	C	34.0	0.97	C	C	E	
	PM Peak-Hour	E	C	26.8	0.74	B	D	E	
Pine Ridge Rd & Napa Blvd	AM Peak-Hour	E	D	46.2	1.34	D	B	E	F
	PM Peak-Hour	E	C	23.1	0.89	B	B	D	D
Livingston Rd & Marbella Lakes Dr	AM Peak-Hour	E	n/a	54.9 <sup>1</sup>	0.74		F	-- <sup>2</sup>	C <sup>3</sup>
	PM Peak-Hour	E	n/a	170.7 <sup>1</sup>	1.22		F	-- <sup>2</sup>	D <sup>3</sup>

1. Delay shown for the worst approach
2. No left-turn movement for approach
3. Left-turn movement level-of-service

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	787	173	415	1908	297	407	689	194	343	903	385
Future Volume (vph)	228	787	173	415	1908	297	407	689	194	343	903	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178			233			200			209
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		1277		2612			1188			1358		
Travel Time (s)		19.3		39.6			18.0			20.6		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	235	811	178	428	1967	306	420	710	200	354	931	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	811	178	428	1967	306	420	710	200	354	931	397
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	25.0	64.0	64.0	35.0	74.0	74.0	28.0	31.0	31.0	30.0	33.0	33.0
Total Split (%)	15.6%	40.0%	40.0%	21.9%	46.3%	46.3%	17.5%	19.4%	19.4%	18.8%	20.6%	20.6%
Maximum Green (s)	17.9	54.2	54.2	27.9	66.8	66.8	20.8	23.8	23.8	20.1	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.3	58.2	58.2	26.9	70.4	70.4	22.2	26.1	26.1	20.8	27.4	27.4
Actuated g/C Ratio	0.11	0.36	0.36	0.17	0.44	0.44	0.14	0.16	0.16	0.13	0.17	0.17
v/c Ratio	0.65	0.46	0.26	0.80	0.91	0.38	0.90	0.89	0.33	0.80	1.09	0.90
Control Delay	77.1	40.2	5.5	84.4	30.7	2.8	90.2	79.5	8.5	81.3	118.4	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	77.1	40.2	5.5	84.4	30.7	2.8	90.2	79.5	8.5	81.3	118.4	54.3
LOS	E	D	A	F	C	A	F	E	A	F	F	D
Approach Delay		42.2			36.0			72.2			95.5	
Approach LOS		D			D			E			F	
Queue Length 50th (ft)	123	239	0	206	697	28	226	271	0	187	~401	210
Queue Length 95th (ft)	170	287	55	m241	684	m20	#321	#348	41	246	#497	#408
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	404	1780	689	584	2172	807	469	798	609	463	853	441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.46	0.26	0.73	0.91	0.38	0.90	0.89	0.33	0.76	1.09	0.90

Intersection Summary

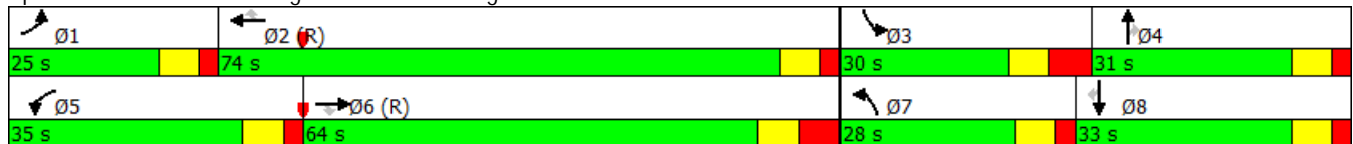
Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 58.5  
 Intersection Capacity Utilization 91.3%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

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

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

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

























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd





Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1807	393	192	1385	362	294	906	508	360	703	273
Future Volume (vph)	247	1807	393	192	1385	362	294	906	508	360	703	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			385			353			454			277
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	255	1863	405	198	1428	373	303	934	524	371	725	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	1863	405	198	1428	373	303	934	524	371	725	281
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	31.0	70.0	70.0	31.0	70.0	70.0	31.0	32.0	32.0	27.0	28.0	28.0
Total Split (%)	19.4%	43.8%	43.8%	19.4%	43.8%	43.8%	19.4%	20.0%	20.0%	16.9%	17.5%	17.5%
Maximum Green (s)	23.9	60.2	60.2	23.9	62.8	62.8	23.8	24.8	24.8	17.1	20.8	20.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.5	70.9	70.9	16.2	71.2	71.2	20.8	26.3	26.3	18.6	26.8	26.8
Actuated g/C Ratio	0.12	0.44	0.44	0.10	0.44	0.44	0.13	0.16	0.16	0.12	0.17	0.17
v/c Ratio	0.64	0.84	0.44	0.58	0.64	0.41	0.68	1.13	0.63	0.94	0.87	0.56
Control Delay	74.6	44.0	4.9	46.5	53.8	24.2	74.2	131.5	13.3	101.5	76.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

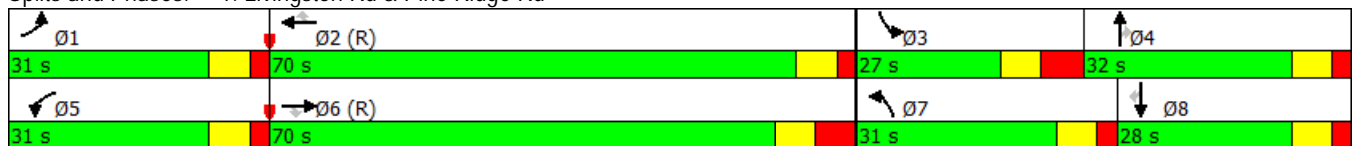
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.6	44.0	4.9	46.5	53.8	24.2	74.2	131.5	13.3	101.5	76.1	11.5
LOS	E	D	A	D	D	C	E	F	B	F	E	B
Approach Delay		40.8			47.5			86.5			69.8	
Approach LOS		D			D			F			E	
Queue Length 50th (ft)	133	625	12	103	572	206	158	~412	36	202	274	4
Queue Length 95th (ft)	178	723	84	m124	619	277	205	#509	103	#303	#392	97
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	550	2230	922	534	2240	900	542	827	828	395	836	498
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.84	0.44	0.37	0.64	0.41	0.56	1.13	0.63	0.94	0.87	0.56

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 58.3 Intersection LOS: E  
 Intersection Capacity Utilization 91.9% ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1056	190	265	2523	153	360	35	159	56	7	124
Future Volume (vph)	90	1056	190	265	2523	153	360	35	159	56	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.877			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1666	0	1641	1529	0
Flt Permitted	0.045			0.196			0.950			0.950		
Satd. Flow (perm)	81	4848	1568	369	4893	1468	3433	1666	0	1641	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			117		118			119	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	93	1089	196	273	2601	158	371	36	164	58	7	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1089	196	273	2601	158	371	200	0	58	135	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	18.0	77.0	77.0	34.0	93.0	93.0	26.0	26.0		23.0	23.0	
Total Split (%)	11.3%	48.1%	48.1%	21.3%	58.1%	58.1%	16.3%	16.3%		14.4%	14.4%	
Maximum Green (s)	11.2	70.2	70.2	27.2	86.2	86.2	19.3	19.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	101.0	90.1	90.1	111.3	95.9	95.9	20.5	22.3		12.5	11.7	
Actuated g/C Ratio	0.63	0.56	0.56	0.70	0.60	0.60	0.13	0.14		0.08	0.07	
v/c Ratio	0.57	0.40	0.20	0.67	0.89	0.17	0.85	0.60		0.45	0.61	
Control Delay	39.7	40.6	18.7	15.6	34.7	7.7	85.9	35.3		80.9	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
 2: Whippoorwill Ln & Pine Ridge Rd

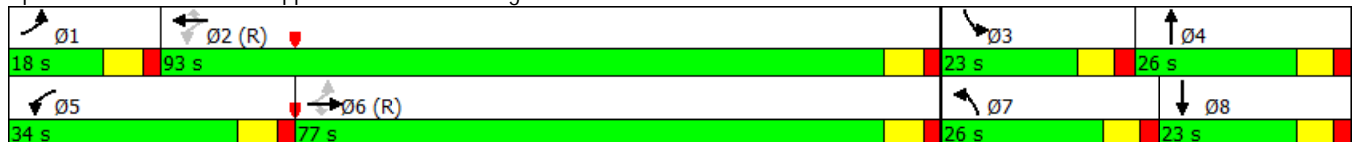
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	39.7	40.6	18.7	15.6	34.7	7.7	85.9	35.3		80.9	26.9	
LOS	D	D	B	B	C	A	F	D		F	C	
Approach Delay		37.4			31.6			68.2			43.1	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	57	412	76	121	880	39	198	83		59	16	
Queue Length 95th (ft)	m110	476	m157	m183	m#1027	m63	#274	172		107	86	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	183	2728	968	513	2931	926	446	346		182	275	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.40	0.20	0.53	0.89	0.17	0.83	0.58		0.32	0.49	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 159 (99%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 37.6 Intersection LOS: D  
 Intersection Capacity Utilization 90.4% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2406	310	170	1616	133	301	20	240	175	10	110
Future Volume (vph)	225	2406	310	170	1616	133	301	20	240	175	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.862			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1608	0	1687	1594	0
Flt Permitted	0.077			0.047			0.950			0.950		
Satd. Flow (perm)	141	5036	1599	88	5036	1553	3467	1608	0	1687	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			213			117		199			115	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	234	2506	323	177	1683	139	314	21	250	182	10	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	2506	323	177	1683	139	314	271	0	182	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	30.0	88.0	88.0	25.0	83.0	83.0	24.0	24.0		23.0	23.0	
Total Split (%)	18.8%	55.0%	55.0%	15.6%	51.9%	51.9%	15.0%	15.0%		14.4%	14.4%	
Maximum Green (s)	23.2	81.2	81.2	18.2	76.2	76.2	17.3	17.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	111.1	90.1	90.1	102.1	85.6	85.6	18.3	14.6		17.8	14.0	
Actuated g/C Ratio	0.69	0.56	0.56	0.64	0.54	0.54	0.11	0.09		0.11	0.09	
v/c Ratio	0.76	0.88	0.33	0.77	0.62	0.16	0.79	0.83		0.97	0.51	
Control Delay	65.0	20.6	1.3	65.9	29.5	7.9	83.8	40.9		128.2	20.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.0	20.6	1.3	65.9	29.5	7.9	83.8	40.9		128.2	20.8	
LOS	E	C	A	E	C	A	F	D		F	C	
Approach Delay		22.0			31.2			63.9			84.5	
Approach LOS		C			C			E			F	
Queue Length 50th (ft)	142	854	17	121	668	26	167	73		193	10	
Queue Length 95th (ft)	m198	#941	m24	m206	723	m51	223	183		#356	76	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	344	2835	993	264	2694	885	407	364		187	279	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.68	0.88	0.33	0.67	0.62	0.16	0.77	0.74		0.97	0.45	

Intersection Summary













Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 36 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 32.4 Intersection LOS: C  
 Intersection Capacity Utilization 99.0% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd

Ø1	Ø2 (R)	Ø3	Ø4
30 s	83 s	23 s	24 s
Ø5	Ø6 (R)	Ø7	Ø8
25 s	88 s	24 s	23 s

Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖		↗
Traffic Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Future Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.224						0.950		
Satd. Flow (perm)	0	4848	1568	409	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			353									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				32.0								
Total Split (%)				20.0%								
Maximum Green (s)				25.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		74.7	74.7	101.4	106.7					42.7		42.7
Actuated g/C Ratio		0.47	0.47	0.63	0.67					0.27		0.27
v/c Ratio		0.43	0.38	0.45	0.70					0.37		0.99
Control Delay		39.5	22.9	27.7	24.0					49.3		78.0
Queue Delay		0.0	0.0	0.0	0.2					0.0		0.0
Total Delay		39.5	22.9	27.7	24.2					49.3		78.0
LOS		D	C	C	C					D		E
Approach Delay		35.1			24.5						69.9	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	37.0	43.0	21.0	27.0
Total Split (%)	23%	27%	13%	17%
Maximum Green (s)	30.2	36.2	14.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				



Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

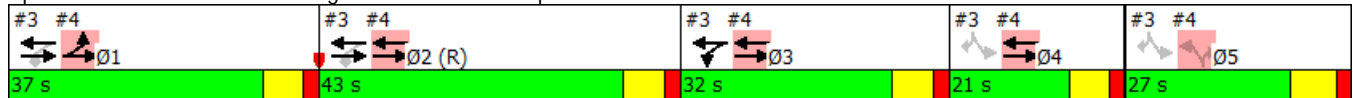
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			E					
Queue Length 50th (ft)		341	237	108	526					138		413
Queue Length 95th (ft)		402	335	m114	m553					185		#571
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2263	920	480	3294					841		796
Starvation Cap Reductn		0	0	0	237					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.43	0.38	0.45	0.75					0.37		0.99

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 37.4  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖↗		↖↗
Traffic Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Future Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			317									127
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				23.0								
Total Split (%)				14.4%								
Maximum Green (s)				16.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		85.2	85.2	102.9	108.2					41.2		41.2
Actuated g/C Ratio		0.53	0.53	0.64	0.68					0.26		0.26
v/c Ratio		0.93	0.47	0.53	0.40					0.61		0.79
Control Delay		33.2	11.5	59.7	20.6					55.9		52.0
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		33.2	11.5	59.7	20.6					55.9		52.0
LOS		C	B	E	C					E		D
Approach Delay		29.8			24.0							53.7

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	60.0	30.0	20.0	27.0
Total Split (%)	38%	19%	13%	17%
Maximum Green (s)	53.2	23.2	13.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						D	
Queue Length 50th (ft)		477	101	80	346					254		292
Queue Length 95th (ft)		m579	m172	m118	399					318		377
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2681	983	242	3405					877		820
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.93	0.47	0.53	0.40					0.61		0.78

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 33.2  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D  
 m Volume for 95th percentile queue is metered by upstream signal.


















Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp

#3 #4	#3 #4	#3 #4	#3 #4	#3 #4
60 s	30 s	23 s	20 s	27 s

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Future Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.969				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					67				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	399	898	0	0	2120	550	418	0	130	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	898	0	0	2670	0	418	0	130	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	37.0						27.0		27.0			
Total Split (%)	23.1%						16.9%		16.9%			
Maximum Green (s)	30.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	31.7	127.7			90.7		21.0		21.0			
Actuated g/C Ratio	0.20	0.80			0.57		0.13		0.13			
v/c Ratio	0.63	0.23			0.97		0.96		0.37			
Control Delay	76.7	4.6			28.3		101.4		6.1			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	76.7	4.6			28.3		101.4		6.1			
LOS	E	A			C		F		A			
Approach Delay		26.8			28.3				78.8			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	43.0	32.0	21.0
Total Split (%)	27%	20%	13%
Maximum Green (s)	36.2	25.2	14.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C				C				E		
Queue Length 50th (ft)	179	79			399		227		0			
Queue Length 95th (ft)	236	91			m394		#336		30			
Internal Link Dist (ft)		931				1187				698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	630	3833				2742				355		
Starvation Cap Reductn	0	0				0				0		
Spillback Cap Reductn	0	0				0				0		
Storage Cap Reductn	0	0				0				0		
Reduced v/c Ratio	0.63	0.23				0.97				0.37		

### Intersection Summary


















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 34.0 Intersection LOS: C  
 Intersection Capacity Utilization 85.8% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd

37 s	43 s	32 s	21 s	27 s

Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Future Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.961				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					69				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	686	2276	0	0	1142	405	319	0	151	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	2276	0	0	1547	0	319	0	151	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	60.0						27.0		27.0			
Total Split (%)	37.5%						16.9%		16.9%			
Maximum Green (s)	53.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	55.2	128.2			67.7		20.5		20.5			
Actuated g/C Ratio	0.34	0.80			0.42		0.13		0.13			
v/c Ratio	0.60	0.56			0.74		0.73		0.43			
Control Delay	50.5	3.1			41.8		77.4		10.4			
Queue Delay	0.0	0.2			0.0		0.0		0.0			
Total Delay	50.5	3.4			41.8		77.4		10.4			
LOS	D	A			D		E		B			
Approach Delay		14.3			41.8				55.8			



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	30.0	23.0	20.0
Total Split (%)	19%	14%	13%
Maximum Green (s)	23.2	16.2	13.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

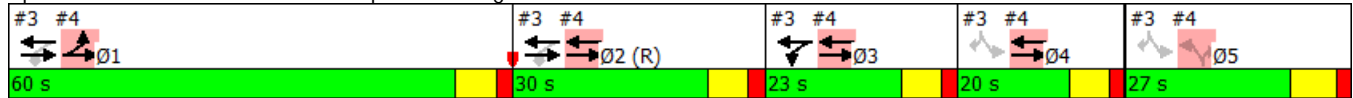
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			D			E					
Queue Length 50th (ft)	262	151			284		167		0			
Queue Length 95th (ft)	m297	158			597		222		55			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	1151	4035			2097		450		353			
Starvation Cap Reductn	0	848			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.60	0.71			0.74		0.71		0.43			

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 26.8 Intersection LOS: C  
 Intersection Capacity Utilization 80.1% ICU Level of Service D  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.


























Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Future Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.974			0.962	
Satd. Flow (prot)	3433	4618	0	1805	4893	1524	0	1739	0	0	1732	1568
Flt Permitted	0.950			0.950				0.840			0.762	
Satd. Flow (perm)	3433	4618	0	1805	4893	1524	0	1500	0	0	1372	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				163		7				119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	334	663	41	19	2223	217	24	11	10	34	9	452
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	704	0	19	2223	217	0	45	0	0	43	452
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	23.0	118.0		15.0	110.0	110.0	27.0	27.0		27.0	27.0	27.0
Total Split (%)	14.4%	73.8%		9.4%	68.8%	68.8%	16.9%	16.9%		16.9%	16.9%	16.9%
Maximum Green (s)	16.2	111.2		8.2	103.2	103.2	20.1	20.1		20.1	20.1	20.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	17.7	116.4		9.0	102.2	102.2		24.1			24.1	24.1
Actuated g/C Ratio	0.11	0.73		0.06	0.64	0.64		0.15			0.15	0.15
v/c Ratio	0.88	0.21		0.19	0.71	0.21		0.19			0.21	1.34
Control Delay	115.2	1.3		76.3	20.5	3.4		55.1			64.5	207.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	115.2	1.3		76.3	20.5	3.4		55.1			64.5	207.9
LOS	F	A		E	C	A		E			E	F
Approach Delay		37.9			19.4			55.1			195.4	
Approach LOS		D			B			E			F	
Queue Length 50th (ft)	162	8		19	511	19		36			41	-528
Queue Length 95th (ft)	#250	16		49	558	51		78			83	#756
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	379	3364		109	3201	1053		231			206	337
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.88	0.21		0.17	0.69	0.21		0.19			0.21	1.34

Intersection Summary





















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 97 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.34  
 Intersection Signal Delay: 46.2 Intersection LOS: D  
 Intersection Capacity Utilization 86.0% ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Future Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.970			0.958	
Satd. Flow (prot)	3467	5028	0	1805	4988	1599	0	1784	0	0	1773	1599
Flt Permitted	0.950			0.950				0.673			0.709	
Satd. Flow (perm)	3467	5028	0	1805	4988	1599	0	1238	0	0	1312	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				119		9				310
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	374	2055	33	7	1060	106	41	10	16	107	14	459
Shared Lane Traffic (%)												
Lane Group Flow (vph)	374	2088	0	7	1060	106	0	67	0	0	121	459
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	38.0	96.0		24.0	82.0	82.0	40.0	40.0		40.0	40.0	40.0
Total Split (%)	23.8%	60.0%		15.0%	51.3%	51.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	31.2	89.2		17.2	75.2	75.2	33.1	33.1		33.1	33.1	33.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	24.0	121.0		8.6	94.6	94.6		25.4			25.4	25.4
Actuated g/C Ratio	0.15	0.76		0.05	0.59	0.59		0.16			0.16	0.16
v/c Ratio	0.72	0.55		0.07	0.36	0.11		0.33			0.58	0.89
Control Delay	81.6	8.0		73.6	18.9	2.6		53.1			71.9	40.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

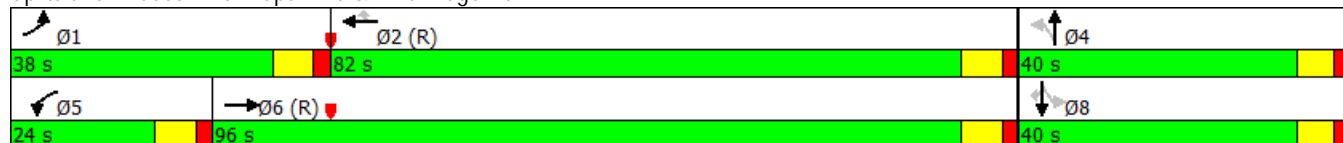
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.6	8.0		73.6	18.9	2.6		53.1			71.9	40.7
LOS	F	A		E	B	A		D			E	D
Approach Delay		19.2			17.8			53.1			47.2	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	203	12		7	206	0		54			118	167
Queue Length 95th (ft)	228	864		26	291	25		100			180	304
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	708	3802		210	2948	993		274			283	588
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.53	0.55		0.03	0.36	0.11		0.24			0.43	0.78

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 116 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 23.1  
 Intersection Capacity Utilization 68.3%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service C

### Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	76	88	1018	36	19	1546
Future Vol, veh/h	76	88	1018	36	19	1546
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	4	20	0	4
Mvmt Flow	81	94	1083	38	20	1645

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	1781	541	0	0	1083
Stage 1	1083	-	-	-	-
Stage 2	698	-	-	-	-
Critical Hdwy	5.86	7.1	-	-	5.3
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.16	-	-	-	-
Follow-up Hdwy	3.88	3.9	-	-	3.1
Pot Cap-1 Maneuver	115	420	-	-	363
Stage 1	206	-	-	-	-
Stage 2	400	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	109	420	-	-	363
Mov Cap-2 Maneuver	109	-	-	-	-
Stage 1	206	-	-	-	-
Stage 2	378	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	54.9	0	0.2
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	109	420	363	-
HCM Lane V/C Ratio	-	-	0.742	0.223	0.056	-
HCM Control Delay (s)	-	-	99.9	16	15.5	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	4	0.8	0.2	-

HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

Intersection						
Int Delay, s/veh	7.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	61	45	1478	71	58	1048
Future Vol, veh/h	61	45	1478	71	58	1048
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	4
Mvmt Flow	65	48	1572	76	62	1115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2141	786	0	0	1572
Stage 1	1572	-	-	-	-
Stage 2	569	-	-	-	-
Critical Hdwy	5.7	7.14	-	-	5.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-
Follow-up Hdwy	3.8	3.92	-	-	3.1
Pot Cap-1 Maneuver	81	288	-	-	209
Stage 1	109	-	-	-	-
Stage 2	488	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 57	288	-	-	209
Mov Cap-2 Maneuver	~ 57	-	-	-	-
Stage 1	109	-	-	-	-
Stage 2	343	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	170.7	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	57	288	209
HCM Lane V/C Ratio	-	-	1.138	0.166	0.295
HCM Control Delay (s)	-	-	281.9	20	29.3
HCM Lane LOS	-	-	F	C	D
HCM 95th %tile Q(veh)	-	-	5.5	0.6	1.2

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



























2021 Future w/Livingston Rd-Marbella Lakes Dr Interconnect and w/Improvements

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	48.2	0.96	D	C	E	E
	PM Peak-Hour	E	D	44.7	0.95	D	C	E	E
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	C	27.2	0.93	B	C	E	D
	PM Peak-Hour	E	C	31.2	0.93	C	B	E	E
Pine Ridge Rd & I-75 SB Ramp	AM Peak-Hour	E	C	24.8	0.87	A	C		D
	PM Peak-Hour	E	C	20.6	0.93	A	C		D
Pine Ridge Rd & I-75 NB Ramp	AM Peak-Hour	E	C	23.2	0.92	C	B	E	
	PM Peak-Hour	E	C	21.3	0.92	B	C	E	
Pine Ridge Rd & Napa Blvd	AM Peak-Hour	E	D	36.3	0.97	D	C	D	E
	PM Peak-Hour	E	C	22.3	0.90	B	B	D	D

1. Delay shown for the worst approach
2. No left-turn movement for approach
3. Left-turn movement level-of-service

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	787	173	415	1908	297	407	689	194	343	903	385
Future Volume (vph)	228	787	173	415	1908	297	407	689	194	343	903	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			265			220			220
Link Speed (mph)		45		45			45			45		45
Link Distance (ft)		1277		2612			1188			1358		
Travel Time (s)		19.3		39.6			18.0			20.6		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	235	811	178	428	1967	306	420	710	200	354	931	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	811	178	428	1967	306	420	710	200	354	931	397
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	17.0	47.1	47.1	34.9	65.0	65.0	25.0	31.8	31.8	26.2	33.0	33.0
Total Split (%)	12.1%	33.6%	33.6%	24.9%	46.4%	46.4%	17.9%	22.7%	22.7%	18.7%	23.6%	23.6%
Maximum Green (s)	9.9	37.3	37.3	27.8	57.8	57.8	17.8	24.6	24.6	16.3	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	11.4	43.0	43.0	25.1	59.3	59.3	19.3	26.3	26.3	17.6	27.3	27.3
Actuated g/C Ratio	0.08	0.31	0.31	0.18	0.42	0.42	0.14	0.19	0.19	0.13	0.20	0.20
v/c Ratio	0.87	0.54	0.29	0.75	0.94	0.38	0.91	0.77	0.29	0.82	0.96	0.82
Control Delay	92.4	42.4	4.6	56.6	30.4	4.9	83.1	60.5	5.3	75.9	75.9	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.4	42.4	4.6	56.6	30.4	4.9	83.1	60.5	5.3	75.9	75.9	38.7
LOS	F	D	A	E	C	A	F	E	A	E	E	D
Approach Delay		46.5			31.7			59.4			67.1	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	110	226	0	179	638	58	197	228	0	163	310	164
Queue Length 95th (ft)	#186	283	42	m182	#706	m58	#292	278	28	#235	#401	#330
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	271	1503	624	666	2092	804	464	920	687	436	972	482
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.54	0.29	0.64	0.94	0.38	0.91	0.77	0.29	0.81	0.96	0.82

Intersection Summary

























Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 73 (52%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 48.2 Intersection LOS: D  
 Intersection Capacity Utilization 91.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1807	393	192	1385	362	294	906	508	360	703	273
Future Volume (vph)	247	1807	393	192	1385	362	294	906	508	360	703	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			323			322			264			164
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	255	1863	405	198	1428	373	303	934	524	371	725	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	1863	405	198	1428	373	303	934	524	371	725	281
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	22.2	65.0	65.0	17.0	59.8	59.8	21.3	33.0	33.0	25.0	36.7	36.7
Total Split (%)	15.9%	46.4%	46.4%	12.1%	42.7%	42.7%	15.2%	23.6%	23.6%	17.9%	26.2%	26.2%
Maximum Green (s)	15.1	55.2	55.2	9.9	52.6	52.6	14.1	25.8	25.8	15.1	29.5	29.5
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	15.6	56.7	56.7	11.4	55.1	55.1	15.5	27.3	27.3	16.6	31.1	31.1
Actuated g/C Ratio	0.11	0.40	0.40	0.08	0.39	0.39	0.11	0.20	0.20	0.12	0.22	0.22
v/c Ratio	0.66	0.91	0.48	0.72	0.72	0.46	0.80	0.95	0.70	0.92	0.65	0.58
Control Delay	68.3	47.3	8.4	78.0	18.8	7.7	77.0	74.6	31.2	89.5	52.8	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.3	47.3	8.4	78.0	18.8	7.7	77.0	74.6	31.2	89.5	52.8	25.1
LOS	E	D	A	E	B	A	E	E	C	F	D	C
Approach Delay	43.2			22.6			62.1			57.0		
Approach LOS	D			C			E			E		
Queue Length 50th (ft)	115	581	46	80	328	94	140	311	127	175	222	93
Queue Length 95th (ft)	162	653	133	m#127	441	m172	#206	#400	201	#270	270	193
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425	325		600	450		550	725	
Base Capacity (vph)	411	2039	839	274	1982	818	382	982	745	403	1109	482
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.91	0.48	0.72	0.72	0.46	0.79	0.95	0.70	0.92	0.65	0.58

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 4 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 44.7 Intersection LOS: D  
 Intersection Capacity Utilization 91.9% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1056	190	265	2523	153	360	35	159	56	7	124
Future Volume (vph)	90	1056	190	265	2523	153	360	35	159	56	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.877			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1666	0	1641	1529	0
Flt Permitted	0.056			0.187			0.950			0.950		
Satd. Flow (perm)	101	4848	1568	352	4893	1468	3433	1666	0	1641	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			134		141			94	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	93	1089	196	273	2601	158	371	36	164	58	7	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1089	196	273	2601	158	371	200	0	58	135	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	13.8	67.0	67.0	27.6	80.8	80.8	22.7	28.8		16.6	22.7	
Total Split (%)	9.9%	47.9%	47.9%	19.7%	57.7%	57.7%	16.2%	20.6%		11.9%	16.2%	
Maximum Green (s)	7.0	60.2	60.2	20.8	74.0	74.0	16.0	22.1		9.9	16.0	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	82.9	73.3	73.3	93.8	79.7	79.7	17.5	21.9		10.4	12.2	
Actuated g/C Ratio	0.59	0.52	0.52	0.67	0.57	0.57	0.12	0.16		0.07	0.09	
v/c Ratio	0.55	0.43	0.21	0.68	0.93	0.18	0.86	0.53		0.48	0.62	
Control Delay	54.4	12.6	5.2	21.2	27.5	4.1	80.2	23.1		75.2	33.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

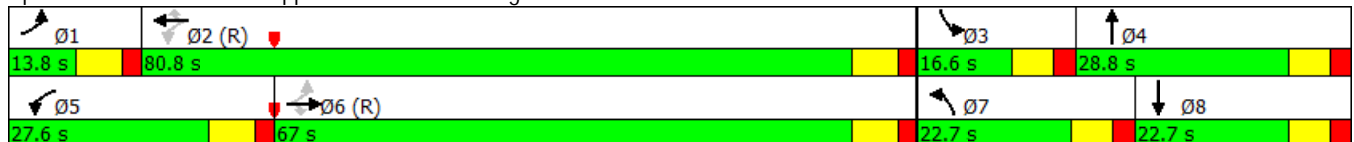
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	54.4	12.6	5.2	21.2	27.5	4.1	80.2	23.1		75.2	33.5	
LOS	D	B	A	C	C	A	F	C		E	C	
Approach Delay		14.3			25.7			60.2			46.0	
Approach LOS		B			C			E			D	
Queue Length 50th (ft)	27	236	46	108	504	11	173	50		51	36	
Queue Length 95th (ft)	m83	294	m119	m178	#960	m26	#257	127		100	103	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	170	2537	914	466	2784	893	429	417		133	273	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.55	0.43	0.21	0.59	0.93	0.18	0.86	0.48		0.44	0.49	

Intersection Summary























Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 137 (98%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 27.2 Intersection LOS: C  
 Intersection Capacity Utilization 90.4% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2406	310	170	1616	133	301	20	240	175	10	110
Future Volume (vph)	225	2406	310	170	1616	133	301	20	240	175	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.862			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1608	0	1687	1594	0
Flt Permitted	0.063			0.060			0.950			0.950		
Satd. Flow (perm)	115	5036	1599	112	5036	1553	3467	1608	0	1687	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248			187		138			115	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	234	2506	323	177	1683	139	314	21	250	182	10	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	2506	323	177	1683	139	314	271	0	182	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	26.4	79.0	79.0	16.0	68.6	68.6	21.0	23.0		22.0	24.0	
Total Split (%)	18.9%	56.4%	56.4%	11.4%	49.0%	49.0%	15.0%	16.4%		15.7%	17.1%	
Maximum Green (s)	19.6	72.2	72.2	9.2	61.8	61.8	14.3	16.3		15.3	17.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	90.4	74.6	74.6	78.4	67.0	67.0	15.7	16.2		16.8	17.3	
Actuated g/C Ratio	0.65	0.53	0.53	0.56	0.48	0.48	0.11	0.12		0.12	0.12	
v/c Ratio	0.80	0.93	0.33	0.90	0.70	0.17	0.81	0.88		0.90	0.42	
Control Delay	49.4	31.2	3.9	87.9	11.1	1.2	77.3	57.9		102.3	16.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

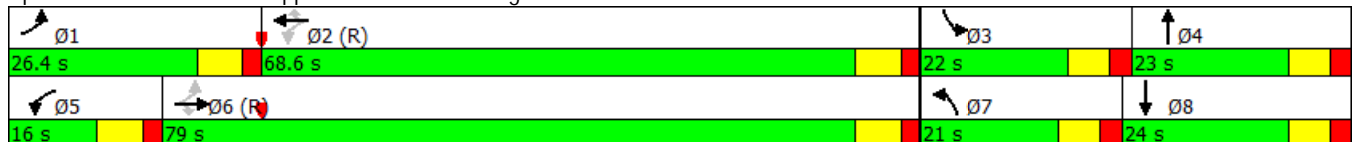
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	49.4	31.2	3.9	87.9	11.1	1.2	77.3	57.9		102.3	16.0	
LOS	D	C	A	F	B	A	E	E		F	B	
Approach Delay		29.7			17.2			68.3			67.2	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	122	829	58	110	214	4	145	122		166	8	
Queue Length 95th (ft)	m172	888	m65	m#230	304	m8	#214	#271		#311	69	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	318	2685	968	197	2410	840	391	324		202	313	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.74	0.93	0.33	0.90	0.70	0.17	0.80	0.84		0.90	0.40	

Intersection Summary













Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 74 (53%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 31.2 Intersection LOS: C  
 Intersection Capacity Utilization 99.0% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Future Volume (vph)	0	920	335	205	2193	0	0	0	0	297	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4848	1568	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.240						0.950		
Satd. Flow (perm)	0	4848	1568	438	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			353									136
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	968	353	216	2308	0	0	0	0	313	0	787
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				14.0								
Total Split (%)				10.0%								
Maximum Green (s)				7.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		72.7	72.7	81.4	86.7					42.7		42.7
Actuated g/C Ratio		0.52	0.52	0.58	0.62					0.30		0.30
v/c Ratio		0.38	0.36	0.64	0.75					0.33		0.87
Control Delay		7.2	1.0	31.2	24.9					38.7		49.4
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		7.2	1.0	31.2	24.9					38.7		49.4
LOS		A	A	C	C					D		D
Approach Delay		5.5			25.4							46.3

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	26.0	52.0	23.0	25.0
Total Split (%)	19%	37%	16%	18%
Maximum Green (s)	19.2	45.2	16.2	17.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

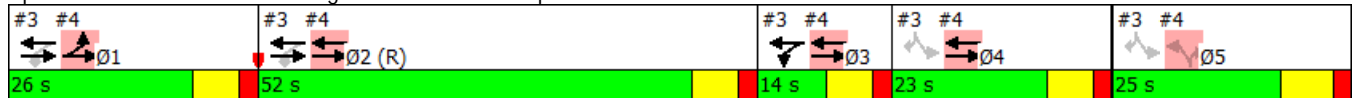
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C						D	
Queue Length 50th (ft)		52	1	97	487					113		328
Queue Length 95th (ft)		86	0	m115	543					156		#448
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2517	983	335	3059					962		904
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.38	0.36	0.64	0.75					0.33		0.87

Intersection Summary













Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 17 (12%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 24.8  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Future Volume (vph)	0	2363	441	122	1302	0	0	0	0	505	0	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			439									140
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2487	464	128	1371	0	0	0	0	532	0	641
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				12.0								
Total Split (%)				8.6%								
Maximum Green (s)				5.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		85.7	85.7	92.4	97.7					31.7		31.7
Actuated g/C Ratio		0.61	0.61	0.66	0.70					0.23		0.23
v/c Ratio		0.81	0.41	0.93	0.39					0.70		0.87
Control Delay		5.4	0.4	96.8	18.7					55.4		53.8
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		5.4	0.4	96.8	18.7					55.4		53.8
LOS		A	A	F	B					E		D
Approach Delay		4.7			25.4						54.5	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	58.0	33.0	16.8	20.2
Total Split (%)	41%	24%	12%	14%
Maximum Green (s)	51.2	26.2	10.0	12.7
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			C			D					
Queue Length 50th (ft)		108	0	75	334					231		258
Queue Length 95th (ft)		118	m0	m#126	m391					296		#367
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		3082	1130	138	3514					762		739
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.81	0.41	0.93	0.39					0.70		0.87

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 20.6

Intersection LOS: C

Intersection Capacity Utilization 80.1%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.


















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

### Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp

Phase	Duration
#3 #4 (Ø1)	58 s
#3 #4 (Ø2 (R))	33 s
#3 #4 (Ø3)	12 s
#3 #4 (Ø4)	16.8 s
#3 #4 (Ø5)	20.2 s

Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Future Volume (vph)	375	844	0	0	1993	517	393	0	122	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.969				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4787	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					82				189			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	399	898	0	0	2120	550	418	0	130	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	898	0	0	2670	0	418	0	130	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	26.0						25.0		25.0			
Total Split (%)	18.6%						17.9%		17.9%			
Maximum Green (s)	19.2						17.5		17.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	20.7	109.7			83.7		19.0		19.0			
Actuated g/C Ratio	0.15	0.78			0.60		0.14		0.14			
v/c Ratio	0.85	0.24			0.92		0.92		0.34			
Control Delay	89.1	4.6			10.6		86.7		3.6			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	89.1	4.6			10.6		86.7		3.6			
LOS	F	A			B		F		A			
Approach Delay		30.6			10.6				67.0			



Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	52.0	14.0	23.0
Total Split (%)	37%	10%	16%
Maximum Green (s)	45.2	7.2	16.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

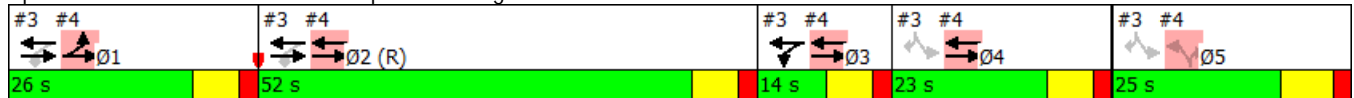
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			E					
Queue Length 50th (ft)	197	68			133		196		0			
Queue Length 95th (ft)	#273	79			m141		#295		11			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	470	3763			2894		452		382			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.85	0.24			0.92		0.92		0.34			

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 17 (12%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 23.2  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 					
Traffic Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Future Volume (vph)	665	2208	0	0	1108	393	309	0	146	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.961				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4862	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					77				189			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	686	2276	0	0	1142	405	319	0	151	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	2276	0	0	1547	0	319	0	151	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	58.0						20.2		20.2			
Total Split (%)	41.4%						14.4%		14.4%			
Maximum Green (s)	51.2						12.7		12.7			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	52.7	114.5			56.5		14.2		14.2			
Actuated g/C Ratio	0.38	0.82			0.40		0.10		0.10			
v/c Ratio	0.55	0.55			0.77		0.92		0.45			
Control Delay	40.6	1.8			28.0		93.0		7.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	40.6	1.8			28.0		93.0		7.7			
LOS	D	A			C		F		A			
Approach Delay		10.8			28.0				65.6			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	33.0	12.0	16.8
Total Split (%)	24%	9%	12%
Maximum Green (s)	26.2	5.2	10.0
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

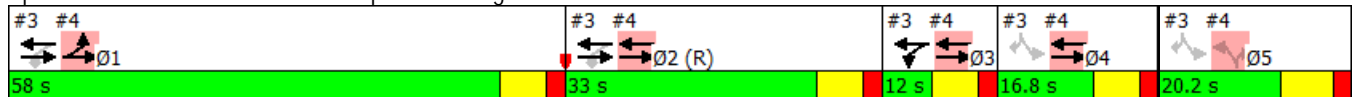
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			E					
Queue Length 50th (ft)	240	104			213		151		0			
Queue Length 95th (ft)	290	73			282		#240		34			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	1255	4118			2008		348		332			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.55	0.55			0.77		0.92		0.45			

Intersection Summary





















Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 21.3  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Future Volume (vph)	311	617	38	18	2067	202	22	10	9	32	8	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.974			0.962	
Satd. Flow (prot)	3433	4618	0	1805	4893	1524	0	1739	0	0	1732	1568
Flt Permitted	0.950			0.950				0.858			0.786	
Satd. Flow (perm)	3433	4618	0	1805	4893	1524	0	1532	0	0	1415	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				138		10				136
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	334	663	41	19	2223	217	24	11	10	34	9	452
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	704	0	19	2223	217	0	45	0	0	43	452
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	22.0	88.0		13.8	79.8	79.8	38.2	38.2		38.2	38.2	38.2
Total Split (%)	15.7%	62.9%		9.9%	57.0%	57.0%	27.3%	27.3%		27.3%	27.3%	27.3%
Maximum Green (s)	15.2	81.2		7.0	73.0	73.0	31.3	31.3		31.3	31.3	31.3
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	16.6	88.6		8.5	75.0	75.0		32.4			32.4	32.4
Actuated g/C Ratio	0.12	0.63		0.06	0.54	0.54		0.23			0.23	0.23
v/c Ratio	0.82	0.24		0.17	0.85	0.25		0.12			0.13	0.97
Control Delay	75.3	17.2		66.4	31.7	7.1		35.6			43.8	71.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	75.3	17.2		66.4	31.7	7.1		35.6			43.8	71.4
LOS	E	B		E	C	A		D			D	E
Approach Delay		35.9			29.8			35.6			69.0	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)	165	108		17	617	34		25			31	304
Queue Length 95th (ft)	#231	166		45	687	80		60			66	#525
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	409	2927		109	2622	880		366			331	471
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.82	0.24		0.17	0.85	0.25		0.12			0.13	0.96

### Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 139 (99%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 36.3 Intersection LOS: D  
 Intersection Capacity Utilization 86.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.





















### Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Future Volume (vph)	359	1973	32	7	1018	102	39	10	15	103	13	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.970			0.958	
Satd. Flow (prot)	3467	5028	0	1805	4988	1599	0	1784	0	0	1773	1599
Flt Permitted	0.950			0.950				0.769			0.719	
Satd. Flow (perm)	3467	5028	0	1805	4988	1599	0	1414	0	0	1331	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				136		10				247
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	374	2055	33	7	1060	106	41	10	16	107	14	459
Shared Lane Traffic (%)												
Lane Group Flow (vph)	374	2088	0	7	1060	106	0	67	0	0	121	459
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	28.4	89.5		13.9	75.0	75.0	36.6	36.6		36.6	36.6	36.6
Total Split (%)	20.3%	63.9%		9.9%	53.6%	53.6%	26.1%	26.1%		26.1%	26.1%	26.1%
Maximum Green (s)	21.6	82.7		7.1	68.2	68.2	29.7	29.7		29.7	29.7	29.7
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	20.9	99.1		8.5	75.7	75.7		27.4			27.4	27.4
Actuated g/C Ratio	0.15	0.71		0.06	0.54	0.54		0.20			0.20	0.20
v/c Ratio	0.72	0.59		0.06	0.39	0.11		0.24			0.47	0.90
Control Delay	69.8	8.0		63.4	20.4	1.5		40.2			54.5	45.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.8	8.0		63.4	20.4	1.5		40.2			54.5	45.6
LOS	E	A		E	C	A		D			D	D
Approach Delay		17.4			19.0			40.2			47.4	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	157	131		6	213	0		43			96	199
Queue Length 95th (ft)	233	288		23	258	17		87			160	#381
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	572	3560		110	2720	933		329			302	554
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.65	0.59		0.06	0.39	0.11		0.20			0.40	0.83

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 2 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 22.3 Intersection LOS: C  
 Intersection Capacity Utilization 68.3% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



























**2040 Future w/Livingston Rd-Marbella Lakes Dr Interconnect**

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	<b>F</b>	<b>94.8</b>	<b>1.32</b>	D	E	<b>F</b>	<b>F</b>
	PM Peak-Hour	E	<b>F</b>	<b>84.0</b>	<b>1.37</b>	E	D	<b>F</b>	<b>F</b>
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	E	71.4	<b>1.10</b>	D	E	<b>F</b>	E
	PM Peak-Hour	E	<b>F</b>	<b>104.8</b>	<b>2.22</b>	<b>F</b>	D	<b>F</b>	<b>F</b>
Pine Ridge Rd & I-75 SB Ramp	AM Peak-Hour	E	E	58.8	<b>1.31</b>	C	C		<b>F</b>
	PM Peak-Hour	E	E	71.0	<b>1.14</b>	<b>F</b>	C		E
Pine Ridge Rd & I-75 NB Ramp	AM Peak-Hour	E	<b>F</b>	<b>92.5</b>	<b>1.20</b>	C	<b>F</b>	<b>F</b>	
	PM Peak-Hour	E	D	36.6	0.92	B	E	E	
Pine Ridge Rd & Napa Blvd	AM Peak-Hour	E	E	69.2	1.74	D	C	E	<b>F</b>
	PM Peak-Hour	E	C	34.7	0.98	C	C	E	E
Livingston Rd & Marbella Lakes Dr	AM Peak-Hour	E	n/a	<b>161.0<sup>1</sup></b>	<b>1.30</b>		<b>F</b>	-- <sup>2</sup>	C <sup>3</sup>
	PM Peak-Hour	E	n/a	<b>824.1<sup>1</sup></b>	<b>3.15</b>		<b>F</b>	-- <sup>2</sup>	E <sup>3</sup>

1. Delay shown for the worst approach
2. No left-turn movement for approach
3. Left-turn movement level-of-service

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	502	2305	359	491	833	232	420	1091	465
Future Volume (vph)	276	983	210	502	2305	359	491	833	232	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			234			223			206
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	518	2376	370	506	859	239	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	518	2376	370	506	859	239	433	1125	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	25.0	64.0	64.0	35.0	74.0	74.0	28.0	31.0	31.0	30.0	33.0	33.0
Total Split (%)	15.6%	40.0%	40.0%	21.9%	46.3%	46.3%	17.5%	19.4%	19.4%	18.8%	20.6%	20.6%
Maximum Green (s)	17.9	54.2	54.2	27.9	66.8	66.8	20.8	23.8	23.8	20.1	25.8	25.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.4	56.2	56.2	28.9	69.3	69.3	22.3	25.3	25.3	21.6	27.3	27.3
Actuated g/C Ratio	0.12	0.35	0.35	0.18	0.43	0.43	0.14	0.16	0.16	0.14	0.17	0.17
v/c Ratio	0.74	0.59	0.31	0.90	1.11	0.46	1.08	1.11	0.39	0.94	1.32	1.09
Control Delay	80.8	44.3	5.4	82.7	80.0	3.6	126.8	126.9	10.7	96.1	202.1	104.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

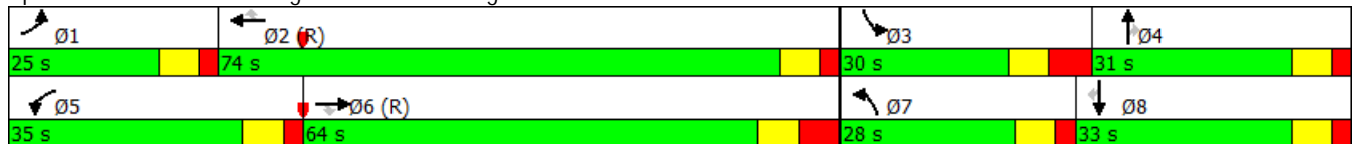
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.8	44.3	5.4	82.7	80.0	3.6	126.8	126.9	10.7	96.1	202.1	104.2
LOS	F	D	A	F	F	A	F	F	B	F	F	F
Approach Delay	45.6			71.8			109.6			156.6		
Approach LOS	D			E			F			F		
Queue Length 50th (ft)	150	319	0	261	~1039	25	~303	~374	7	234	~555	~374
Queue Length 95th (ft)	203	369	59	m238	m#895	m19	#423	#469	53	#339	#653	#607
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	404	1719	696	584	2138	798	469	773	615	463	851	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.59	0.31	0.89	1.11	0.46	1.08	1.11	0.39	0.94	1.32	1.09

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.32  
 Intersection Signal Delay: 94.8 Intersection LOS: F  
 Intersection Capacity Utilization 106.4% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	221	1674	437	356	1095	611	436	849	330
Future Volume (vph)	298	2183	475	221	1674	437	356	1095	611	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			366			334			451			267
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	228	1726	451	367	1129	630	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	228	1726	451	367	1129	630	449	875	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	31.0	70.0	70.0	31.0	70.0	70.0	31.0	32.0	32.0	27.0	28.0	28.0
Total Split (%)	19.4%	43.8%	43.8%	19.4%	43.8%	43.8%	19.4%	20.0%	20.0%	16.9%	17.5%	17.5%
Maximum Green (s)	23.9	60.2	60.2	23.9	62.8	62.8	23.8	24.8	24.8	17.1	20.8	20.8
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.8	69.5	69.5	17.6	68.9	68.9	22.9	26.3	26.3	18.6	24.7	24.7
Actuated g/C Ratio	0.13	0.43	0.43	0.11	0.43	0.43	0.14	0.16	0.16	0.12	0.15	0.15
v/c Ratio	0.68	1.03	0.54	0.62	0.80	0.52	0.75	1.37	0.76	1.14	1.14	0.72
Control Delay	74.1	71.0	10.6	53.4	47.7	22.0	75.6	219.7	24.4	148.5	135.0	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

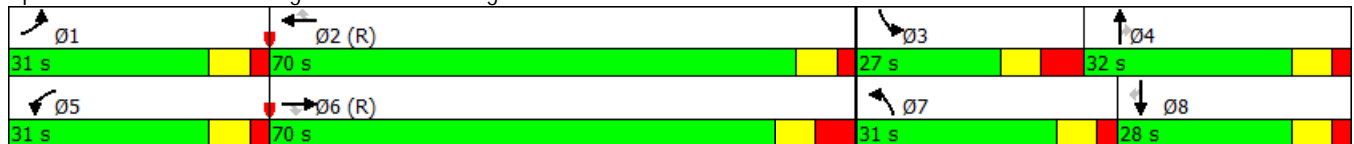
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.1	71.0	10.6	53.4	47.7	22.0	75.6	219.7	24.4	148.5	135.0	24.7
LOS	E	E	B	D	D	C	E	F	C	F	F	C
Approach Delay	61.6			43.4			136.9			116.1		
Approach LOS	E			D			F			F		
Queue Length 50th (ft)	160	-918	83	107	683	233	191	-567	103	-280	-400	70
Queue Length 95th (ft)	208	#1058	203	m123	m706	m337	247	#665	187	#396	#513	198
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	550	2187	901	534	2167	871	542	827	826	395	770	472
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	1.03	0.54	0.43	0.80	0.52	0.68	1.37	0.76	1.14	1.14	0.72

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 84.0 Intersection LOS: F  
 Intersection Capacity Utilization 105.4% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1276	331	445	2966	228	436	54	192	82	13	185
Future Volume (vph)	138	1276	331	445	2966	228	436	54	192	82	13	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.883			0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	3433	1678	0	1641	1533	0
Flt Permitted	0.056			0.114			0.950			0.950		
Satd. Flow (perm)	101	4848	1568	214	4893	1468	3433	1678	0	1641	1533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			341			117		91			116	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	142	1315	341	459	3058	235	449	56	198	85	13	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1315	341	459	3058	235	449	254	0	85	204	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	18.0	77.0	77.0	34.0	93.0	93.0	26.0	26.0		23.0	23.0	
Total Split (%)	11.3%	48.1%	48.1%	21.3%	58.1%	58.1%	16.3%	16.3%		14.4%	14.4%	
Maximum Green (s)	11.2	70.2	70.2	27.2	86.2	86.2	19.3	19.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	84.0	71.7	71.7	108.3	90.6	90.6	20.8	21.5		14.6	15.2	
Actuated g/C Ratio	0.52	0.45	0.45	0.68	0.57	0.57	0.13	0.13		0.09	0.10	
v/c Ratio	0.80	0.61	0.38	1.02	1.10	0.27	1.01	0.84		0.57	0.82	
Control Delay	60.9	57.9	22.7	64.2	84.2	10.1	112.0	65.9		84.2	54.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

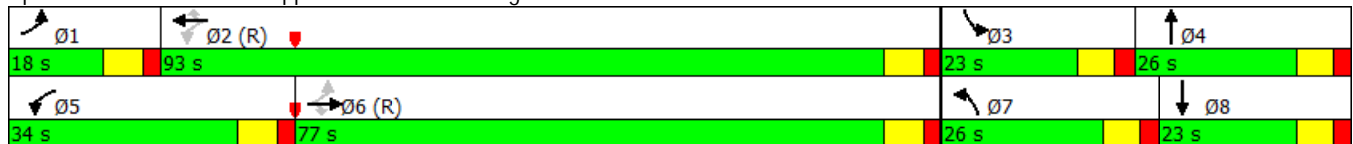
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.9	57.9	22.7	64.2	84.2	10.1	112.0	65.9		84.2	54.4	
LOS	E	E	C	E	F	B	F	E		F	D	
Approach Delay		51.5			77.1			95.3			63.1	
Approach LOS		D			E			F			E	
Queue Length 50th (ft)	100	512	162	~422	~1370	74	~247	170		87	91	
Queue Length 95th (ft)	m#182	m564	m234	m#490	m#1261	m80	#368	#328		146	#205	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	183	2172	890	452	2771	882	446	304		182	273	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.78	0.61	0.38	1.02	1.10	0.27	1.01	0.84		0.47	0.75	

### Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 159 (99%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 71.4      Intersection LOS: E  
 Intersection Capacity Utilization 107.0%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
   Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
   Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd





Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	2748	396	204	1907	266	469	45	365	398	24	253
Future Volume (vph)	454	2748	396	204	1907	266	469	45	365	398	24	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	50			50			50			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.867			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	3467	1618	0	1687	1596	0
Flt Permitted	0.048			0.051			0.950			0.950		
Satd. Flow (perm)	88	5036	1599	95	5036	1553	3467	1618	0	1687	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238			133		181			182	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	473	2863	413	213	1986	277	489	47	380	415	25	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	2863	413	213	1986	277	489	427	0	415	289	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	1	6	6	5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7		11.7	22.7	
Total Split (s)	30.0	88.0	88.0	25.0	83.0	83.0	24.0	24.0		23.0	23.0	
Total Split (%)	18.8%	55.0%	55.0%	15.6%	51.9%	51.9%	15.0%	15.0%		14.4%	14.4%	
Maximum Green (s)	23.2	81.2	81.2	18.2	76.2	76.2	17.3	17.3		16.3	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2		5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	107.5	83.8	83.8	96.3	77.7	77.7	18.8	18.8		17.8	17.8	
Actuated g/C Ratio	0.67	0.52	0.52	0.60	0.49	0.49	0.12	0.12		0.11	0.11	
v/c Ratio	1.51	1.09	0.43	0.85	0.81	0.34	1.20	1.22		2.22	0.85	
Control Delay	280.8	65.8	1.9	75.2	36.0	11.6	168.9	154.9		594.9	48.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	280.8	65.8	1.9	75.2	36.0	11.6	168.9	154.9		594.9	48.3	
LOS	F	E	A	E	D	B	F	F		F	D	
Approach Delay		85.9			36.7			162.4			370.5	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	~632	~1240	34	164	799	88	~318	~371		~696	114	
Queue Length 95th (ft)	m#661	m#1187	m19	m226	m819	m120	#438	#595		#917	#277	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	313	2636	950	264	2445	822	407	349		187	339	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.51	1.09	0.43	0.81	0.81	0.34	1.20	1.22		2.22	0.85	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 36 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 2.22  
 Intersection Signal Delay: 104.8 Intersection LOS: F  
 Intersection Capacity Utilization 128.9% ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd

Ø1	Ø2 (R)	Ø3	Ø4
30 s	83 s	23 s	24 s
Ø5	Ø6 (R)	Ø7	Ø8
25 s	88 s	24 s	23 s

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↵	↑↑↑					↵↵		↵↵
Traffic Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Future Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt		0.960										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4700	0	1736	4940	0	0	0	0	3155	0	2656
Flt Permitted				0.075						0.950		
Satd. Flow (perm)	0	4700	0	137	4940	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		77										119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1605	0	261	2789	0	0	0	0	416	0	1041
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases				1 2 3						4 5		4 5
Detector Phase		1 2		3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				32.0								
Total Split (%)				20.0%								
Maximum Green (s)				25.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		74.7		101.4	106.7					42.7		42.7
Actuated g/C Ratio		0.47		0.63	0.67					0.27		0.27
v/c Ratio		0.72		0.74	0.85					0.49		1.31
Control Delay		32.1		54.8	26.6					51.9		187.5
Queue Delay		0.0		0.0	1.0					0.0		0.0
Total Delay		32.1		54.8	27.5					51.9		187.5
LOS		C		D	C					D		F
Approach Delay		32.1			29.9						148.8	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	37.0	43.0	21.0	27.0
Total Split (%)	23%	27%	13%	17%
Maximum Green (s)	30.2	36.2	14.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

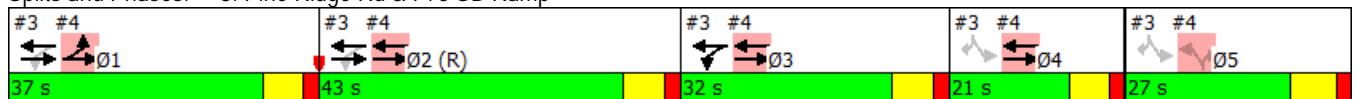
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						F	
Queue Length 50th (ft)		573		170	651					191		-740
Queue Length 95th (ft)		630		m122	m543					246		#893
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)				250								
Base Capacity (vph)		2235		353	3294					841		796
Starvation Cap Reductn		0		0	250					0		0
Spillback Cap Reductn		0		0	0					0		0
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		0.72		0.74	0.92					0.49		1.31

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 58.8  
 Intersection Capacity Utilization 103.5%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G













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

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑		↑↑
Traffic Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Future Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5036	1568	1770	5036	0	0	0	0	3367	0	2787
Flt Permitted				0.047						0.950		
Satd. Flow (perm)	0	5036	1568	88	5036	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			316									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			693				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				23.0								
Total Split (%)				14.4%								
Maximum Green (s)				16.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		84.7	84.7	102.4	107.7					41.7		41.7
Actuated g/C Ratio		0.53	0.53	0.64	0.67					0.26		0.26
v/c Ratio		1.14	0.58	0.64	0.49					0.80		1.05
Control Delay		101.5	17.3	69.9	25.7					63.5		92.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		101.5	17.3	69.9	25.7					63.5		92.1
LOS		F	B	E	C					E		F
Approach Delay		88.3			29.4						79.2	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	60.0	30.0	20.0	27.0
Total Split (%)	38%	19%	13%	17%
Maximum Green (s)	53.2	23.2	13.2	19.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

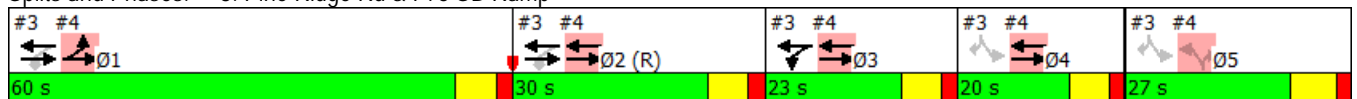
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			C						E	
Queue Length 50th (ft)		~1350	202	108	460					358		~491
Queue Length 95th (ft)		m642	m145	m124	510					436		#641
Internal Link Dist (ft)		1856			931			613			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2665	978	242	3389					877		814
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		1.14	0.58	0.64	0.49					0.80		1.05

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.14  
 Intersection Signal Delay: 71.0 Intersection LOS: E  
 Intersection Capacity Utilization 96.4% ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.


















Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp





Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Future Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.967				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	4803	0	0	4777	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	4803	0	0	4777	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					74				183			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	529	1085	0	0	2561	730	510	0	205	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	529	1085	0	0	3291	0	510	0	205	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	37.0						27.0		27.0			
Total Split (%)	23.1%						16.9%		16.9%			
Maximum Green (s)	30.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	31.7	127.7			90.7		21.0		21.0			
Actuated g/C Ratio	0.20	0.80			0.57		0.13		0.13			
v/c Ratio	0.84	0.28			1.20		1.17		0.55			
Control Delay	86.8	4.9			117.1		155.4		17.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	86.8	4.9			117.1		155.4		17.7			
LOS	F	A			F		F		B			
Approach Delay		31.7			117.1				115.9			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	43.0	32.0	21.0
Total Split (%)	27%	20%	13%
Maximum Green (s)	36.2	25.2	14.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			F			F					
Queue Length 50th (ft)	267	108			~1501		~325		21			
Queue Length 95th (ft)	#333	120			m#1372		#444		105			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	630	3833			2740		437		370			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.84	0.28			1.20		1.17		0.55			

Intersection Summary

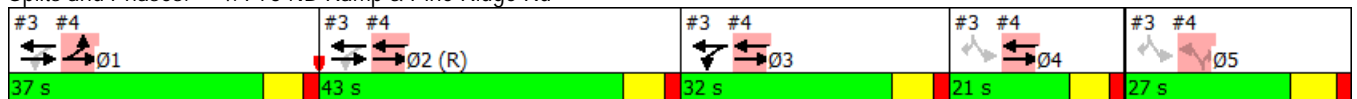
Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 95 (59%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 92.5  
 Intersection Capacity Utilization 103.5%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service G

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

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

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


















Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Future Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.957				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	5036	0	0	4840	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	5036	0	0	4840	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					78				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	909	2772	0	0	1380	551	385	0	181	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	909	2772	0	0	1931	0	385	0	181	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	60.0						27.0		27.0			
Total Split (%)	37.5%						16.9%		16.9%			
Maximum Green (s)	53.2						19.5		19.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	54.7	127.7			67.7		21.0		21.0			
Actuated g/C Ratio	0.34	0.80			0.42		0.13		0.13			
v/c Ratio	0.80	0.69			0.92		0.86		0.51			
Control Delay	53.3	2.9			67.8		86.3		16.8			
Queue Delay	0.0	0.9			0.0		0.0		0.0			
Total Delay	53.3	3.8			67.8		86.3		16.8			
LOS	D	A			E		F		B			
Approach Delay		16.1			67.8				64.0			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	30.0	23.0	20.0
Total Split (%)	19%	14%	13%
Maximum Green (s)	23.2	16.2	13.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

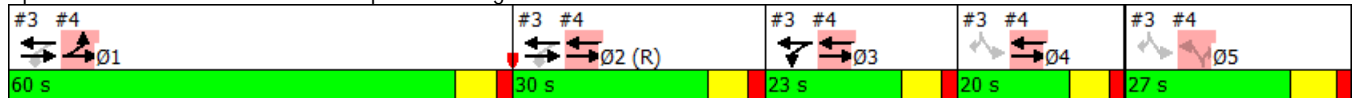
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			E			E					
Queue Length 50th (ft)	374	201			683		206		15			
Queue Length 95th (ft)	m334	m132			m789		#289		93			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	1140	4019			2092		450		353			
Starvation Cap Reductn	0	862			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.80	0.88			0.92		0.86		0.51			

Intersection Summary





















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 78 (49%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.14  
 Intersection Signal Delay: 36.6 Intersection LOS: D  
 Intersection Capacity Utilization 96.4% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	4893	1524	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.803			0.760	
Satd. Flow (perm)	3433	4607	0	1805	4893	1524	0	1435	0	0	1378	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				160		7				119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	2742	262	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	23.0	118.0		15.0	110.0	110.0	27.0	27.0		27.0	27.0	27.0
Total Split (%)	14.4%	73.8%		9.4%	68.8%	68.8%	16.9%	16.9%		16.9%	16.9%	16.9%
Maximum Green (s)	16.2	111.2		8.2	103.2	103.2	20.1	20.1		20.1	20.1	20.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	17.7	115.7		9.4	104.7	104.7		21.6			21.6	21.6
Actuated g/C Ratio	0.11	0.72		0.06	0.65	0.65		0.14			0.14	0.14
v/c Ratio	1.07	0.27		0.44	0.86	0.25		0.34			0.32	1.74
Control Delay	144.7	2.2		86.1	25.3	4.7		61.3			68.0	374.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

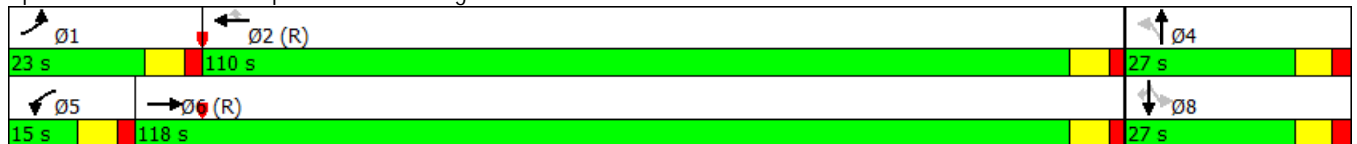
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	144.7	2.2		86.1	25.3	4.7		61.3			68.0	374.3
LOS	F	A		F	C	A		E			E	F
Approach Delay		46.4			24.5			61.3			344.0	
Approach LOS		D			C			E			F	
Queue Length 50th (ft)	~223	18		48	782	37		58			58	~734
Queue Length 95th (ft)	#337	34		95	846	75		111			108	#974
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	379	3340		109	3201	1052		199			186	314
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	1.07	0.27		0.43	0.86	0.25		0.34			0.32	1.74

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 97 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.74  
 Intersection Signal Delay: 69.2 Intersection LOS: E  
 Intersection Capacity Utilization 100.8% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.





















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd





Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	4988	1599	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.590			0.647	
Satd. Flow (perm)	3467	5024	0	1805	4988	1599	0	1085	0	0	1200	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				119		9				290
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1279	128	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	16.8	26.8		13.8	26.8	26.8	22.9	22.9		22.9	22.9	22.9
Total Split (s)	38.0	96.0		24.0	82.0	82.0	40.0	40.0		40.0	40.0	40.0
Total Split (%)	23.8%	60.0%		15.0%	51.3%	51.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	31.2	89.2		17.2	75.2	75.2	33.1	33.1		33.1	33.1	33.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.4
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3		5.4			5.4	5.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	27.4	108.8		8.9	82.1	82.1		34.5			34.5	34.5
Actuated g/C Ratio	0.17	0.68		0.06	0.51	0.51		0.22			0.22	0.22
v/c Ratio	0.76	0.74		0.14	0.50	0.15		0.75			0.60	0.98
Control Delay	69.2	22.9		74.8	26.8	4.6		75.1			67.6	62.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

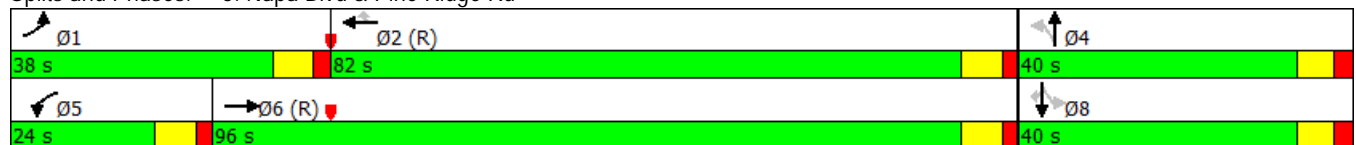
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.2	22.9		74.8	26.8	4.6		75.1			67.6	62.0
LOS	E	C		E	C	A		E			E	E
Approach Delay		29.9			25.3			75.1			63.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	221	873		14	315	5		168			149	326
Queue Length 95th (ft)	268	1040		40	383	42		#283			234	#583
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	708	3417		210	2558	878		241			259	573
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.64	0.74		0.07	0.50	0.15		0.74			0.60	0.98

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 116 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 34.7 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 8.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	84	88	1219	52	19	1868
Future Vol, veh/h	84	88	1219	52	19	1868
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	4	20	0	4
Mvmt Flow	89	94	1297	55	20	1987

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	2132	648	0	0	1297
Stage 1	1297	-	-	-	-
Stage 2	835	-	-	-	-
Critical Hdwy	5.86	7.1	-	-	5.3
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.16	-	-	-	-
Follow-up Hdwy	3.88	3.9	-	-	3.1
Pot Cap-1 Maneuver	~ 74	358	-	-	286
Stage 1	151	-	-	-	-
Stage 2	337	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 69	358	-	-	286
Mov Cap-2 Maneuver	~ 69	-	-	-	-
Stage 1	151	-	-	-	-
Stage 2	313	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	161	0	0.2
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	69	358	286	-
HCM Lane V/C Ratio	-	-	1.295	0.262	0.071	-
HCM Control Delay (s)	-	-	\$ 310.2	18.6	18.5	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	7.2	1	0.2	-

**Notes**

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 TWSC  
6: Livingston Rd & Marbella Lakes Dr

02/05/2018

**Intersection**

Int Delay, s/veh 32

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑
Traffic Vol, veh/h	80	45	1783	81	58	1255
Future Vol, veh/h	80	45	1783	81	58	1255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	320	-	300	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	4
Mvmt Flow	85	48	1897	86	62	1335

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	2554	948	0	0	1897
Stage 1	1897	-	-	-	-
Stage 2	657	-	-	-	-
Critical Hdwy	5.7	7.14	-	-	5.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-
Follow-up Hdwy	3.8	3.92	-	-	3.1
Pot Cap-1 Maneuver	~ 48	225	-	-	144
Stage 1	~ 68	-	-	-	-
Stage 2	439	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 27	225	-	-	144
Mov Cap-2 Maneuver	~ 27	-	-	-	-
Stage 1	~ 68	-	-	-	-
Stage 2	250	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s\$	824.1	0	2.1
HCM LOS	F		

**Minor Lane/Major Mvmt**

	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	27	225	144	-
HCM Lane V/C Ratio	-	-	3.152	0.213	0.428	-
HCM Control Delay (s)	-	\$	1273.4	25.3	47.5	-
HCM Lane LOS	-	-	F	D	E	-
HCM 95th %tile Q(veh)	-	-	10.3	0.8	1.9	-

**Notes**

























~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

2040 Future w/Livingston Rd-Marbella Lakes Dr Interconnect and w/Traditional Improvements

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	E	60.3	0.99	E	D	E	E
	PM Peak-Hour	E	D	52.7	0.96	D	C	E	E
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	D	42.9	0.92	D	D	E	E
	PM Peak-Hour	E	D	44.4	0.97	D	C	E	E
Pine Ridge Rd & I-75 SB Ramp	AM Peak-Hour	E	D	37.5	0.99	B	D		E
	PM Peak-Hour	E	C	29.0	0.96	B	C		D
Pine Ridge Rd & I-75 NB Ramp	AM Peak-Hour	E	C	29.9	0.98	D	B	E	
	PM Peak-Hour	E	C	24.5	0.90	B	C	E	
Pine Ridge Rd & Napa Blvd	AM Peak-Hour	E	D	38.3	0.91	C	D	E	E
	PM Peak-Hour	E	C	25.2	0.82	B	C	F	D
Livingston Rd & Marbella Lakes Dr	AM Peak-Hour	E	A	6.7	0.52		C	A	A
	PM Peak-Hour	E	A	8.3	0.56		C	B	A

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	502	2305	359	491	833	232	420	1091	465
Future Volume (vph)	276	983	210	502	2305	359	491	833	232	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	6166	1583	3183	6225	1538	3367	4893	2707	3433	4988	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	6166	1583	3183	6225	1538	3367	4893	2707	3433	4988	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			275			238			192
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	518	2376	370	506	859	239	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	518	2376	370	506	859	239	433	1125	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	20.0	48.0	48.0	39.6	67.6	67.6	30.0	39.7	39.7	32.7	42.4	42.4
Total Split (%)	12.5%	30.0%	30.0%	24.8%	42.3%	42.3%	18.8%	24.8%	24.8%	20.4%	26.5%	26.5%
Maximum Green (s)	12.9	38.2	38.2	32.5	60.4	60.4	22.8	32.5	32.5	22.8	35.2	35.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	14.4	42.5	42.5	31.2	61.9	61.9	24.3	34.6	34.6	23.7	36.7	36.7
Actuated g/C Ratio	0.09	0.27	0.27	0.20	0.39	0.39	0.15	0.22	0.22	0.15	0.23	0.23
v/c Ratio	0.95	0.62	0.37	0.83	0.99	0.48	0.99	0.81	0.31	0.85	0.98	0.94
Control Delay	111.7	54.0	7.4	58.7	47.3	12.2	104.0	66.9	6.8	82.6	83.6	64.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	111.7	54.0	7.4	58.7	47.3	12.2	104.0	66.9	6.8	82.6	83.6	64.0
LOS	F	D	A	E	D	B	F	E	A	F	F	E
Approach Delay		58.3			45.1			69.7			78.8	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	155	276	0	257	732	151	276	317	0	229	433	325
Queue Length 95th (ft)	#251	321	69	m286	#809	m186	#400	373	42	#307	#536	#556
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	300	1635	579	676	2408	763	511	1057	771	521	1144	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.62	0.37	0.77	0.99	0.48	0.99	0.81	0.31	0.83	0.98	0.94

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 102 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 60.3  
 Intersection Capacity Utilization 95.3%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	221	1674	437	356	1095	611	436	849	330
Future Volume (vph)	298	2183	475	221	1674	437	356	1095	611	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.86	1.00	0.97	0.86	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	6346	1599	3367	6346	1583	3433	5036	2733	3400	4988	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	6346	1599	3367	6346	1583	3433	5036	2733	3400	4988	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			329			325			257			149
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	228	1726	451	367	1129	630	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	228	1726	451	367	1129	630	449	875	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	23.2	23.2	16.9	23.2	23.2
Total Split (s)	23.1	68.0	68.0	18.0	62.9	62.9	26.6	43.0	43.0	31.0	47.4	47.4
Total Split (%)	14.4%	42.5%	42.5%	11.3%	39.3%	39.3%	16.6%	26.9%	26.9%	19.4%	29.6%	29.6%
Maximum Green (s)	16.0	58.2	58.2	10.9	55.7	55.7	19.4	35.8	35.8	21.1	40.2	40.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.1	2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.7	8.4	5.7	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.3	59.7	59.7	12.4	57.4	57.4	20.5	37.3	37.3	22.6	42.1	42.1
Actuated g/C Ratio	0.11	0.37	0.37	0.08	0.36	0.36	0.13	0.23	0.23	0.14	0.26	0.26
v/c Ratio	0.82	0.95	0.61	0.88	0.76	0.58	0.84	0.96	0.76	0.94	0.67	0.64
Control Delay	87.6	58.8	15.9	95.9	25.9	12.5	84.9	78.7	39.6	95.0	55.7	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

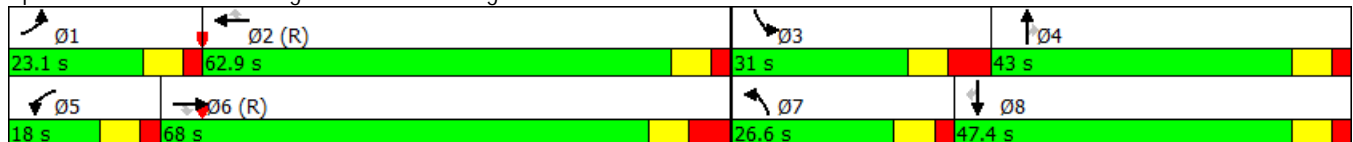
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	87.6	58.8	15.9	95.9	25.9	12.5	84.9	78.7	39.6	95.0	55.7	34.9
LOS	F	E	B	F	C	B	F	E	D	F	E	C
Approach Delay		54.8			30.0			68.2			62.1	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	164	664	132	112	451	148	195	432	215	243	302	181
Queue Length 95th (ft)	#235	715	259	m#182	490	m356	#268	#527	298	#349	354	299
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	379	2367	802	260	2277	776	448	1174	834	480	1312	530
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.95	0.61	0.88	0.76	0.58	0.82	0.96	0.76	0.94	0.67	0.64

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 38 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 52.7 Intersection LOS: D  
 Intersection Capacity Utilization 94.9% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1276	331	445	2966	228	436	54	192	82	13	185
Future Volume (vph)	138	1276	331	445	2966	228	436	54	192	82	13	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		200	150		125
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr			0.850			0.850			0.850		0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	6108	1568	1787	6166	1468	3433	1900	1615	3183	1533	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	6108	1568	1787	6166	1468	3433	1900	1615	3183	1533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			341			163			198			81
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	2%	0%	0%	10%	0%	7%
Adj. Flow (vph)	142	1315	341	459	3058	235	449	56	198	85	13	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1315	341	459	3058	235	449	56	198	85	204	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7	22.7	11.7	22.7	
Total Split (s)	14.0	53.3	53.3	52.7	92.0	92.0	31.0	39.9	39.9	14.1	23.0	
Total Split (%)	8.8%	33.3%	33.3%	32.9%	57.5%	57.5%	19.4%	24.9%	24.9%	8.8%	14.4%	
Maximum Green (s)	7.2	46.5	46.5	45.9	85.2	85.2	24.3	33.2	33.2	7.4	16.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.4	4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	9.1	52.4	52.4	44.8	88.1	88.1	24.9	33.0	33.0	8.8	16.8	
Actuated g/C Ratio	0.06	0.33	0.33	0.28	0.55	0.55	0.16	0.21	0.21	0.06	0.10	
v/c Ratio	0.75	0.66	0.46	0.92	0.90	0.27	0.84	0.14	0.40	0.49	0.88	
Control Delay	122.5	38.5	18.1	74.8	35.0	9.6	80.2	52.1	8.8	83.1	75.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings  
2: Whippoorwill Ln & Pine Ridge Rd

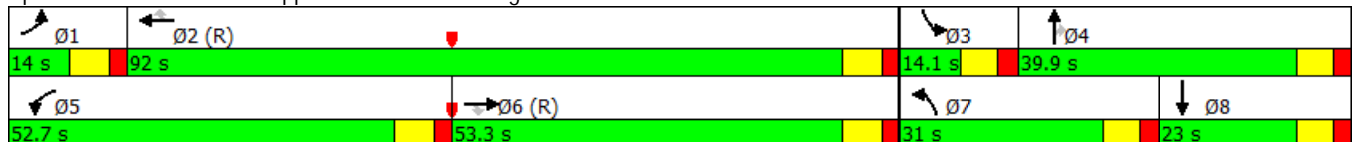
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	122.5	38.5	18.1	74.8	35.0	9.6	80.2	52.1	8.8	83.1	75.4	
LOS	F	D	B	E	D	A	F	D	A	F	E	
Approach Delay		41.3			38.3			57.9			77.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	72	414	161	477	668	43	237	48	0	45	130	
Queue Length 95th (ft)	m#119	440	m221	m#594	m729	m78	302	90	69	76	#274	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375		200	150		
Base Capacity (vph)	189	2000	743	529	3396	882	553	412	505	177	243	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.66	0.46	0.87	0.90	0.27	0.81	0.14	0.39	0.48	0.84	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 29 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 42.9 Intersection LOS: D  
 Intersection Capacity Utilization 90.9% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

























Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



# Lanes, Volumes, Timings

## 2: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	2748	396	204	1907	266	469	45	365	398	24	253
Future Volume (vph)	454	2748	396	204	1907	266	469	45	365	398	24	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		200	150		125
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr			0.850			0.850			0.850		0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	6346	1599	1770	6346	1553	3467	1900	1583	3273	1596	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3367	6346	1599	1770	6346	1553	3467	1900	1583	3273	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272			164			202		242	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			1936			722			316	
Travel Time (s)		39.6			29.3			16.4			7.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	1%	0%	2%	7%	0%	3%
Adj. Flow (vph)	473	2863	413	213	1986	277	489	47	380	415	25	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	2863	413	213	1986	277	489	47	380	415	289	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	13.8	26.8	26.8	13.8	26.8	26.8	11.7	22.7	22.7	11.7	22.7	
Total Split (s)	36.7	80.0	80.0	26.0	69.3	69.3	30.0	27.4	27.4	26.6	24.0	
Total Split (%)	22.9%	50.0%	50.0%	16.3%	43.3%	43.3%	18.8%	17.1%	17.1%	16.6%	15.0%	
Maximum Green (s)	29.9	73.2	73.2	19.2	62.5	62.5	23.3	20.7	20.7	19.9	17.3	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.4	4.4	4.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.3	
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	28.3	74.7	74.7	20.9	67.3	67.3	24.7	22.0	22.0	21.4	18.7	
Actuated g/C Ratio	0.18	0.47	0.47	0.13	0.42	0.42	0.15	0.14	0.14	0.13	0.12	
v/c Ratio	0.79	0.97	0.46	0.93	0.74	0.37	0.91	0.18	0.97	0.95	0.72	
Control Delay	59.9	44.9	11.0	111.8	20.0	6.9	88.5	62.9	69.7	99.9	24.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings  
 2: Whippoorwill Ln & Pine Ridge Rd

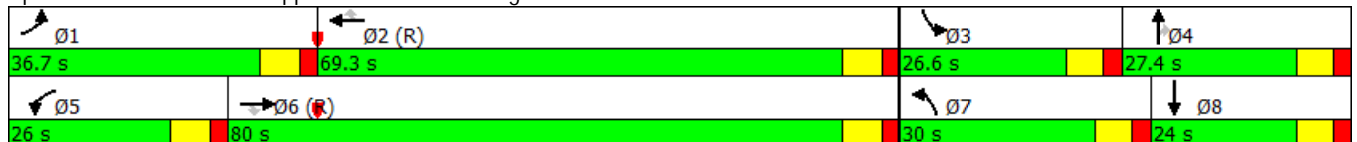
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	59.9	44.9	11.0	111.8	20.0	6.9	88.5	62.9	69.7	99.9	24.5	
LOS	E	D	B	F	B	A	F	E	E	F	C	
Approach Delay		43.0			26.4			79.4			69.0	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	217	858	207	229	325	52	263	44	203	225	45	
Queue Length 95th (ft)	m240	915	m237	m#353	386	m71	#365	86	#421	#332	157	
Internal Link Dist (ft)		2532			1856			642			236	
Turn Bay Length (ft)	525		300	500		175	375		200	150		
Base Capacity (vph)	660	2962	891	230	2667	747	537	263	393	437	401	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.97	0.46	0.93	0.74	0.37	0.91	0.18	0.97	0.95	0.72	

Intersection Summary













Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 123 (77%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 44.4 Intersection LOS: D  
 Intersection Capacity Utilization 98.9% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Whippoorwill Ln & Pine Ridge Rd



### Lanes, Volumes, Timings 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘	↑↑↑					↖		↗
Traffic Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Future Volume (vph)	0	1120	405	248	2650	0	0	0	0	395	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.86	1.00	1.00	0.86	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6108	1568	1736	6225	0	0	0	0	3155	0	2656
Flt Permitted				0.169						0.950		
Satd. Flow (perm)	0	6108	1568	309	6225	0	0	0	0	3155	0	2656
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			426									119
Link Speed (mph)		45			30			30				30
Link Distance (ft)		1936			1011			694				790
Travel Time (s)		29.3			23.0			15.8				18.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	4%	5%	0%	0%	0%	0%	11%	0%	7%
Adj. Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1179	426	261	2789	0	0	0	0	416	0	1041
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				17.0								
Total Split (%)				10.6%								
Maximum Green (s)				10.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		73.7	73.7	85.4	90.7					58.7		58.7
Actuated g/C Ratio		0.46	0.46	0.53	0.57					0.37		0.37
v/c Ratio		0.42	0.45	0.97	0.79					0.36		0.99
Control Delay		12.5	5.7	76.8	37.1					38.1		70.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		12.5	5.7	76.8	37.1					38.1		70.1
LOS		B	A	E	D					D		E
Approach Delay		10.7			40.5						60.9	

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	33.0	46.0	33.0	31.0
Total Split (%)	21%	29%	21%	19%
Maximum Green (s)	26.2	39.2	26.2	23.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

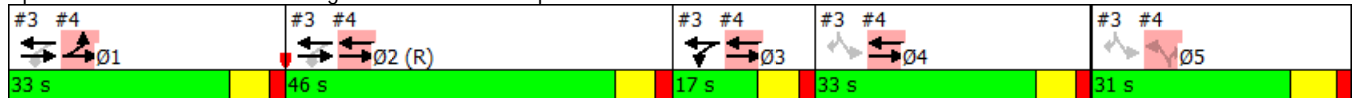
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			D						E	
Queue Length 50th (ft)		54	23	177	601					163		565
Queue Length 95th (ft)		118	110	m#194	m634					211		#741
Internal Link Dist (ft)		1856			931			614			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2813	952	269	3528					1157		1049
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.42	0.45	0.97	0.79					0.36		0.99

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 51 (32%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 37.5 Intersection LOS: D  
 Intersection Capacity Utilization 88.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp





Lanes, Volumes, Timings  
3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖	↑↑↑					↖		↗
Traffic Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Future Volume (vph)	0	2896	540	146	1569	0	0	0	0	670	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	2		2
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	0.86	1.00	1.00	0.86	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6346	1568	1770	6346	0	0	0	0	3367	0	2787
Flt Permitted				0.050						0.950		
Satd. Flow (perm)	0	6346	1568	93	6346	0	0	0	0	3367	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			374									119
Link Speed (mph)		45			30			30			30	
Link Distance (ft)		1936			1011			694			790	
Travel Time (s)		29.3			23.0			15.8			18.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	2%	3%	0%	0%	0%	0%	4%	0%	2%
Adj. Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3048	568	154	1652	0	0	0	0	705	0	851
Turn Type		NA	Perm	pm+pt	NA					Perm		Perm
Protected Phases		1 2		3	1 2 3							
Permitted Phases			1 2	1 2 3						4 5		4 5
Detector Phase		1 2	1 2	3	1 2 3					4 5		4 5
Switch Phase												
Minimum Initial (s)				4.0								
Minimum Split (s)				10.8								
Total Split (s)				18.0								
Total Split (%)				11.3%								
Maximum Green (s)				11.2								
Yellow Time (s)				4.8								
All-Red Time (s)				2.0								
Lost Time Adjust (s)				-1.5								
Total Lost Time (s)				5.3								
Lead/Lag				Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0								
Recall Mode				None								
Act Effct Green (s)		79.7	79.7	92.4	97.7					51.7		51.7
Actuated g/C Ratio		0.50	0.50	0.58	0.61					0.32		0.32
v/c Ratio		0.96	0.59	0.83	0.43					0.65		0.87
Control Delay		21.6	2.7	86.1	24.7					49.7		54.1
Queue Delay		0.0	0.0	0.0	0.0					0.0		0.0
Total Delay		21.6	2.7	86.1	24.7					49.7		54.1
LOS		C	A	F	C					D		D
Approach Delay		18.6			29.9						52.1	

# Lanes, Volumes, Timings

## 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	Ø1	Ø2	Ø4	Ø5
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	7.0	20.0	7.0	4.0
Minimum Split (s)	13.8	26.8	13.8	11.5
Total Split (s)	54.0	31.0	31.0	26.0
Total Split (%)	34%	19%	19%	16%
Maximum Green (s)	47.2	24.2	24.2	18.5
Yellow Time (s)	4.8	4.8	4.8	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

Lanes, Volumes, Timings  
 3: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B				C				D			
Queue Length 50th (ft)		294	18	104	355					326		421
Queue Length 95th (ft)		517	m35	m#207	404					397		523
Internal Link Dist (ft)		1856			931			614			710	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		3161	968	186	3875					1087		981
Starvation Cap Reductn		0	0	0	0					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.96	0.59	0.83	0.43					0.65		0.87

Intersection Summary


















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 24 (15%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 29.0 Intersection LOS: C  
 Intersection Capacity Utilization 82.4% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Pine Ridge Rd & I-75 SB Ramp



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Future Volume (vph)	497	1020	0	0	2407	686	479	0	193	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.967				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3183	6052	0	0	6019	0	3335	0	1615	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3183	6052	0	0	6019	0	3335	0	1615	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					74				173			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	8%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	529	1085	0	0	2561	730	510	0	205	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	529	1085	0	0	3291	0	510	0	205	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	33.0						31.0		31.0			
Total Split (%)	20.6%						19.4%		19.4%			
Maximum Green (s)	26.2						23.5		23.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	27.7	123.7			90.7		25.0		25.0			
Actuated g/C Ratio	0.17	0.77			0.57		0.16		0.16			
v/c Ratio	0.96	0.23			0.96		0.98		0.52			
Control Delay	100.2	5.1			16.6		100.7		17.7			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	100.2	5.1			16.6		100.7		17.7			
LOS	F	A			B		F		B			
Approach Delay		36.3			16.6				76.9			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	46.0	17.0	33.0
Total Split (%)	29%	11%	21%
Maximum Green (s)	39.2	10.2	26.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

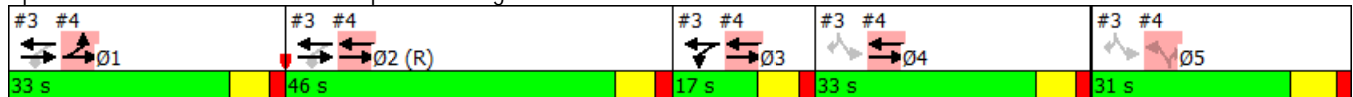
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			E					
Queue Length 50th (ft)	269	60			307		277		29			
Queue Length 95th (ft)	#385	73			340		#398		113			
Internal Link Dist (ft)	931			1187			654			698		
Turn Bay Length (ft)	460						630			365		
Base Capacity (vph)	551	4678			3444		521		398			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.96	0.23			0.96		0.98		0.52			

Intersection Summary


















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 51 (32%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 29.9 Intersection LOS: C  
 Intersection Capacity Utilization 88.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Future Volume (vph)	882	2689	0	0	1339	534	373	0	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	0		0	630		365	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Taper Length (ft)	100			25			50			25		
Lane Util. Factor	0.97	0.86	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.957				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3335	6346	0	0	6098	0	3433	0	1599	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3335	6346	0	0	6098	0	3433	0	1599	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					84				165			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			1267			734			778	
Travel Time (s)		23.0			28.8			16.7			17.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	0%	0%	2%	4%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	909	2772	0	0	1380	551	385	0	181	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	909	2772	0	0	1931	0	385	0	181	0	0	0
Turn Type	Prot	NA			NA		Perm		Perm			
Protected Phases	1	1 2 3 4			2 3 4							
Permitted Phases							5		5			
Detector Phase	1	1 2 3 4			2 3 4		5		5			
Switch Phase												
Minimum Initial (s)	7.0						4.0		4.0			
Minimum Split (s)	13.8						11.5		11.5			
Total Split (s)	54.0						26.0		26.0			
Total Split (%)	33.8%						16.3%		16.3%			
Maximum Green (s)	47.2						18.5		18.5			
Yellow Time (s)	4.8						5.5		5.5			
All-Red Time (s)	2.0						2.0		2.0			
Lost Time Adjust (s)	-1.5						-1.5		-1.5			
Total Lost Time (s)	5.3						6.0		6.0			
Lead/Lag	Lead											
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0						3.0		3.0			
Recall Mode	None						None		None			
Act Effct Green (s)	48.7	128.7			74.7		20.0		20.0			
Actuated g/C Ratio	0.30	0.80			0.47		0.12		0.12			
v/c Ratio	0.90	0.54			0.67		0.90		0.53			
Control Delay	66.6	3.7			21.7		92.6		17.4			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	66.6	3.7			21.7		92.6		17.4			
LOS	E	A			C		F		B			
Approach Delay		19.2			21.7				68.5			

# Lanes, Volumes, Timings

## 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	Ø2	Ø3	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	4.0	7.0
Minimum Split (s)	26.8	10.8	13.8
Total Split (s)	31.0	18.0	31.0
Total Split (%)	19%	11%	19%
Maximum Green (s)	24.2	11.2	24.2
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	C-Min	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			



Lanes, Volumes, Timings  
 4: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			E					
Queue Length 50th (ft)	408	141			296		208		15			
Queue Length 95th (ft)	m458	149			292		#301		94			
Internal Link Dist (ft)		931			1187			654			698	
Turn Bay Length (ft)	460						630		365			
Base Capacity (vph)	1015	5104			2891		429		344			
Starvation Cap Reductn	0	0			0		0		0			
Spillback Cap Reductn	0	0			0		0		0			
Storage Cap Reductn	0	0			0		0		0			
Reduced v/c Ratio	0.90	0.54			0.67		0.90		0.53			

Intersection Summary




















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 24 (15%), Referenced to phase 2:EBWB, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 24.5 Intersection LOS: C  
 Intersection Capacity Utilization 82.4% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.987			0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	6086	0	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.795			0.743	
Satd. Flow (perm)	3433	4607	0	1805	6086	0	0	1421	0	0	1347	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			20			7				26
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1267			1091			605			459	
Travel Time (s)		28.8			24.8			13.8			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	3004	0	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases							4			8		8
Detector Phase	1	6		5	2		4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0		8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	16.8	26.8		13.8	26.8		22.9	22.9		22.9	22.9	16.8
Total Split (s)	48.0	123.0		14.0	89.0		23.0	23.0		23.0	23.0	48.0
Total Split (%)	30.0%	76.9%		8.8%	55.6%		14.4%	14.4%		14.4%	14.4%	30.0%
Maximum Green (s)	41.2	116.2		7.2	82.2		16.1	16.1		16.1	16.1	41.2
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3			5.4			5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	43.9	123.4		9.6	86.4			13.8			13.8	63.0
Actuated g/C Ratio	0.27	0.77		0.06	0.54			0.09			0.09	0.39
v/c Ratio	0.43	0.25		0.44	0.91			0.52			0.52	0.86
Control Delay	46.8	12.9		85.5	38.8			76.5			85.1	56.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	46.8	12.9		85.5	38.8			76.5			85.1	56.8
LOS	D	B		F	D			E			F	E
Approach Delay		23.4			39.6			76.5			59.6	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	207	177		48	836			61			61	487
Queue Length 95th (ft)	260	169		96	884			114			111	661
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274								
Base Capacity (vph)	955	3561		109	3294			162			148	639
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.42	0.25		0.43	0.91			0.41			0.41	0.85

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 30 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 38.3 Intersection LOS: D  
 Intersection Capacity Utilization 92.5% ICU Level of Service F  
 Analysis Period (min) 15




















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.986			0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	6213	0	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.573			0.647	
Satd. Flow (perm)	3467	5024	0	1805	6213	0	0	1054	0	0	1200	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			19			9				27
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1267			1091			605				459
Travel Time (s)		28.8			24.8			13.8				10.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1407	0	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases							4			8		8
Detector Phase	1	6		5	2		4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0		8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	16.8	26.8		13.8	26.8		22.9	22.9		22.9	22.9	16.8
Total Split (s)	48.0	114.0		14.0	80.0		32.0	32.0		32.0	32.0	48.0
Total Split (%)	30.0%	71.3%		8.8%	50.0%		20.0%	20.0%		20.0%	20.0%	30.0%
Maximum Green (s)	41.2	107.2		7.2	73.2		25.1	25.1		25.1	25.1	41.2
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3			5.4			5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	34.0	111.8		8.6	78.1			31.9			31.9	71.3
Actuated g/C Ratio	0.21	0.70		0.05	0.49			0.20			0.20	0.45
v/c Ratio	0.61	0.72		0.15	0.46			0.82			0.65	0.77
Control Delay	74.1	3.5		75.8	27.5			87.3			74.3	43.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

Lanes, Volumes, Timings  
5: Napa Blvd & Pine Ridge Rd

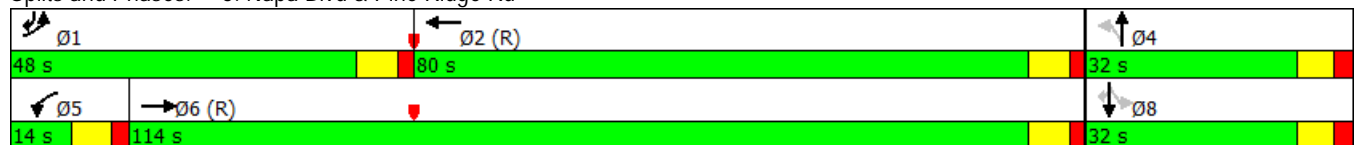
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.1	3.5		75.8	27.5			87.3			74.3	43.7
LOS	E	A		E	C			F			E	D
Approach Delay		14.2			28.0			87.3			50.3	
Approach LOS		B			C			F			D	
Queue Length 50th (ft)	211	33		14	265			181			159	483
Queue Length 95th (ft)	254	230		40	320			#348			#278	609
Internal Link Dist (ft)		1187			1011			525			379	
Turn Bay Length (ft)	610			274								
Base Capacity (vph)	925	3516		98	3042			217			239	812
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.49	0.72		0.14	0.46			0.82			0.65	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 40 (25%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 25.2 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

















Splits and Phases: 5: Napa Blvd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 6: Livingston Rd & Marbella Lakes Dr

02/05/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			  
Traffic Volume (vph)	84	88	1219	52	19	1868
Future Volume (vph)	84	88	1219	52	19	1868
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	320		300	400	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1671	1615	4988	1346	1805	4988
Flt Permitted	0.950				0.166	
Satd. Flow (perm)	1671	1615	4988	1346	315	4988
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		94		55		
Link Speed (mph)	30		30			30
Link Distance (ft)	1311		1275			4157
Travel Time (s)	29.8		29.0			94.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	0%	4%	20%	0%	4%
Adj. Flow (vph)	89	94	1297	55	20	1987
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	94	1297	55	20	1987
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	20.0	20.0	5.0	20.0
Minimum Split (s)	16.5	16.5	26.5	26.5	11.5	26.5
Total Split (s)	19.0	19.0	48.0	48.0	13.0	61.0
Total Split (%)	23.8%	23.8%	60.0%	60.0%	16.3%	76.3%
Maximum Green (s)	12.5	12.5	41.5	41.5	6.5	54.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	12.2	12.2	55.2	55.2	59.1	60.1
Actuated g/C Ratio	0.16	0.16	0.71	0.71	0.76	0.77
v/c Ratio	0.34	0.28	0.37	0.06	0.05	0.52
Control Delay	33.4	9.3	7.3	2.8	3.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	9.3	7.3	2.8	3.7	5.2
LOS	C	A	A	A	A	A
Approach Delay	21.0		7.1			5.2

Lanes, Volumes, Timings  
 6: Livingston Rd & Marbella Lakes Dr

02/05/2018



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		A			A
Queue Length 50th (ft)	39	0	69	0	2	130
Queue Length 95th (ft)	81	38	171	15	8	185
Internal Link Dist (ft)	1231		1195		4077	
Turn Bay Length (ft)	320		300		400	
Base Capacity (vph)	300	367	3533	969	392	3849
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.37	0.06	0.05	0.52

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 77.9  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.52  
 Intersection Signal Delay: 6.7  
 Intersection Capacity Utilization 52.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

















Splits and Phases: 6: Livingston Rd & Marbella Lakes Dr



# Lanes, Volumes, Timings

## 6: Livingston Rd & Marbella Lakes Dr

02/05/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			  
Traffic Volume (vph)	80	45	1783	81	58	1255
Future Volume (vph)	80	45	1783	81	58	1255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	320		300	400	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1583	5085	1615	1805	4988
Flt Permitted	0.950				0.071	
Satd. Flow (perm)	1805	1583	5085	1615	135	4988
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		48		86		
Link Speed (mph)	30		30			30
Link Distance (ft)	1311		1275			4157
Travel Time (s)	29.8		29.0			94.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	2%	0%	0%	4%
Adj. Flow (vph)	85	48	1897	86	62	1335
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	48	1897	86	62	1335
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	20.0	20.0	5.0	20.0
Minimum Split (s)	16.5	16.5	26.5	26.5	11.5	26.5
Total Split (s)	17.0	17.0	51.0	51.0	12.0	63.0
Total Split (%)	21.3%	21.3%	63.8%	63.8%	15.0%	78.8%
Maximum Green (s)	10.5	10.5	44.5	44.5	5.5	56.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	11.7	11.7	52.5	52.5	61.1	62.1
Actuated g/C Ratio	0.15	0.15	0.66	0.66	0.77	0.78
v/c Ratio	0.32	0.18	0.56	0.08	0.25	0.34
Control Delay	34.2	11.4	10.6	2.1	5.5	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	11.4	10.6	2.1	5.5	3.8
LOS	C	B	B	A	A	A
Approach Delay	25.9		10.3			3.8



Lanes, Volumes, Timings  
 6: Livingston Rd & Marbella Lakes Dr

02/05/2018



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		B		A	
Queue Length 50th (ft)	38	0	212	0	7	71
Queue Length 95th (ft)	80	29	263	17	16	93
Internal Link Dist (ft)	1231		1195		4077	
Turn Bay Length (ft)	320		300		400	
Base Capacity (vph)	272	280	3364	1097	251	3900
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.17	0.56	0.08	0.25	0.34

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 79.4  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 8.3  
 Intersection Capacity Utilization 59.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 6: Livingston Rd & Marbella Lakes Dr


























2040 Future w/Innovative Improvements (CFI, RCUT, DDI) and Interconnect

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Advance CFI Int. N. of Pine Ridge Rd	AM Peak-Hour	E	B	10.2	0.77		D	A	A
	PM Peak-Hour	E	B	11.6	0.78		D	A	B
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	47.1	0.95	D	D	D	E
	PM Peak-Hour	E	D	44.8	0.94	D	C	E	D
Advance CFI Int. S. of Pine Ridge Rd	AM Peak-Hour	E	A	9.9	0.53	D		B	A
	PM Peak-Hour	E	B	10.8	0.82	D		A	A
Advance RCUT Int. W. of Whippoorwill Ln	AM Peak-Hour	E	A	1.9	0.76	A	E <sup>1</sup>		
	PM Peak-Hour	E	C	34.0	0.95	D	E <sup>1</sup>		
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	B	16.0	0.89	B	A	E	E
	PM Peak-Hour	E	D	45.2	0.98	E	B	E	E
Advance RCUT Int. E. of Whippoorwill Ln	AM Peak-Hour	E	B	19.5	0.98	F <sup>1</sup>	B		
	PM Peak-Hour	E	A	6.4	0.78	D <sup>1</sup>	A		
Pine Ridge Rd & I-75 SB Ramp	AM Peak-Hour	E	D	27.0	0.96	D	C		D
	PM Peak-Hour	E	C	19.4	0.89	C	B		C
Pine Ridge Rd & I-75 NB Ramp	AM Peak-Hour	E	C	11.9	0.84	C	B	D	
	PM Peak-Hour	E	D	25.4	0.90	B	D	C	
Pine Ridge Rd & Napa Blvd	AM Peak-Hour	E	D	43.3	0.98	C	D	E	E
	PM Peak-Hour	E	C	30.9	0.85	C	C	F	D

1. Left-turn movement level-of-service, through movement is free-flow

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		  	  	
Traffic Volume (vph)	0	0	0	0	0	359	0	1109	0	420	1091	465
Future Volume (vph)	0	0	0	0	0	359	0	1109	0	420	1091	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	400		150
Storage Lanes	0		0	0		1	0		0	2		1
Taper Length (ft)	25			25			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt						0.865						0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	1565	0	4893	0	3433	4988	1568
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1565	0	4893	0	3433	4988	1568
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)						54						
Link Speed (mph)		35			35			35				35
Link Distance (ft)		560			609			527				695
Travel Time (s)		10.9			11.9			10.3				13.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	6%	0%	2%	4%	3%
Adj. Flow (vph)	0	0	0	0	0	370	0	1143	0	433	1125	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	370	0	1143	0	433	1125	479
Turn Type						Over		NA		Prot	NA	Perm
Protected Phases						1		2		1	Free	
Permitted Phases												Free
Detector Phase						1		2		1		
Switch Phase												
Minimum Initial (s)						7.0		7.0		7.0		
Minimum Split (s)						14.2		23.2		14.2		
Total Split (s)						68.0		82.0		68.0		
Total Split (%)						45.3%		54.7%		45.3%		
Maximum Green (s)						60.8		74.8		60.8		
Yellow Time (s)						4.8		4.8		4.8		
All-Red Time (s)						2.4		2.4		2.4		
Lost Time Adjust (s)						-1.5		-1.5		-1.5		
Total Lost Time (s)						5.7		5.7		5.7		
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.0		3.0		3.0		
Recall Mode						None		C-Min		None		
Walk Time (s)								5.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)						42.2		96.4		42.2	150.0	150.0
Actuated g/C Ratio						0.28		0.64		0.28	1.00	1.00
v/c Ratio						0.77		0.36		0.45	0.23	0.31
Control Delay						42.8		0.3		44.6	0.1	0.5
Queue Delay						0.0		0.2		0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

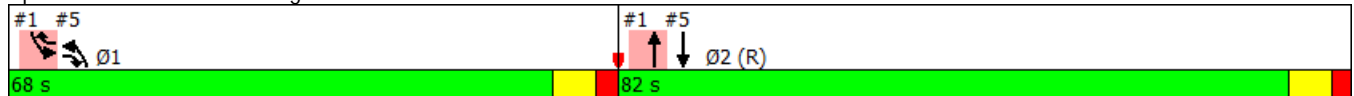
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay						42.9		0.5		44.6	0.1	0.5
LOS						D		A		D	A	A
Approach Delay					42.9			0.5			9.7	
Approach LOS					D			A			A	
Queue Length 50th (ft)						283		0		180	0	0
Queue Length 95th (ft)						342		0		203	0	0
Internal Link Dist (ft)		480			529			447			615	
Turn Bay Length (ft)										400		150
Base Capacity (vph)						681		3143		1425	4988	1568
Starvation Cap Reductn						9		1037		0	0	0
Spillback Cap Reductn						0		0		0	123	26
Storage Cap Reductn						0		0		0	0	0
Reduced v/c Ratio						0.55		0.54		0.30	0.23	0.31

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 96 (64%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 10.2  
 Intersection Capacity Utilization 53.2%  
 Analysis Period (min) 15













Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 1: Livingston Rd & SB CFI



Lanes, Volumes, Timings  
2: NB CFI & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑		↖					↗
Traffic Volume (vph)	0	1259	210	0	2305	0	491	0	0	0	0	465
Future Volume (vph)	0	1259	210	0	2305	0	491	0	0	0	0	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		3	0		0	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	7259	1583	0	4940	0	3367	0	0	0	0	1596
Flt Permitted							0.950					
Satd. Flow (perm)	0	7259	1583	0	4940	0	3367	0	0	0	0	1596
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)			216									83
Link Speed (mph)		35			35			35				35
Link Distance (ft)		808			185			681				560
Travel Time (s)		15.7			3.6			13.3				10.9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	6%	2%	0%	5%	0%	4%	0%	0%	0%	0%	3%
Adj. Flow (vph)	0	1298	216	0	2376	0	506	0	0	0	0	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1298	216	0	2376	0	506	0	0	0	0	479
Turn Type		NA	Perm		NA		Prot					custom
Protected Phases		2 5			6		8					5
Permitted Phases			2 5									4 5
Detector Phase		2 5	2 5		6		8					5
Switch Phase												
Minimum Initial (s)					7.0		7.0					7.0
Minimum Split (s)					23.2		23.2					14.2
Total Split (s)					82.0		44.0					24.0
Total Split (%)					54.7%		29.3%					16.0%
Maximum Green (s)					74.8		36.8					16.8
Yellow Time (s)					4.8		4.8					4.8
All-Red Time (s)					2.4		2.4					2.4
Lost Time Adjust (s)					-1.5		-1.5					-1.5
Total Lost Time (s)					5.7		5.7					5.7
Lead/Lag					Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0					3.0
Recall Mode					C-Min		None					None
Walk Time (s)					5.0		5.0					
Flash Dont Walk (s)					11.0		11.0					
Pedestrian Calls (#/hr)					0		0					
Act Effct Green (s)		76.6	76.6		76.3		38.3					62.3
Actuated g/C Ratio		0.51	0.51		0.51		0.26					0.42
v/c Ratio		0.35	0.24		0.95		0.59					0.67
Control Delay		12.6	1.9		6.8		42.3					34.4
Queue Delay		0.0	0.0		0.0		0.0					1.1

## Lanes, Volumes, Timings 2: NB CFI & Pine Ridge Rd

02/05/2018

Lane Group	Ø1	Ø2	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	42.0	64.0	44.0
Total Split (%)	28%	43%	29%
Maximum Green (s)	34.8	56.8	36.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

# Lanes, Volumes, Timings

## 2: NB CFI & Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		12.6	1.9		6.8		42.3					35.5
LOS		B	A		A		D					D
Approach Delay		11.1			6.8			42.3			35.5	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)		118	0		20		272					316
Queue Length 95th (ft)		133	27		44		331					451
Internal Link Dist (ft)		728			105			601			480	
Turn Bay Length (ft)			300									
Base Capacity (vph)		3706	914		2512		859					711
Starvation Cap Reductn		0	0		0		0					82
Spillback Cap Reductn		481	0		0		0					0
Storage Cap Reductn		0	0		0		0					0
Reduced v/c Ratio		0.40	0.24		0.95		0.59					0.76

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 14.7  
 Intersection Capacity Utilization 100.2%  
 Analysis Period (min) 15

























Intersection LOS: B  
 ICU Level of Service G

### Splits and Phases: 2: NB CFI & Pine Ridge Rd



Lanes, Volumes, Timings  
3: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (vph)	276	983	0	502	2305	0	0	833	0	0	1091	0
Future Volume (vph)	276	983	0	502	2305	0	0	833	0	0	1091	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt												
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3335	4893	0	3183	4940	0	0	4893	0	0	4988	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3335	4893	0	3183	4940	0	0	4893	0	0	4988	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		185			164			581			527	
Travel Time (s)		3.6			3.2			11.3			10.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	0%	10%	5%	0%	0%	6%	5%	0%	4%	3%
Adj. Flow (vph)	285	1013	0	518	2376	0	0	859	0	0	1125	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	0	518	2376	0	0	859	0	0	1125	0
Turn Type	Prot	NA		Prot	NA			NA			NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases												
Detector Phase	5	2		1	6			8			4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Minimum Split (s)	14.2	23.2		14.2	23.2			23.2			23.2	
Total Split (s)	24.0	64.0		42.0	82.0			44.0			44.0	
Total Split (%)	16.0%	42.7%		28.0%	54.7%			29.3%			29.3%	
Maximum Green (s)	16.8	56.8		34.8	74.8			36.8			36.8	
Yellow Time (s)	4.8	4.8		4.8	4.8			4.8			4.8	
All-Red Time (s)	2.4	2.4		2.4	2.4			2.4			2.4	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	5.7	5.7		5.7	5.7			5.7			5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Recall Mode	None	C-Min		None	C-Min			None			None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	18.3	58.3		36.3	76.3			38.3			38.3	
Actuated g/C Ratio	0.12	0.39		0.24	0.51			0.26			0.26	
v/c Ratio	0.70	0.53		0.67	0.95			0.69			0.88	
Control Delay	60.8	24.2		46.8	27.3			53.8			62.9	
Queue Delay	46.8	0.3		55.0	0.1			0.0			0.7	
Total Delay	107.5	24.5		101.8	27.4			53.8			63.5	
LOS	F	C		F	C			D			E	
Approach Delay		42.7			40.7			53.8			63.5	



# Lanes, Volumes, Timings

## 3: Livingston Rd & Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	87	278		143	786			279			390	
Queue Length 95th (ft)	117	324		230	826			331			451	
Internal Link Dist (ft)		105			84			501			447	
Turn Bay Length (ft)												
Base Capacity (vph)	406	1901		770	2512			1249			1273	
Starvation Cap Reductn	139	296		355	0			0			27	
Spillback Cap Reductn	0	0		0	5			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.07	0.63		1.25	0.95			0.69			0.90	

### Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 47.1  
 Intersection Capacity Utilization 87.7%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

### Splits and Phases: 3: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↗			↗	↘↘		
Traffic Volume (vph)	0	983	0	0	2807	359	0	0	232	420	0	0
Future Volume (vph)	0	983	0	0	2807	359	0	0	232	420	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	0		0	0		0
Storage Lanes	0		0	0		3	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt						0.850			0.865			
Flt Protected										0.950		
Satd. Flow (prot)	0	4940	0	0	7329	1538	0	0	1565	3433	0	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	4940	0	0	7329	1538	0	0	1565	3433	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						370			32			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		164			1740			642			609	
Travel Time (s)		3.2			33.9			12.5			11.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	5%	0%	4%	5%	5%	0%	0%	5%	2%	0%	0%
Adj. Flow (vph)	0	1013	0	0	2894	370	0	0	239	433	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1013	0	0	2894	370	0	0	239	433	0	0
Turn Type		NA			NA	Perm			custom	Prot		
Protected Phases		2			1 6				1	4		
Permitted Phases						1 6			1 8			
Detector Phase		2			1 6	1 6			1	4		
Switch Phase												
Minimum Initial (s)		7.0							7.0	7.0		
Minimum Split (s)		23.2							14.2	23.2		
Total Split (s)		64.0							42.0	44.0		
Total Split (%)		42.7%							28.0%	29.3%		
Maximum Green (s)		56.8							34.8	36.8		
Yellow Time (s)		4.8							4.8	4.8		
All-Red Time (s)		2.4							2.4	2.4		
Lost Time Adjust (s)		-1.5							-1.5	-1.5		
Total Lost Time (s)		5.7							5.7	5.7		
Lead/Lag		Lag							Lead			
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0							3.0	3.0		
Recall Mode		C-Min							None	None		
Walk Time (s)		5.0								5.0		
Flash Dont Walk (s)		11.0								11.0		
Pedestrian Calls (#/hr)		0								0		
Act Effct Green (s)		58.3			100.3	100.3			80.3	38.3		
Actuated g/C Ratio		0.39			0.67	0.67			0.54	0.26		
v/c Ratio		0.53			0.59	0.32			0.28	0.49		
Control Delay		2.8			9.0	1.0			17.3	42.1		
Queue Delay		0.0			0.1	0.0			0.0	0.0		

# Lanes, Volumes, Timings

## 4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	24.0	82.0	44.0
Total Split (%)	16%	55%	29%
Maximum Green (s)	16.8	74.8	36.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

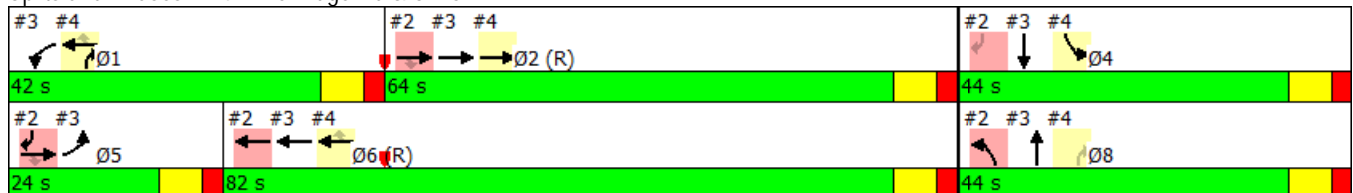
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		2.8			9.2	1.0			17.3	42.1		
LOS		A			A	A			B	D		
Approach Delay		2.8			8.3			17.3			42.1	
Approach LOS		A			A			B			D	
Queue Length 50th (ft)		8			319	14			106	232		
Queue Length 95th (ft)		9			265	22			164	290		
Internal Link Dist (ft)		84			1660			562			529	
Turn Bay Length (ft)						400						
Base Capacity (vph)		1920			4900	1151			852	876		
Starvation Cap Reductn		16			0	0			0	0		
Spillback Cap Reductn		0			724	0			0	0		
Storage Cap Reductn		0			0	0			0	0		
Reduced v/c Ratio		0.53			0.69	0.32			0.28	0.49		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 16 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 58.2%  
 Analysis Period (min) 15























Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 4: Pine Ridge Rd & SB CFI



Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations							 	  			  	
Traffic Volume (vph)	0	0	210	0	0	0	491	833	232	0	1643	0
Future Volume (vph)	0	0	210	0	0	0	491	833	232	0	1643	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		150	0		0
Storage Lanes	0		1	0		0	2		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.865						0.850			
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	0	3367	4893	1538	0	4988	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	0	3367	4893	1538	0	4988	0
Right Turn on Red			Yes				No		No			No
Satd. Flow (RTOR)			31									
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			642			2204			581	
Travel Time (s)		13.3			12.5			42.9			11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	4%	2%	0%	0%	0%	4%	6%	5%	0%	4%	0%
Adj. Flow (vph)	0	0	216	0	0	0	506	859	239	0	1694	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	216	0	0	0	506	859	239	0	1694	0
Turn Type			Over				Prot	NA	Perm		NA	
Protected Phases			1				1	Free			2	
Permitted Phases									Free			
Detector Phase			1				1				2	
Switch Phase												
Minimum Initial (s)			7.0				7.0				7.0	
Minimum Split (s)			14.2				14.2				23.2	
Total Split (s)			68.0				68.0				82.0	
Total Split (%)			45.3%				45.3%				54.7%	
Maximum Green (s)			60.8				60.8				74.8	
Yellow Time (s)			4.8				4.8				4.8	
All-Red Time (s)			2.4				2.4				2.4	
Lost Time Adjust (s)			-1.5				-1.5				-1.5	
Total Lost Time (s)			5.7				5.7				5.7	
Lead/Lag			Lead				Lead				Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0				3.0				3.0	
Recall Mode			None				None				C-Min	
Walk Time (s)											5.0	
Flash Dont Walk (s)											11.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)			42.2				42.2	150.0	150.0		96.4	
Actuated g/C Ratio			0.28				0.28	1.00	1.00		0.64	
v/c Ratio			0.45				0.53	0.18	0.16		0.53	
Control Delay			37.8				46.6	0.1	0.2		1.4	
Queue Delay			0.0				0.0	0.0	0.0		0.2	

Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

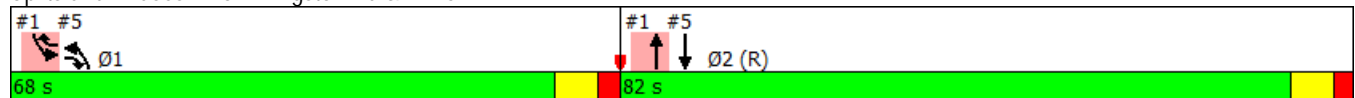
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			37.8				46.6	0.1	0.2		1.6	
LOS			D				D	A	A		A	
Approach Delay		37.8						14.8			1.6	
Approach LOS		D						B			A	
Queue Length 50th (ft)			149				216	0	0		6	
Queue Length 95th (ft)			202				239	0	0		8	
Internal Link Dist (ft)		601			562			2124			501	
Turn Bay Length (ft)							400		150			
Base Capacity (vph)			687				1398	4893	1538		3204	
Starvation Cap Reductn			0				0	0	0		625	
Spillback Cap Reductn			0				0	0	0		0	
Storage Cap Reductn			0				0	0	0		0	
Reduced v/c Ratio			0.31				0.36	0.18	0.16		0.66	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 96 (64%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 9.9  
 Intersection Capacity Utilization 55.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 5: Livingston Rd & NB CFI



# Lanes, Volumes, Timings

## 6: Adv RCUT West & Pine Ridge Rd

02/05/2018

	→	↘	↙	↖	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↓↓		↑↑↑		
Traffic Volume (vph)	1745	0	95	0	3587	0	0
Future Volume (vph)	1745	0	95	0	3587	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		250		0	0
Storage Lanes		0		2		0	0
Taper Length (ft)				100		25	
Lane Util. Factor	0.91	1.00	0.97	1.00	0.91	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	4893	0	3213	0	4893	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	4893	0	3213	0	4893	0	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	1740				668	74	
Travel Time (s)	33.9				13.0	1.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	0%	9%	0%	6%	0%	0%
Adj. Flow (vph)	1799	0	98	0	3698	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1799	0	98	0	3698	0	0
Turn Type	NA		Prot		NA		
Protected Phases	2		1		Free		
Permitted Phases							
Detector Phase	2		1				
Switch Phase							
Minimum Initial (s)	7.0		7.0				
Minimum Split (s)	23.0		14.0				
Total Split (s)	116.0		34.0				
Total Split (%)	77.3%		22.7%				
Maximum Green (s)	109.3		27.3				
Yellow Time (s)	4.4		4.4				
All-Red Time (s)	2.3		2.3				
Lost Time Adjust (s)	-1.5		-1.5				
Total Lost Time (s)	5.2		5.2				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0				
Recall Mode	C-Min		None				
Walk Time (s)	5.0						
Flash Dont Walk (s)	11.0						
Pedestrian Calls (#/hr)	0						
Act Effct Green (s)	128.1		11.5		150.0		
Actuated g/C Ratio	0.85		0.08		1.00		
v/c Ratio	0.43		0.40		0.76		
Control Delay	1.5		62.5		0.5		
Queue Delay	0.0		0.0		0.0		

Lanes, Volumes, Timings  
 6: Adv RCUT West & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Total Delay	1.5		62.5		0.5		
LOS	A		E		A		
Approach Delay	1.5				2.1		
Approach LOS	A				A		
Queue Length 50th (ft)	16		47		0		
Queue Length 95th (ft)	19		m53		0		
Internal Link Dist (ft)	1660				588	1	
Turn Bay Length (ft)			250				
Base Capacity (vph)	4179		616		4893		
Starvation Cap Reductn	0		0		0		
Spillback Cap Reductn	0		0		0		
Storage Cap Reductn	0		0		0		
Reduced v/c Ratio	0.43		0.16		0.76		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 95 (63%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 1.9 Intersection LOS: A  
 Intersection Capacity Utilization 72.6% ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 6: Adv RCUT West & Pine Ridge Rd





Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	1358	344	445	3402	282	0	0	682	0	0	280
Future Volume (vph)	138	1358	344	445	3402	282	0	0	682	0	0	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		175	0		400	0		150
Storage Lanes	1		1	1		1	0		2	0		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.76	1.00	1.00	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1719	4848	1568	1787	4893	1468	0	0	3610	0	0	2656
Flt Permitted	0.039			0.147								
Satd. Flow (perm)	71	4848	1568	277	4893	1468	0	0	3610	0	0	2656
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			287			203						76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		668			1025			624			321	
Travel Time (s)		10.1			15.5			14.2			7.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	7%	3%	1%	6%	10%	0%	0%	2%	0%	0%	7%
Adj. Flow (vph)	142	1400	355	459	3507	291	0	0	703	0	0	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	1400	355	459	3507	291	0	0	703	0	0	289
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm			Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6			1			5
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0			7.0			7.0
Minimum Split (s)	14.0	23.0	23.0	14.0	23.0	23.0			14.0			14.0
Total Split (s)	27.0	92.0	92.0	58.0	123.0	123.0			58.0			27.0
Total Split (%)	18.0%	61.3%	61.3%	38.7%	82.0%	82.0%			38.7%			18.0%
Maximum Green (s)	20.3	85.3	85.3	51.3	116.3	116.3			51.3			20.3
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4			4.4			4.4
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3			2.3			2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5			-1.5			-1.5
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2			5.2			5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0			3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min			None			None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	119.7	101.3	101.3	144.8	121.2	121.2			38.3			18.4
Actuated g/C Ratio	0.80	0.68	0.68	0.97	0.81	0.81			0.26			0.12
v/c Ratio	0.55	0.43	0.31	0.70	0.89	0.24			0.76			0.74
Control Delay	64.4	6.9	2.6	27.2	6.0	0.4			57.1			57.8
Queue Delay	0.0	0.2	0.0	0.0	1.0	0.0			0.0			0.0

Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

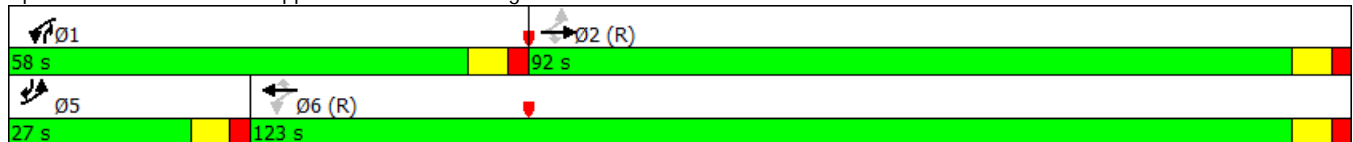
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	64.4	7.1	2.6	27.2	7.0	0.4			57.1			57.8
LOS	E	A	A	C	A	A			E			E
Approach Delay		10.5			8.7			57.1			57.8	
Approach LOS		B			A			E			E	
Queue Length 50th (ft)	98	256	30	208	331	4			281			115
Queue Length 95th (ft)	173	326	142	m200	m513	m3			318			171
Internal Link Dist (ft)		588			945			544			241	
Turn Bay Length (ft)	300		300	300		175			400			150
Base Capacity (vph)	297	3273	1151	798	3952	1225			1270			450
Starvation Cap Reductn	0	851	0	0	216	0			0			0
Spillback Cap Reductn	0	0	0	0	0	0			0			0
Storage Cap Reductn	0	0	0	0	0	0			0			0
Reduced v/c Ratio	0.48	0.58	0.31	0.58	0.94	0.24			0.55			0.64

Intersection Summary

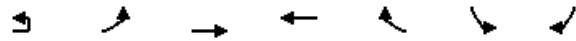
Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 88 (59%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 16.0 Intersection LOS: B  
 Intersection Capacity Utilization 84.2% ICU Level of Service E  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
8: Pine Ridge Rd & Adv RCUT East

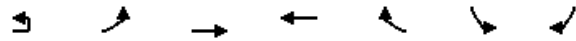
02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	▯▯		▯▯▯	▯▯▯			
Traffic Volume (vph)	490	0	1550	3639	0	0	0
Future Volume (vph)	490	0	1550	3639	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		500			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		100				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	4893	4893	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	4893	4893	0	0	0
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			1025	535		68	
Travel Time (s)			20.0	10.4		1.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	6%	6%	0%	0%	0%
Adj. Flow (vph)	505	0	1598	3752	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	505	0	1598	3752	0	0	0
Turn Type	Prot		NA	NA			
Protected Phases	5		Free	6			
Permitted Phases							
Detector Phase	5			6			
Switch Phase							
Minimum Initial (s)	7.0			7.0			
Minimum Split (s)	14.0			23.0			
Total Split (s)	28.0			122.0			
Total Split (%)	18.7%			81.3%			
Maximum Green (s)	21.3			115.3			
Yellow Time (s)	4.4			4.4			
All-Red Time (s)	2.3			2.3			
Lost Time Adjust (s)	-1.5			-1.5			
Total Lost Time (s)	5.2			5.2			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Min			
Walk Time (s)				5.0			
Flash Dont Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effct Green (s)	22.8		150.0	116.8			
Actuated g/C Ratio	0.15		1.00	0.78			
v/c Ratio	0.97		0.33	0.98			
Control Delay	99.9		0.2	14.0			
Queue Delay	0.0		0.0	2.8			

Lanes, Volumes, Timings  
 8: Pine Ridge Rd & Adv RCUT East

02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	99.9		0.2	16.9			
LOS	F		A	B			
Approach Delay			24.1	16.9			
Approach LOS			C	B			
Queue Length 50th (ft)	265		0	423			
Queue Length 95th (ft)	#378		0	#437			
Internal Link Dist (ft)			945	455		1	
Turn Bay Length (ft)	500						
Base Capacity (vph)	521		4893	3810			
Starvation Cap Reductn	0		0	40			
Spillback Cap Reductn	0		0	58			
Storage Cap Reductn	0		0	0			
Reduced v/c Ratio	0.97		0.33	1.00			

Intersection Summary











Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 44 (29%), Referenced to phase 2: and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 19.5  
 Intersection Capacity Utilization 93.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Pine Ridge Rd & Adv RCUT East



Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Lane Configurations		↑↑↑			↑↑↑					↑↑↑
Traffic Volume (vph)	0	1120	405	0	2650	0	0	0	0	989
Future Volume (vph)	0	1120	405	0	2650	0	0	0	0	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	0	0	0	0
Storage Lanes	0		1	0		0	0	0	0	3
Taper Length (ft)	25			25			25		25	
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.76
Frt		0.960								0.850
Flt Protected										
Satd. Flow (prot)	0	5923	0	0	4940	0	0	0	0	3441
Flt Permitted										
Satd. Flow (perm)	0	5923	0	0	4940	0	0	0	0	3441
Right Turn on Red			No			No				No
Satd. Flow (RTOR)										
Link Speed (mph)		35			35		35		35	
Link Distance (ft)		535			327		536		554	
Travel Time (s)		10.4			6.4		10.4		10.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	3%	0%	5%	0%	0%	0%	0%	7%
Adj. Flow (vph)	0	1179	426	0	2789	0	0	0	0	1041
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	1605	0	0	2789	0	0	0	0	1041
Turn Type		NA			NA					Prot
Protected Phases		Free			2					4
Permitted Phases										
Detector Phase					2					4
Switch Phase										
Minimum Initial (s)					7.0					7.0
Minimum Split (s)					23.0					23.0
Total Split (s)					95.0					55.0
Total Split (%)					63.3%					36.7%
Maximum Green (s)					88.0					48.0
Yellow Time (s)					5.0					5.0
All-Red Time (s)					2.0					2.0
Lost Time Adjust (s)					-1.5					-1.5
Total Lost Time (s)					5.5					5.5
Lead/Lag										
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0					3.0
Recall Mode					Min					C-Min
Walk Time (s)					5.0					5.0
Flash Dont Walk (s)					11.0					11.0
Pedestrian Calls (#/hr)					0					0
Act Effct Green (s)		150.0			89.5					49.5
Actuated g/C Ratio		1.00			0.60					0.33
v/c Ratio		0.27			0.95					0.92
Control Delay		0.1			7.2					61.4
Queue Delay		0.0			2.8					0.0

Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Total Delay		0.1			10.0				61.4	
LOS		A			A				E	
Approach Delay		0.1			10.0				61.4	
Approach LOS		A			A				E	
Queue Length 50th (ft)		0			73					429
Queue Length 95th (ft)		0			m78					#536
Internal Link Dist (ft)		455			247		456		474	
Turn Bay Length (ft)										
Base Capacity (vph)		5923			2947					1135
Starvation Cap Reductn		0			43					0
Spillback Cap Reductn		1378			101					0
Storage Cap Reductn		0			0					0
Reduced v/c Ratio		0.35			0.98					0.92

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 16.9  
 Intersection Capacity Utilization 98.3%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Pine Ridge Rd & I-75 SB Ramp



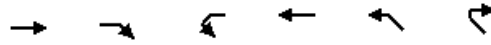
Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑↑				↖↖↖	
Traffic Volume (vph)	1120	0	0	0	2650	0
Future Volume (vph)	1120	0	0	0	2650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	1.00	1.00	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	6108	0	0	0	4848	0
Flt Permitted					0.950	
Satd. Flow (perm)	6108	0	0	0	4848	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	327			340	359	
Travel Time (s)	6.4			6.6	7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	0%	0%	0%	5%	0%
Adj. Flow (vph)	1179	0	0	0	2789	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1179	0	0	0	2789	0
Turn Type	NA				Prot	
Protected Phases	4				2	
Permitted Phases						
Detector Phase	4				2	
Switch Phase						
Minimum Initial (s)	7.0				7.0	
Minimum Split (s)	23.0				23.0	
Total Split (s)	55.0				95.0	
Total Split (%)	36.7%				63.3%	
Maximum Green (s)	48.0				88.0	
Yellow Time (s)	5.0				5.0	
All-Red Time (s)	2.0				2.0	
Lost Time Adjust (s)	-1.5				-1.5	
Total Lost Time (s)	5.5				5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0				3.0	
Recall Mode	C-Min				Min	
Walk Time (s)	5.0				5.0	
Flash Dont Walk (s)	11.0				11.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	49.5				89.5	
Actuated g/C Ratio	0.33				0.60	
v/c Ratio	0.59				0.96	
Control Delay	53.0				27.7	
Queue Delay	3.0				2.7	
Total Delay	56.0				30.4	
LOS	E				C	
Approach Delay	56.0				30.4	

Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS	E			C		
Queue Length 50th (ft)	314			674		
Queue Length 95th (ft)	367			#675		
Internal Link Dist (ft)	247		260		279	
Turn Bay Length (ft)						
Base Capacity (vph)	2015			2892		
Starvation Cap Reductn	704			66		
Spillback Cap Reductn	0			11		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.90			0.99		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 38.0  
 Intersection Capacity Utilization 109.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

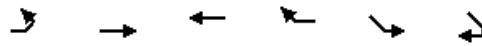
Splits and Phases: 10: Pine Ridge Rd





Lanes, Volumes, Timings  
11: Pine Ridge Rd & I-75 SB Ramp

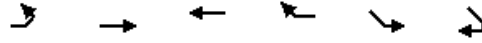
02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑↑			↔↔	
Traffic Volume (vph)	0	1120	0	0	395	0
Future Volume (vph)	0	1120	0	0	395	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	1.00	1.00	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	6108	0	0	3155	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	6108	0	0	3155	0
Right Turn on Red				No	No	No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	448		330	
Travel Time (s)		6.6	8.7		6.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	7%	0%	0%	11%	0%
Adj. Flow (vph)	0	1179	0	0	416	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1179	0	0	416	0
Turn Type		NA			Prot	
Protected Phases		4			2	
Permitted Phases						
Detector Phase		4			2	
Switch Phase						
Minimum Initial (s)		7.0			7.0	
Minimum Split (s)		23.0			23.0	
Total Split (s)		55.0			95.0	
Total Split (%)		36.7%			63.3%	
Maximum Green (s)		48.0			88.0	
Yellow Time (s)		5.0			5.0	
All-Red Time (s)		2.0			2.0	
Lost Time Adjust (s)		-1.5			-1.5	
Total Lost Time (s)		5.5			5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0			3.0	
Recall Mode		C-Min			Min	
Walk Time (s)		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	
Act Effct Green (s)		49.5			89.5	
Actuated g/C Ratio		0.33			0.60	
v/c Ratio		0.59			0.22	
Control Delay		3.9			14.4	
Queue Delay		0.0			0.0	
Total Delay		3.9			14.4	
LOS		A			B	
Approach Delay		3.9			14.4	

Lanes, Volumes, Timings  
 11: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS		A			B	
Queue Length 50th (ft)		10			93	
Queue Length 95th (ft)		11			122	
Internal Link Dist (ft)		260	368		250	
Turn Bay Length (ft)						
Base Capacity (vph)		2015			1882	
Starvation Cap Reductn		0			0	
Spillback Cap Reductn		0			0	
Storage Cap Reductn		0			0	
Reduced v/c Ratio		0.59			0.22	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 9 (6%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 6.6  
 Intersection Capacity Utilization 43.3%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 11: Pine Ridge Rd & I-75 SB Ramp



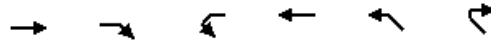
Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations				↑↑↑	↑↑	
Traffic Volume (vph)	0	0	0	2407	479	0
Future Volume (vph)	0	0	0	2407	479	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	4940	3335	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	4940	3335	0
Right Turn on Red		No			No	No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	432			314	330	
Travel Time (s)	8.4			6.1	6.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	5%	5%	0%
Adj. Flow (vph)	0	0	0	2561	510	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2561	510	0
Turn Type				NA	Prot	
Protected Phases				2	4	
Permitted Phases						
Detector Phase				2	4	
Switch Phase						
Minimum Initial (s)				7.0	7.0	
Minimum Split (s)				23.0	23.0	
Total Split (s)				98.0	52.0	
Total Split (%)				65.3%	34.7%	
Maximum Green (s)				91.0	45.0	
Yellow Time (s)				5.0	5.0	
All-Red Time (s)				2.0	2.0	
Lost Time Adjust (s)				-1.5	-1.5	
Total Lost Time (s)				5.5	5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)				3.0	3.0	
Recall Mode				Min	C-Min	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)				92.5	46.5	
Actuated g/C Ratio				0.62	0.31	
v/c Ratio				0.84	0.49	
Control Delay				4.4	44.1	
Queue Delay				0.3	0.0	
Total Delay				4.7	44.1	
LOS				A	D	
Approach Delay				4.7	44.1	

Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS				A	D	
Queue Length 50th (ft)				54	210	
Queue Length 95th (ft)				60	267	
Internal Link Dist (ft)	352			234	250	
Turn Bay Length (ft)						
Base Capacity (vph)				3046	1033	
Starvation Cap Reductn				0	0	
Spillback Cap Reductn				109	0	
Storage Cap Reductn				0	0	
Reduced v/c Ratio				0.87	0.49	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 11.2  
 Intersection Capacity Utilization 85.9%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 12: I-75 NB Ramp & Pine Ridge Rd



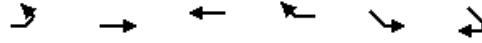
Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations			↑↑↑		↑↑↑	
Traffic Volume (vph)	0	0	2407	0	1020	0
Future Volume (vph)	0	0	2407	0	1020	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	4940	0	4713	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	4940	0	4713	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		314	260		307	
Travel Time (s)		6.1	5.1		6.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	5%	0%	8%	0%
Adj. Flow (vph)	0	0	2561	0	1085	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2561	0	1085	0
Turn Type			NA		Prot	
Protected Phases			2		4	
Permitted Phases						
Detector Phase			2		4	
Switch Phase						
Minimum Initial (s)			7.0		7.0	
Minimum Split (s)			23.0		23.0	
Total Split (s)			98.0		52.0	
Total Split (%)			65.3%		34.7%	
Maximum Green (s)			91.0		45.0	
Yellow Time (s)			5.0		5.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-1.5		-1.5	
Total Lost Time (s)			5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0		3.0	
Recall Mode			Min		C-Min	
Walk Time (s)			5.0		5.0	
Flash Dont Walk (s)			11.0		11.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)			92.5		46.5	
Actuated g/C Ratio			0.62		0.31	
v/c Ratio			0.84		0.74	
Control Delay			10.2		25.1	
Queue Delay			0.0		0.0	
Total Delay			10.2		25.1	
LOS			B		C	
Approach Delay			10.2		25.1	

Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS			B		C	
Queue Length 50th (ft)			175		132	
Queue Length 95th (ft)			202		148	
Internal Link Dist (ft)		234	180		227	
Turn Bay Length (ft)						
Base Capacity (vph)			3046		1461	
Starvation Cap Reductn			0		0	
Spillback Cap Reductn			0		0	
Storage Cap Reductn			0		0	
Reduced v/c Ratio			0.84		0.74	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 14.6  
 Intersection Capacity Utilization 90.4%  
 Analysis Period (min) 15












Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 13: Pine Ridge Rd



Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations		↑↑↑			↑↑↑	↑				↑	
Traffic Volume (vph)	0	1020	0	0	2407	686	0	0	0	193	
Future Volume (vph)	0	1020	0	0	2407	686	0	0	0	193	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		250	0	0	0	0	
Storage Lanes	0		0	0		1	0	0	0	1	
Taper Length (ft)	25			25			25		25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	
Frt						0.850				0.865	
Flt Protected											
Satd. Flow (prot)	0	4803	0	0	4940	1538	0	0	0	1644	
Flt Permitted											
Satd. Flow (perm)	0	4803	0	0	4940	1538	0	0	0	1644	
Right Turn on Red			No			No				No	
Satd. Flow (RTOR)											
Link Speed (mph)		35			35		35		35		
Link Distance (ft)		260			992		477		425		
Travel Time (s)		5.1			19.3		9.3		8.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Heavy Vehicles (%)	0%	8%	0%	0%	5%	5%	0%	0%	0%	0%	
Adj. Flow (vph)	0	1085	0	0	2561	730	0	0	0	205	
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1085	0	0	2561	730	0	0	0	205	
Turn Type		NA			NA	custom				Prot	
Protected Phases		4			Free	Free				2	
Permitted Phases						Free					
Detector Phase		4								2	
Switch Phase											
Minimum Initial (s)		7.0								7.0	
Minimum Split (s)		23.0								23.0	
Total Split (s)		52.0								98.0	
Total Split (%)		34.7%								65.3%	
Maximum Green (s)		45.0								91.0	
Yellow Time (s)		5.0								5.0	
All-Red Time (s)		2.0								2.0	
Lost Time Adjust (s)		-1.5								-1.5	
Total Lost Time (s)		5.5								5.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0								3.0	
Recall Mode		C-Min								Min	
Walk Time (s)		5.0								5.0	
Flash Dont Walk (s)		11.0								11.0	
Pedestrian Calls (#/hr)		0								0	
Act Effct Green (s)		46.5			150.0	150.0				92.5	
Actuated g/C Ratio		0.31			1.00	1.00				0.62	
v/c Ratio		0.73			0.52	0.47				0.20	
Control Delay		4.7			0.1	0.3				13.2	
Queue Delay		0.1			0.0	0.0				0.0	

Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Total Delay		4.7			0.1	0.3				13.2	
LOS		A			A	A				B	
Approach Delay		4.7			0.2				13.2		
Approach LOS		A			A				B		
Queue Length 50th (ft)		10			0	0				84	
Queue Length 95th (ft)		11			m0	m0				125	
Internal Link Dist (ft)		180			912		397		345		
Turn Bay Length (ft)						250					
Base Capacity (vph)		1488			4940	1538				1013	
Starvation Cap Reductn		19			0	0				0	
Spillback Cap Reductn		0			268	0				0	
Storage Cap Reductn		0			0	0				0	
Reduced v/c Ratio		0.74			0.55	0.47				0.20	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 20 (13%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 1.8  
 Intersection Capacity Utilization 81.9%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 14: I-75 NB Ramp & Pine Ridge Rd





Lanes, Volumes, Timings  
15: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Future Volume (vph)	376	745	92	44	2550	244	34	15	13	38	18	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.972				0.850
Flt Protected	0.950			0.950				0.973			0.967	
Satd. Flow (prot)	3433	4607	0	1805	4893	1524	0	1739	0	0	1753	1568
Flt Permitted	0.950			0.950				0.795			0.750	
Satd. Flow (perm)	3433	4607	0	1805	4893	1524	0	1421	0	0	1360	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		992			744			572			470	
Travel Time (s)		19.3			14.5			11.1			9.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	12%	0%	0%	6%	6%	6%	0%	0%	7%	0%	3%
Adj. Flow (vph)	404	801	99	47	2742	262	37	16	14	41	19	546
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	900	0	47	2742	262	0	67	0	0	60	546
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	17.0	27.8		14.8	27.0	27.0	23.5	23.5		23.0	23.0	17.0
Total Split (s)	35.0	110.0		15.0	90.0	90.0	25.0	25.0		25.0	25.0	35.0
Total Split (%)	23.3%	73.3%		10.0%	60.0%	60.0%	16.7%	16.7%		16.7%	16.7%	23.3%
Maximum Green (s)	28.2	103.2		8.2	83.2	83.2	18.1	18.1		18.1	18.1	28.2
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	37.2	116.6		10.2	85.8	85.8		14.0			14.0	53.6
Actuated g/C Ratio	0.25	0.78		0.07	0.57	0.57		0.09			0.09	0.36
v/c Ratio	0.48	0.25		0.39	0.98	0.30		0.51			0.47	0.97
Control Delay	82.9	1.0		76.0	44.4	18.0		77.1			75.6	79.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
15: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.9	1.0		76.0	44.4	18.0		77.1			75.6	79.5
LOS	F	A		E	D	B		E			E	E
Approach Delay		26.4			42.6			77.1			79.1	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	176	13		45	941	130		64			57	520
Queue Length 95th (ft)	231	17		90	#1089	189		114			104	#761
Internal Link Dist (ft)		912			664			492			390	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	850	3579		126	2797	871		185			177	560
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.48	0.25		0.37	0.98	0.30		0.36			0.34	0.97

Intersection Summary
























Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 56 (37%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 43.3 Intersection LOS: D  
 Intersection Capacity Utilization 100.7% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 15: Napa Blvd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		  	  	
Traffic Volume (vph)	0	0	0	0	0	437	0	1393	0	436	849	330
Future Volume (vph)	0	0	0	0	0	437	0	1393	0	436	849	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	400		150
Storage Lanes	0		0	0		1	0		0	2		1
Taper Length (ft)	25			25			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt						0.865						0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	1611	0	5036	0	3400	4940	1599
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1611	0	5036	0	3400	4940	1599
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)						31						
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		560			609			527			695	
Travel Time (s)		10.9			11.9			10.3			13.5	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	3%	0%	3%	5%	1%
Adj. Flow (vph)	0	0	0	0	0	451	0	1436	0	449	875	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	451	0	1436	0	449	875	340
Turn Type						Over		NA		Prot	NA	Perm
Protected Phases						1		2		1	Free	
Permitted Phases												Free
Detector Phase						1		2		1		
Switch Phase												
Minimum Initial (s)						7.0		7.0		7.0		
Minimum Split (s)						14.2		23.2		14.2		
Total Split (s)						68.0		82.0		68.0		
Total Split (%)						45.3%		54.7%		45.3%		
Maximum Green (s)						60.8		74.8		60.8		
Yellow Time (s)						4.8		4.8		4.8		
All-Red Time (s)						2.4		2.4		2.4		
Lost Time Adjust (s)						-1.5		-1.5		-1.5		
Total Lost Time (s)						5.7		5.7		5.7		
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.0		3.0		3.0		
Recall Mode						None		C-Min		None		
Walk Time (s)								5.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)						51.9		86.7		51.9	150.0	150.0
Actuated g/C Ratio						0.35		0.58		0.35	1.00	1.00
v/c Ratio						0.78		0.49		0.38	0.18	0.21
Control Delay						48.4		1.4		36.9	0.1	0.3
Queue Delay						0.2		0.4		0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & SB CFI

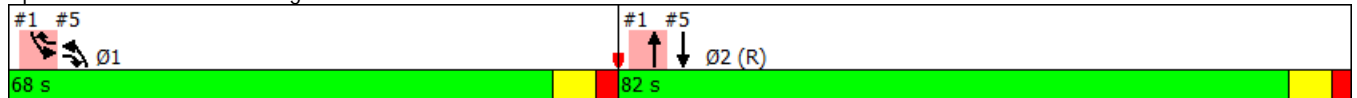
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay						48.6		1.8		36.9	0.1	0.3
LOS						D		A		D	A	A
Approach Delay					48.6			1.8			10.1	
Approach LOS					D			A			B	
Queue Length 50th (ft)						416		0		168	0	0
Queue Length 95th (ft)						510		0		195	0	0
Internal Link Dist (ft)		480			529			447			615	
Turn Bay Length (ft)										400		150
Base Capacity (vph)						687		2910		1412	4940	1599
Starvation Cap Reductn						25		830		0	0	0
Spillback Cap Reductn						0		0		0	0	0
Storage Cap Reductn						0		0		0	0	0
Reduced v/c Ratio						0.68		0.69		0.32	0.18	0.21

Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 12 (8%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 11.6  
 Intersection Capacity Utilization 63.5%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 1: Livingston Rd & SB CFI



Lanes, Volumes, Timings  
2: NB CFI & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑		↖					↗
Traffic Volume (vph)	0	2481	475	0	1674	0	356	0	0	0	0	330
Future Volume (vph)	0	2481	475	0	1674	0	356	0	0	0	0	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		3	0		0	2		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	7471	1599	0	5036	0	3433	0	0	0	0	1627
Flt Permitted							0.950					
Satd. Flow (perm)	0	7471	1599	0	5036	0	3433	0	0	0	0	1627
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)			490									31
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		808			185			681			560	
Travel Time (s)		15.7			3.6			13.3			10.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	1%	0%	3%	0%	2%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	2558	490	0	1726	0	367	0	0	0	0	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2558	490	0	1726	0	367	0	0	0	0	340
Turn Type		NA	Perm		NA		Prot					custom
Protected Phases		2 5			6		8					5
Permitted Phases			2 5									4 5
Detector Phase		2 5	2 5		6		8					5
Switch Phase												
Minimum Initial (s)					7.0		7.0					7.0
Minimum Split (s)					23.2		23.2					14.2
Total Split (s)					80.0		43.0					27.0
Total Split (%)					53.3%		28.7%					18.0%
Maximum Green (s)					72.8		35.8					19.8
Yellow Time (s)					4.8		4.8					4.8
All-Red Time (s)					2.4		2.4					2.4
Lost Time Adjust (s)					-1.5		-1.5					-1.5
Total Lost Time (s)					5.7		5.7					5.7
Lead/Lag					Lag							Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0					3.0
Recall Mode					C-Min		None					None
Walk Time (s)					5.0		5.0					
Flash Dont Walk (s)					11.0		11.0					
Pedestrian Calls (#/hr)					0		0					
Act Effct Green (s)		92.6	92.6		74.3		37.3					64.3
Actuated g/C Ratio		0.62	0.62		0.50		0.25					0.43
v/c Ratio		0.55	0.42		0.69		0.43					0.48
Control Delay		13.7	1.8		2.7		46.7					30.4
Queue Delay		0.1	0.0		0.0		0.0					0.7

## Lanes, Volumes, Timings 2: NB CFI & Pine Ridge Rd

02/05/2018

Lane Group	Ø1	Ø2	Ø4
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	30.0	77.0	43.0
Total Split (%)	20%	51%	29%
Maximum Green (s)	22.8	69.8	35.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

# Lanes, Volumes, Timings

## 2: NB CFI & Pine Ridge Rd

02/05/2018

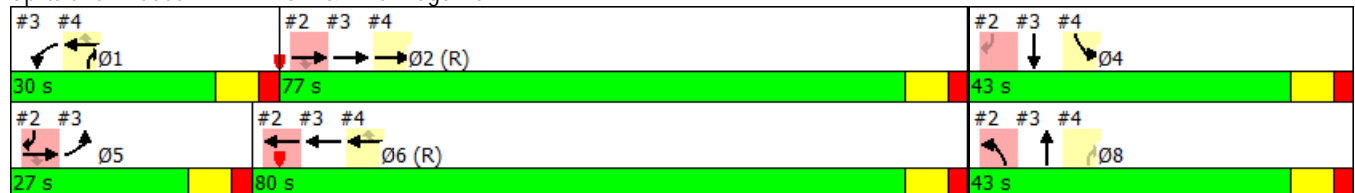
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		13.8	1.8		2.7		46.7					31.0
LOS		B	A		A		D					C
Approach Delay		11.9			2.7			46.7			31.0	
Approach LOS		B			A			D			C	
Queue Length 50th (ft)		284	0		13		197					215
Queue Length 95th (ft)		304	35		11		245					309
Internal Link Dist (ft)		728			105			601			480	
Turn Bay Length (ft)			300									
Base Capacity (vph)		4612	1174		2494		853					715
Starvation Cap Reductn		0	0		0		0					141
Spillback Cap Reductn		629	0		0		0					0
Storage Cap Reductn		0	0		0		0					0
Reduced v/c Ratio		0.64	0.42		0.69		0.43					0.59

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 12.5  
 Intersection Capacity Utilization 75.8%  
 Analysis Period (min) 15

























Intersection LOS: B  
 ICU Level of Service D

### Splits and Phases: 2: NB CFI & Pine Ridge Rd



### Lanes, Volumes, Timings 3: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (vph)	298	2183	0	221	1674	0	0	1095	0	0	849	0
Future Volume (vph)	298	2183	0	221	1674	0	0	1095	0	0	849	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt												
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3467	5036	0	3367	5036	0	0	5036	0	0	4988	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3467	5036	0	3367	5036	0	0	5036	0	0	4988	0
Right Turn on Red	No			No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)	35			35			35			35		
Link Distance (ft)	185			164			581			527		
Travel Time (s)	3.6			3.2			11.3			10.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	0%	4%	3%	0%	0%	3%	0%	0%	4%	0%
Adj. Flow (vph)	307	2251	0	228	1726	0	0	1129	0	0	875	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	0	228	1726	0	0	1129	0	0	875	0
Turn Type	Prot	NA		Prot	NA			NA			NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases												
Detector Phase	5	2		1	6			8			4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Minimum Split (s)	14.2	23.2		14.2	23.2			23.2			23.2	
Total Split (s)	27.0	77.0		30.0	80.0			43.0			43.0	
Total Split (%)	18.0%	51.3%		20.0%	53.3%			28.7%			28.7%	
Maximum Green (s)	19.8	69.8		22.8	72.8			35.8			35.8	
Yellow Time (s)	4.8	4.8		4.8	4.8			4.8			4.8	
All-Red Time (s)	2.4	2.4		2.4	2.4			2.4			2.4	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	5.7	5.7		5.7	5.7			5.7			5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Recall Mode	None	C-Min		None	C-Min			None			None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	21.3	71.3		24.3	74.3			37.3			37.3	
Actuated g/C Ratio	0.14	0.48		0.16	0.50			0.25			0.25	
v/c Ratio	0.62	0.94		0.42	0.69			0.90			0.71	
Control Delay	68.6	32.3		47.8	23.9			65.1			55.0	
Queue Delay	59.1	0.1		26.8	0.0			0.0			0.0	
Total Delay	127.8	32.3		74.5	23.9			65.1			55.0	
LOS	F	C		E	C			E			D	
Approach Delay		43.8			29.8			65.1			55.0	



Lanes, Volumes, Timings  
 3: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			E			D		
Queue Length 50th (ft)	107	753		58	567			394			287	
Queue Length 95th (ft)	163	828		89	623			#460			340	
Internal Link Dist (ft)		105			84			501			447	
Turn Bay Length (ft)												
Base Capacity (vph)	492	2393		545	2494			1252			1240	
Starvation Cap Reductn	217	0		312	0			0			0	
Spillback Cap Reductn	0	3		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.12	0.94		0.98	0.69			0.90			0.71	

Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 44.8  
 Intersection Capacity Utilization 83.9%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↗			↗	↘↘		
Traffic Volume (vph)	0	2183	0	0	1895	437	0	0	611	436	0	0
Future Volume (vph)	0	2183	0	0	1895	437	0	0	611	436	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	0		0	0		0
Storage Lanes	0		0	0		3	0		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt						0.850			0.865			
Flt Protected										0.950		
Satd. Flow (prot)	0	5036	0	0	7471	1583	0	0	1580	3400	0	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	5036	0	0	7471	1583	0	0	1580	3400	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						451			31			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		164			1740			642			609	
Travel Time (s)		3.2			33.9			12.5			11.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	0%	3%	2%	0%	0%	4%	3%	0%	0%
Adj. Flow (vph)	0	2251	0	0	1954	451	0	0	630	449	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2251	0	0	1954	451	0	0	630	449	0	0
Turn Type		NA			NA	Perm			custom	Prot		
Protected Phases		2			1	6			1	4		
Permitted Phases						1	6		1	8		
Detector Phase		2			1	6	1	6	1	4		
Switch Phase												
Minimum Initial (s)		7.0							7.0	7.0		
Minimum Split (s)		23.2							14.2	23.2		
Total Split (s)		77.0							30.0	43.0		
Total Split (%)		51.3%							20.0%	28.7%		
Maximum Green (s)		69.8							22.8	35.8		
Yellow Time (s)		4.8							4.8	4.8		
All-Red Time (s)		2.4							2.4	2.4		
Lost Time Adjust (s)		-1.5							-1.5	-1.5		
Total Lost Time (s)		5.7							5.7	5.7		
Lead/Lag		Lag							Lead			
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0							3.0	3.0		
Recall Mode		C-Min							None	None		
Walk Time (s)		5.0								5.0		
Flash Dont Walk (s)		11.0								11.0		
Pedestrian Calls (#/hr)		0								0		
Act Effct Green (s)		71.3			98.6	98.6			67.3	37.3		
Actuated g/C Ratio		0.48			0.66	0.66			0.45	0.25		
v/c Ratio		0.94			0.40	0.38			0.87	0.53		
Control Delay		6.7			9.4	1.8			48.8	50.0		
Queue Delay		0.0			0.0	0.0			2.6	0.0		

# Lanes, Volumes, Timings

## 4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	Ø5	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	14.2	23.2	23.2
Total Split (s)	27.0	80.0	43.0
Total Split (%)	18%	53%	29%
Maximum Green (s)	19.8	72.8	35.8
Yellow Time (s)	4.8	4.8	4.8
All-Red Time (s)	2.4	2.4	2.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Min	None
Walk Time (s)		5.0	5.0
Flash Dont Walk (s)		11.0	11.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			

Lanes, Volumes, Timings  
4: Pine Ridge Rd & SB CFI

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		6.7			9.4	1.8			51.3	50.0		
LOS		A			A	A			D	D		
Approach Delay		6.7			8.0			51.3			50.0	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)		18			204	32			528	241		
Queue Length 95th (ft)		39			193	34			#766	300		
Internal Link Dist (ft)		84			1660			562			529	
Turn Bay Length (ft)						400						
Base Capacity (vph)		2393			4910	1195			725	845		
Starvation Cap Reductn		0			0	0			37	0		
Spillback Cap Reductn		0			696	44			0	0		
Storage Cap Reductn		0			0	0			0	0		
Reduced v/c Ratio		0.94			0.46	0.39			0.92	0.53		

Intersection Summary























Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 15.6 Intersection LOS: B  
 Intersection Capacity Utilization 105.3% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Pine Ridge Rd & SB CFI



Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations							 	  			  	
Traffic Volume (vph)	0	0	475	0	0	0	356	1095	611	0	1128	0
Future Volume (vph)	0	0	475	0	0	0	356	1095	611	0	1128	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		150	0		0
Storage Lanes	0		1	0		0	2		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.865						0.850			
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	0	3433	5036	1553	0	4988	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	0	3433	5036	1553	0	4988	0
Right Turn on Red			Yes				No		No			No
Satd. Flow (RTOR)			51									
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			642			2204			581	
Travel Time (s)		13.3			12.5			42.9			11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	2%	3%	4%	0%	4%	0%
Adj. Flow (vph)	0	0	490	0	0	0	367	1129	630	0	1163	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	490	0	0	0	367	1129	630	0	1163	0
Turn Type			Over				Prot	NA	Perm		NA	
Protected Phases			1				1	Free			2	
Permitted Phases									Free			
Detector Phase			1				1				2	
Switch Phase												
Minimum Initial (s)			7.0				7.0				7.0	
Minimum Split (s)			14.2				14.2				23.2	
Total Split (s)			68.0				68.0				82.0	
Total Split (%)			45.3%				45.3%				54.7%	
Maximum Green (s)			60.8				60.8				74.8	
Yellow Time (s)			4.8				4.8				4.8	
All-Red Time (s)			2.4				2.4				2.4	
Lost Time Adjust (s)			-1.5				-1.5				-1.5	
Total Lost Time (s)			5.7				5.7				5.7	
Lead/Lag			Lead				Lead				Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0				3.0				3.0	
Recall Mode			None				None				C-Min	
Walk Time (s)											5.0	
Flash Dont Walk (s)											11.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)			51.9				51.9	150.0	150.0		86.7	
Actuated g/C Ratio			0.35				0.35	1.00	1.00		0.58	
v/c Ratio			0.82				0.31	0.22	0.41		0.40	
Control Delay			49.7				35.5	0.1	0.8		2.1	
Queue Delay			0.1				0.0	0.0	0.1		0.2	

Lanes, Volumes, Timings  
5: Livingston Rd & NB CFI

02/05/2018

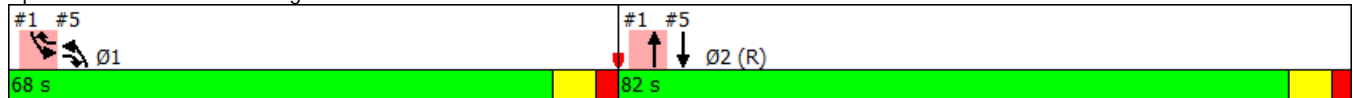
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			49.7				35.5	0.1	0.8		2.3	
LOS			D				D	A	A		A	
Approach Delay		49.7						6.4			2.3	
Approach LOS		D						A			A	
Queue Length 50th (ft)			394				133	0	0		9	
Queue Length 95th (ft)			492				158	0	0		11	
Internal Link Dist (ft)		601			562			2124			501	
Turn Bay Length (ft)							400		150			
Base Capacity (vph)			705				1425	5036	1553		2882	
Starvation Cap Reductn			6				0	0	0		755	
Spillback Cap Reductn			0				0	0	120		0	
Storage Cap Reductn			0				0	0	0		0	
Reduced v/c Ratio			0.70				0.26	0.22	0.44		0.55	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 12 (8%), Referenced to phase 2:NBT and 6:, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 10.8  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 5: Livingston Rd & NB CFI



# Lanes, Volumes, Timings

## 6: Adv RCUT West & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↓↓		↑↑↑		
Traffic Volume (vph)	3598	0	422	0	2629	0	0
Future Volume (vph)	3598	0	422	0	2629	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		250		0	0
Storage Lanes		0		2		0	0
Taper Length (ft)				100		25	
Lane Util. Factor	0.91	1.00	0.97	1.00	0.91	1.00	1.00
Frt							
Flt Protected			0.950				
Satd. Flow (prot)	5036	0	3433	0	5036	0	0
Flt Permitted			0.950				
Satd. Flow (perm)	5036	0	3433	0	5036	0	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35				35	35	
Link Distance (ft)	1740				668	74	
Travel Time (s)	33.9				13.0	1.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	2%	0%	3%	0%	0%
Adj. Flow (vph)	3748	0	440	0	2739	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	3748	0	440	0	2739	0	0
Turn Type	NA		Prot		NA		
Protected Phases	2		1		Free		
Permitted Phases							
Detector Phase	2		1				
Switch Phase							
Minimum Initial (s)	7.0		7.0				
Minimum Split (s)	23.0		14.0				
Total Split (s)	123.0		27.0				
Total Split (%)	82.0%		18.0%				
Maximum Green (s)	116.3		20.3				
Yellow Time (s)	4.4		4.4				
All-Red Time (s)	2.3		2.3				
Lost Time Adjust (s)	-1.5		-1.5				
Total Lost Time (s)	5.2		5.2				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0				
Recall Mode	C-Min		None				
Walk Time (s)	5.0						
Flash Dont Walk (s)	11.0						
Pedestrian Calls (#/hr)	0						
Act Effct Green (s)	117.9		21.7		150.0		
Actuated g/C Ratio	0.79		0.14		1.00		
v/c Ratio	0.95		0.89		0.54		
Control Delay	9.5		74.0		0.3		
Queue Delay	44.5		0.0		0.0		

Lanes, Volumes, Timings  
6: Adv RCUT West & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Total Delay	53.9		74.0		0.3		
LOS	D		E		A		
Approach Delay	53.9				10.5		
Approach LOS	D				B		
Queue Length 50th (ft)	171		234		0		
Queue Length 95th (ft)	199		#319		0		
Internal Link Dist (ft)	1660				588	1	
Turn Bay Length (ft)			250				
Base Capacity (vph)	3958		498		5036		
Starvation Cap Reductn	0		0		0		
Spillback Cap Reductn	623		0		0		
Storage Cap Reductn	0		0		0		
Reduced v/c Ratio	1.12		0.88		0.54		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 93 (62%), Referenced to phase 2:EBT and 6:, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 34.0 Intersection LOS: C  
 Intersection Capacity Utilization 90.2% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Adv RCUT West & Pine Ridge Rd





Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	3146	420	204	2376	311	0	0	879	0	0	675
Future Volume (vph)	454	3146	420	204	2376	311	0	0	879	0	0	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		175	0		400	0		150
Storage Lanes	1		1	1		1	0		2	0		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.76	1.00	1.00	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1736	5036	1599	1770	5036	1553	0	0	3610	0	0	2707
Flt Permitted	0.040			0.042								
Satd. Flow (perm)	73	5036	1599	78	5036	1553	0	0	3610	0	0	2707
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			334			174						27
Link Speed (mph)		45			45			30				30
Link Distance (ft)		668			1025			628				321
Travel Time (s)		10.1			15.5			14.3				7.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	1%	2%	3%	4%	0%	0%	2%	0%	0%	5%
Adj. Flow (vph)	473	3277	438	213	2475	324	0	0	916	0	0	703
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	3277	438	213	2475	324	0	0	916	0	0	703
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm			Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6			1			5
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0			7.0			7.0
Minimum Split (s)	14.0	23.0	23.0	14.0	23.0	23.0			14.0			14.0
Total Split (s)	54.0	104.0	104.0	46.0	96.0	96.0			46.0			54.0
Total Split (%)	36.0%	69.3%	69.3%	30.7%	64.0%	64.0%			30.7%			36.0%
Maximum Green (s)	47.3	97.3	97.3	39.3	89.3	89.3			39.3			47.3
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4			4.4			4.4
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3			2.3			2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5			-1.5			-1.5
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2			5.2			5.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0			3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min			None			None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	142.5	99.1	99.1	135.6	95.1	95.1			40.5			44.5
Actuated g/C Ratio	0.95	0.66	0.66	0.90	0.63	0.63			0.27			0.30
v/c Ratio	0.84	0.98	0.37	0.40	0.78	0.31			0.94			0.86
Control Delay	53.7	24.4	1.0	38.3	16.6	4.2			71.0			58.7
Queue Delay	0.1	41.2	0.5	0.0	0.2	0.0			0.0			0.0

Lanes, Volumes, Timings  
7: Whippoorwill Ln & Pine Ridge Rd

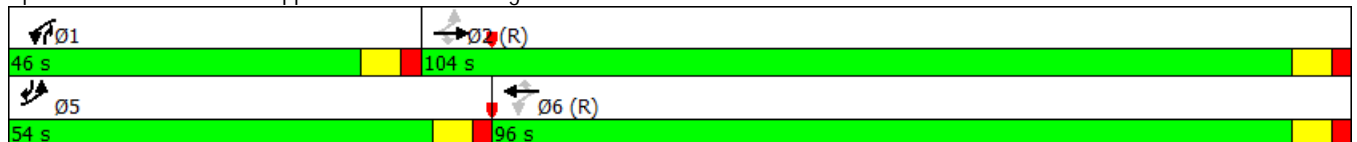
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	53.8	65.6	1.5	38.3	16.8	4.2			71.0			58.7
LOS	D	E	A	D	B	A			E			E
Approach Delay		57.6			17.0			71.0			58.7	
Approach LOS		E			B			E			E	
Queue Length 50th (ft)	376	1035	13	111	518	24			385			352
Queue Length 95th (ft)	m385	#1272	m22	224	760	53			#492			430
Internal Link Dist (ft)		588			945			548			241	
Turn Bay Length (ft)	300		300	300		175			400			150
Base Capacity (vph)	611	3327	1169	530	3193	1048			981			898
Starvation Cap Reductn	3	382	351	0	182	0			0			0
Spillback Cap Reductn	0	0	0	0	0	0			0			0
Storage Cap Reductn	0	0	0	0	0	0			0			0
Reduced v/c Ratio	0.78	1.11	0.54	0.40	0.82	0.31			0.93			0.78

Intersection Summary

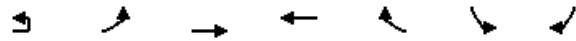
Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 131 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 45.2 Intersection LOS: D  
 Intersection Capacity Utilization 90.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Whippoorwill Ln & Pine Ridge Rd



Lanes, Volumes, Timings  
8: Pine Ridge Rd & Adv RCUT East

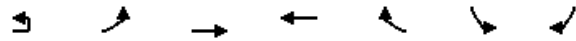
02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	▯▯		▯▯▯	▯▯▯			
Traffic Volume (vph)	514	0	3511	2377	0	0	0
Future Volume (vph)	514	0	3511	2377	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		500			0	0	0
Storage Lanes		2			0	0	0
Taper Length (ft)		100				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	1.00	1.00
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	3433	0	5036	5036	0	0	0
Flt Permitted	0.950						
Satd. Flow (perm)	3433	0	5036	5036	0	0	0
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)			35	35		35	
Link Distance (ft)			1025	535		68	
Travel Time (s)			20.0	10.4		1.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	3%	3%	0%	0%	0%
Adj. Flow (vph)	535	0	3657	2476	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	535	0	3657	2476	0	0	0
Turn Type	Prot		NA	NA			
Protected Phases	5		Free	6			
Permitted Phases							
Detector Phase	5			6			
Switch Phase							
Minimum Initial (s)	7.0			7.0			
Minimum Split (s)	14.0			23.0			
Total Split (s)	45.0			105.0			
Total Split (%)	30.0%			70.0%			
Maximum Green (s)	38.3			98.3			
Yellow Time (s)	4.4			4.4			
All-Red Time (s)	2.3			2.3			
Lost Time Adjust (s)	-1.5			-1.5			
Total Lost Time (s)	5.2			5.2			
Lead/Lag	Lead			Lag			
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			
Recall Mode	None			C-Min			
Walk Time (s)				5.0			
Flash Dont Walk (s)				11.0			
Pedestrian Calls (#/hr)				0			
Act Effct Green (s)	30.2		150.0	109.4			
Actuated g/C Ratio	0.20		1.00	0.73			
v/c Ratio	0.78		0.73	0.67			
Control Delay	52.9		0.3	5.1			
Queue Delay	0.0		0.0	0.3			

Lanes, Volumes, Timings  
 8: Pine Ridge Rd & Adv RCUT East

02/05/2018



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	52.9		0.3	5.4			
LOS	D		A	A			
Approach Delay			7.0	5.4			
Approach LOS			A	A			
Queue Length 50th (ft)	251		0	107			
Queue Length 95th (ft)	m260		m0	110			
Internal Link Dist (ft)			945	455		1	
Turn Bay Length (ft)	500						
Base Capacity (vph)	910		5036	3674			
Starvation Cap Reductn	0		0	505			
Spillback Cap Reductn	0		0	0			
Storage Cap Reductn	0		0	0			
Reduced v/c Ratio	0.59		0.73	0.78			

Intersection Summary











Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 109 (73%), Referenced to phase 2: and 6:WBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 71.2%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Pine Ridge Rd & Adv RCUT East



Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR
Lane Configurations		↑↑↑			↑↑↑					↑↑↑
Traffic Volume (vph)	0	2896	540	0	1569	0	0	0	0	808
Future Volume (vph)	0	2896	540	0	1569	0	0	0	0	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	0	0	0	0
Storage Lanes	0		1	0		0	0	0	0	3
Taper Length (ft)	25			25			25		25	
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.76
Frt		0.976								0.850
Flt Protected										
Satd. Flow (prot)	0	6193	0	0	5036	0	0	0	0	3610
Flt Permitted										
Satd. Flow (perm)	0	6193	0	0	5036	0	0	0	0	3610
Right Turn on Red			No			No				No
Satd. Flow (RTOR)										
Link Speed (mph)		35			35		35		35	
Link Distance (ft)		535			327		536		554	
Travel Time (s)		10.4			6.4		10.4		10.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	3%	0%	3%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	3048	568	0	1652	0	0	0	0	851
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	3616	0	0	1652	0	0	0	0	851
Turn Type		NA			NA					Prot
Protected Phases		Free			2					4
Permitted Phases										
Detector Phase					2					4
Switch Phase										
Minimum Initial (s)					7.0					7.0
Minimum Split (s)					23.0					23.0
Total Split (s)					62.0					88.0
Total Split (%)					41.3%					58.7%
Maximum Green (s)					55.0					81.0
Yellow Time (s)					5.0					5.0
All-Red Time (s)					2.0					2.0
Lost Time Adjust (s)					-1.5					-1.5
Total Lost Time (s)					5.5					5.5
Lead/Lag										
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0					3.0
Recall Mode					Min					C-Min
Walk Time (s)					5.0					5.0
Flash Dont Walk (s)					11.0					11.0
Pedestrian Calls (#/hr)					0					0
Act Effct Green (s)		150.0			56.5					82.5
Actuated g/C Ratio		1.00			0.38					0.55
v/c Ratio		0.58			0.87					0.43
Control Delay		0.3			10.6					20.7
Queue Delay		0.2			0.2					0.0

Lanes, Volumes, Timings  
 9: Pine Ridge Rd & I-75 SB Ramp

02/05/2018

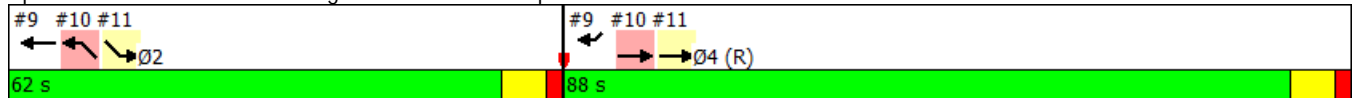
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NWL	NWR	SWL	SWR	
Total Delay		0.4			10.8					20.7	
LOS		A			B					C	
Approach Delay		0.4			10.8				20.7		
Approach LOS		A			B				C		
Queue Length 50th (ft)		0			65					208	
Queue Length 95th (ft)		0			75					250	
Internal Link Dist (ft)		455			247		456		474		
Turn Bay Length (ft)											
Base Capacity (vph)		6193			1896					1985	
Starvation Cap Reductn		0			23					0	
Spillback Cap Reductn		1199			0					0	
Storage Cap Reductn		0			0					0	
Reduced v/c Ratio		0.72			0.88					0.43	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 21 (14%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 6.1  
 Intersection Capacity Utilization 101.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service G

Splits and Phases: 9: Pine Ridge Rd & I-75 SB Ramp



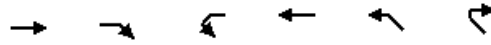
Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑↑				↖↖↖	
Traffic Volume (vph)	2896	0	0	0	1569	0
Future Volume (vph)	2896	0	0	0	1569	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	1.00	1.00	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	6346	0	0	0	4942	0
Flt Permitted					0.950	
Satd. Flow (perm)	6346	0	0	0	4942	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	327			340	359	
Travel Time (s)	6.4			6.6	7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	0%	3%	0%
Adj. Flow (vph)	3048	0	0	0	1652	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3048	0	0	0	1652	0
Turn Type	NA				Prot	
Protected Phases	4				2	
Permitted Phases						
Detector Phase	4				2	
Switch Phase						
Minimum Initial (s)	7.0				7.0	
Minimum Split (s)	23.0				23.0	
Total Split (s)	88.0				62.0	
Total Split (%)	58.7%				41.3%	
Maximum Green (s)	81.0				55.0	
Yellow Time (s)	5.0				5.0	
All-Red Time (s)	2.0				2.0	
Lost Time Adjust (s)	-1.5				-1.5	
Total Lost Time (s)	5.5				5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0				3.0	
Recall Mode	C-Min				Min	
Walk Time (s)	5.0				5.0	
Flash Dont Walk (s)	11.0				11.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	82.5				56.5	
Actuated g/C Ratio	0.55				0.38	
v/c Ratio	0.87				0.89	
Control Delay	24.3				19.6	
Queue Delay	9.4				0.0	
Total Delay	33.7				19.6	
LOS	C				B	
Approach Delay	33.7				19.6	

Lanes, Volumes, Timings  
10: Pine Ridge Rd

02/05/2018

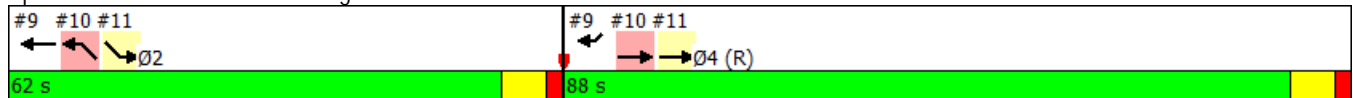


Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS	C			B		
Queue Length 50th (ft)	635			139		
Queue Length 95th (ft)	694			150		
Internal Link Dist (ft)	247		260		279	
Turn Bay Length (ft)						
Base Capacity (vph)	3490			1861		
Starvation Cap Reductn	460			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	1.01			0.89		

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	21 (14%), Referenced to phase 4:SWR, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	28.8
Intersection Capacity Utilization	112.2%
Analysis Period (min)	15
	Intersection LOS: C
	ICU Level of Service H

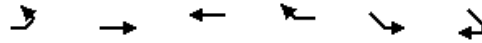
Splits and Phases: 10: Pine Ridge Rd





Lanes, Volumes, Timings  
11: Pine Ridge Rd & I-75 SB Ramp

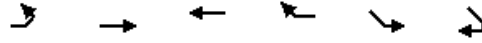
02/05/2018



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑↑			↔↔	
Traffic Volume (vph)	0	2896	0	0	670	0
Future Volume (vph)	0	2896	0	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	1.00	1.00	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	6346	0	0	3367	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	6346	0	0	3367	0
Right Turn on Red				No	No	No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	448		330	
Travel Time (s)		6.6	8.7		6.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%
Adj. Flow (vph)	0	3048	0	0	705	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3048	0	0	705	0
Turn Type		NA			Prot	
Protected Phases		4			2	
Permitted Phases						
Detector Phase		4			2	
Switch Phase						
Minimum Initial (s)		7.0			7.0	
Minimum Split (s)		23.0			23.0	
Total Split (s)		88.0			62.0	
Total Split (%)		58.7%			41.3%	
Maximum Green (s)		81.0			55.0	
Yellow Time (s)		5.0			5.0	
All-Red Time (s)		2.0			2.0	
Lost Time Adjust (s)		-1.5			-1.5	
Total Lost Time (s)		5.5			5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0			3.0	
Recall Mode		C-Min			Min	
Walk Time (s)		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	
Act Effct Green (s)		82.5			56.5	
Actuated g/C Ratio		0.55			0.38	
v/c Ratio		0.87			0.56	
Control Delay		4.7			38.9	
Queue Delay		0.1			0.0	
Total Delay		4.7			38.9	
LOS		A			D	
Approach Delay		4.7			38.9	

Lanes, Volumes, Timings  
 11: Pine Ridge Rd & I-75 SB Ramp

02/05/2018



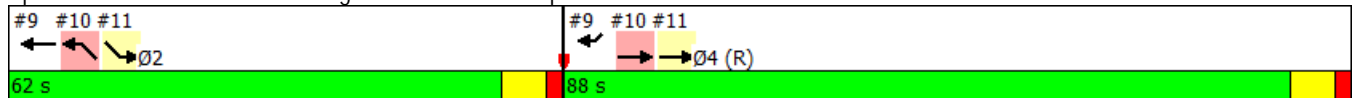
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS		A			D	
Queue Length 50th (ft)		48			279	
Queue Length 95th (ft)		51			343	
Internal Link Dist (ft)		260	368		250	
Turn Bay Length (ft)						
Base Capacity (vph)		3490			1268	
Starvation Cap Reductn		0			0	
Spillback Cap Reductn		33			0	
Storage Cap Reductn		0			0	
Reduced v/c Ratio		0.88			0.56	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 21 (14%), Referenced to phase 4:SWR, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 11.2  
 Intersection Capacity Utilization 69.0%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 11: Pine Ridge Rd & I-75 SB Ramp



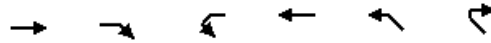
Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations				↑↑↑	↑↑	
Traffic Volume (vph)	0	0	0	1339	373	0
Future Volume (vph)	0	0	0	1339	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.97	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	5085	3433	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	5085	3433	0
Right Turn on Red		No			No	No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	432			314	330	
Travel Time (s)	8.4			6.1	6.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	0	0	0	1380	385	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1380	385	0
Turn Type				NA	Prot	
Protected Phases				2	4	
Permitted Phases						
Detector Phase				2	4	
Switch Phase						
Minimum Initial (s)				7.0	7.0	
Minimum Split (s)				23.0	23.0	
Total Split (s)				51.0	99.0	
Total Split (%)				34.0%	66.0%	
Maximum Green (s)				44.0	92.0	
Yellow Time (s)				5.0	5.0	
All-Red Time (s)				2.0	2.0	
Lost Time Adjust (s)				-1.5	-1.5	
Total Lost Time (s)				5.5	5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)				3.0	3.0	
Recall Mode				Min	C-Min	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)				45.5	93.5	
Actuated g/C Ratio				0.30	0.62	
v/c Ratio				0.89	0.18	
Control Delay				11.4	12.2	
Queue Delay				0.0	0.0	
Total Delay				11.4	12.2	
LOS				B	B	
Approach Delay				11.4	12.2	

Lanes, Volumes, Timings  
 12: I-75 NB Ramp & Pine Ridge Rd

02/05/2018



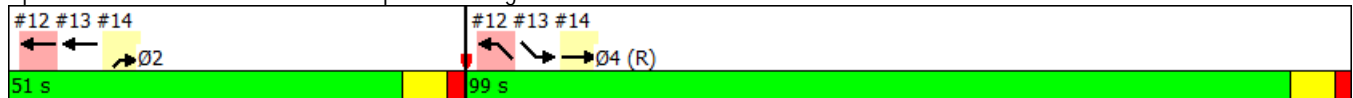
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Approach LOS				B	B	
Queue Length 50th (ft)				16	78	
Queue Length 95th (ft)				76	103	
Internal Link Dist (ft)	352			234	250	
Turn Bay Length (ft)						
Base Capacity (vph)				1542	2139	
Starvation Cap Reductn				0	0	
Spillback Cap Reductn				0	0	
Storage Cap Reductn				0	0	
Reduced v/c Ratio				0.89	0.18	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 11.6  
 Intersection Capacity Utilization 59.9%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 12: I-75 NB Ramp & Pine Ridge Rd



Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations			↑↑↑		↑↑↑	
Traffic Volume (vph)	0	0	1339	0	2689	0
Future Volume (vph)	0	0	1339	0	2689	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	0.94	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	5085	0	4942	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	5085	0	4942	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		314	260		307	
Travel Time (s)		6.1	5.1		6.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	2%	0%	3%	0%
Adj. Flow (vph)	0	0	1380	0	2772	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1380	0	2772	0
Turn Type			NA		Prot	
Protected Phases			2		4	
Permitted Phases						
Detector Phase			2		4	
Switch Phase						
Minimum Initial (s)			7.0		7.0	
Minimum Split (s)			23.0		23.0	
Total Split (s)			51.0		99.0	
Total Split (%)			34.0%		66.0%	
Maximum Green (s)			44.0		92.0	
Yellow Time (s)			5.0		5.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-1.5		-1.5	
Total Lost Time (s)			5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0		3.0	
Recall Mode			Min		C-Min	
Walk Time (s)			5.0		5.0	
Flash Dont Walk (s)			11.0		11.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)			45.5		93.5	
Actuated g/C Ratio			0.30		0.62	
v/c Ratio			0.89		0.90	
Control Delay			50.0		17.5	
Queue Delay			47.2		0.3	
Total Delay			97.2		17.8	
LOS			F		B	
Approach Delay			97.2		17.8	

Lanes, Volumes, Timings  
13: Pine Ridge Rd

02/05/2018



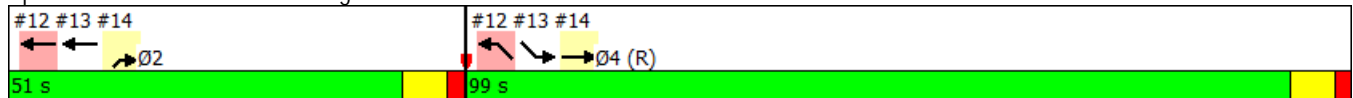
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Approach LOS			F		B	
Queue Length 50th (ft)			496		333	
Queue Length 95th (ft)			413		411	
Internal Link Dist (ft)		234	180		227	
Turn Bay Length (ft)						
Base Capacity (vph)			1542		3080	
Starvation Cap Reductn			474		56	
Spillback Cap Reductn			9		0	
Storage Cap Reductn			0		0	
Reduced v/c Ratio			1.29		0.92	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 44.2  
 Intersection Capacity Utilization 100.4%  
 Analysis Period (min) 15












Intersection LOS: D  
 ICU Level of Service G

Splits and Phases: 13: Pine Ridge Rd



Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER	
Lane Configurations		↑↑↑			↑↑↑	↑				↑	
Traffic Volume (vph)	0	2689	0	0	1339	534	0	0	0	176	
Future Volume (vph)	0	2689	0	0	1339	534	0	0	0	176	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		250	0	0	0	0	
Storage Lanes	0		0	0		1	0	0	0	1	
Taper Length (ft)	25			25			25		25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	
Frt						0.850				0.865	
Flt Protected											
Satd. Flow (prot)	0	5036	0	0	5085	1553	0	0	0	1627	
Flt Permitted											
Satd. Flow (perm)	0	5036	0	0	5085	1553	0	0	0	1627	
Right Turn on Red			No			No				No	
Satd. Flow (RTOR)											
Link Speed (mph)		35			35		35		35		
Link Distance (ft)		260			992		477		425		
Travel Time (s)		5.1			19.3		9.3		8.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	0%	0%	2%	4%	0%	0%	0%	1%	
Adj. Flow (vph)	0	2772	0	0	1380	551	0	0	0	181	
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	2772	0	0	1380	551	0	0	0	181	
Turn Type		NA			NA	custom				Prot	
Protected Phases		4			Free	Free				2	
Permitted Phases						Free					
Detector Phase		4								2	
Switch Phase											
Minimum Initial (s)		7.0								7.0	
Minimum Split (s)		23.0								23.0	
Total Split (s)		99.0								51.0	
Total Split (%)		66.0%								34.0%	
Maximum Green (s)		92.0								44.0	
Yellow Time (s)		5.0								5.0	
All-Red Time (s)		2.0								2.0	
Lost Time Adjust (s)		-1.5								-1.5	
Total Lost Time (s)		5.5								5.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0								3.0	
Recall Mode		C-Min								Min	
Walk Time (s)		5.0								5.0	
Flash Dont Walk (s)		11.0								11.0	
Pedestrian Calls (#/hr)		0								0	
Act Effct Green (s)		93.5			150.0	150.0				45.5	
Actuated g/C Ratio		0.62			1.00	1.00				0.30	
v/c Ratio		0.88			0.27	0.35				0.37	
Control Delay		4.6			0.1	0.5				43.6	
Queue Delay		0.2			0.1	0.0				0.4	

Lanes, Volumes, Timings  
 14: I-75 NB Ramp & Pine Ridge Rd

02/05/2018



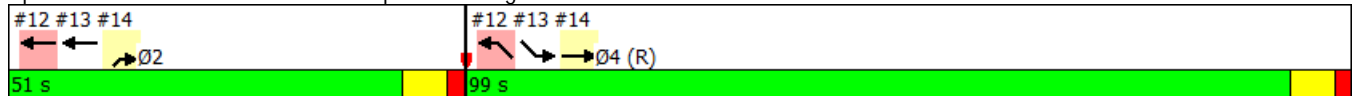
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Total Delay		4.8			0.2	0.5				44.0
LOS		A			A	A				D
Approach Delay		4.8			0.3				44.0	
Approach LOS		A			A				D	
Queue Length 50th (ft)		60			0	0				139
Queue Length 95th (ft)		59			0	0				212
Internal Link Dist (ft)		180			912		397		345	
Turn Bay Length (ft)						250				
Base Capacity (vph)		3139			5085	1553				493
Starvation Cap Reductn		49			0	0				0
Spillback Cap Reductn		36			1931	0				79
Storage Cap Reductn		0			0	0				0
Reduced v/c Ratio		0.90			0.44	0.35				0.44

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 5 (3%), Referenced to phase 4:NWL, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 4.5  
 Intersection Capacity Utilization 91.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service F





















Splits and Phases: 14: I-75 NB Ramp & Pine Ridge Rd





Lanes, Volumes, Timings  
15: Napa Blvd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Future Volume (vph)	434	2382	49	13	1228	123	104	27	41	124	26	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	610		0	274		210	0		0	0		0
Storage Lanes	2		0	1		1	0		0	0		1
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.968				0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	3467	5024	0	1805	4988	1599	0	1786	0	0	1780	1599
Flt Permitted	0.950			0.950				0.579			0.648	
Satd. Flow (perm)	3467	5024	0	1805	4988	1599	0	1065	0	0	1201	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		992			744			572			470	
Travel Time (s)		19.3			14.5			11.1			9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	3%	0%	0%	4%	1%	0%	0%	0%	3%	0%	1%
Adj. Flow (vph)	452	2481	51	14	1279	128	108	28	43	129	27	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	452	2532	0	14	1279	128	0	179	0	0	156	560
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			8	1
Permitted Phases						2	4			8		8
Detector Phase	1	6		5	2	2	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	10.0	20.0		7.0	20.0	20.0	8.0	8.0		8.0	8.0	10.0
Minimum Split (s)	17.0	27.8		14.8	27.0	27.0	23.5	23.5		23.0	23.0	17.0
Total Split (s)	48.0	90.2		14.8	57.0	57.0	45.0	45.0		45.0	45.0	48.0
Total Split (%)	32.0%	60.1%		9.9%	38.0%	38.0%	30.0%	30.0%		30.0%	30.0%	32.0%
Maximum Green (s)	41.2	83.4		8.0	50.2	50.2	38.1	38.1		38.1	38.1	41.2
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.4	4.4		4.4	4.4	4.8
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	2.0
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5
Total Lost Time (s)	5.3	5.3		5.3	5.3	5.3	5.4	5.4		5.4	5.4	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	31.7	103.9		8.8	72.7	72.7		29.6			29.6	66.7
Actuated g/C Ratio	0.21	0.69		0.06	0.48	0.48		0.20			0.20	0.44
v/c Ratio	0.62	0.73		0.13	0.53	0.17		0.85			0.66	0.79
Control Delay	57.1	16.9		69.8	29.3	24.9		90.0			67.7	43.4
Queue Delay	0.0	1.2		0.0	0.0	0.0		0.0			0.0	0.0

Lanes, Volumes, Timings  
 15: Napa Blvd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	57.1	18.0		69.8	29.3	24.9		90.0			67.7	43.4
LOS	E	B		E	C	C		F			E	D
Approach Delay		23.9			29.3			90.0			48.7	
Approach LOS		C			C			F			D	
Queue Length 50th (ft)	205	449		13	312	69		171			142	462
Queue Length 95th (ft)	m209	993		38	424	133		247			207	519
Internal Link Dist (ft)		912			664			492			390	
Turn Bay Length (ft)	610			274		210						
Base Capacity (vph)	986	3478		114	2416	774		281			317	828
Starvation Cap Reductn	0	648		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.46	0.89		0.12	0.53	0.17		0.64			0.49	0.68

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 101 (67%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 30.9 Intersection LOS: C  
 Intersection Capacity Utilization 82.6% ICU Level of Service E  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Napa Blvd & Pine Ridge Rd



**2040 Future w/Innovative Improvements (Jug Handle) and Interconnect**

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Jughandle Int. W. of Livingston Rd	AM Peak-Hour	E	B	18.9	0.87	B	B	D	
	PM Peak-Hour	E	C	23.4	0.74	B	A	E	
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	45.1	0.95	D	D	D	E
	PM Peak-Hour	E	D	47.7	0.95	D	C	E	E
Jughandle Int. S. of Pine Ridge Rd	AM Peak-Hour	E	B	11.7	0.75	D		C	A
	PM Peak-Hour	E	B	11.4	0.85	D		A	A

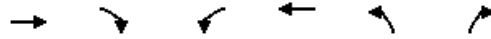
Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Lane Configurations	↑↑↑	↗		↑↑↑	↖	↗					
Traffic Volume (vph)	1259	210	0	2770	491	420					
Future Volume (vph)	1259	210	0	2770	491	420					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)		300	0		0	350					
Storage Lanes		1	0		2	1					
Taper Length (ft)			25		25						
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	0.88					
Frt		0.850				0.850					
Flt Protected					0.950						
Satd. Flow (prot)	4893	1583	0	4940	3367	2787					
Flt Permitted					0.950						
Satd. Flow (perm)	4893	1583	0	4940	3367	2787					
Right Turn on Red		Yes				No					
Satd. Flow (RTOR)		216									
Link Speed (mph)	35			35	35						
Link Distance (ft)	808			448	821						
Travel Time (s)	15.7			8.7	16.0						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97					
Heavy Vehicles (%)	6%	2%	0%	5%	4%	2%					
Adj. Flow (vph)	1298	216	0	2856	506	433					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1298	216	0	2856	506	433					
Turn Type	NA	Perm		NA	Prot	Perm					
Protected Phases	2 5			1 6	8		1	2	4	5	6
Permitted Phases		2 5				8					
Detector Phase	2 5	2 5		1 6	8	8					
Switch Phase											
Minimum Initial (s)					7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)					23.2	23.2	14.2	23.2	23.2	14.2	23.2
Total Split (s)					45.0	45.0	37.0	68.0	45.0	22.0	83.0
Total Split (%)					30.0%	30.0%	25%	45%	30%	15%	55%
Maximum Green (s)					37.8	37.8	29.8	60.8	37.8	14.8	75.8
Yellow Time (s)					4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)					2.4	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)					-1.5	-1.5					
Total Lost Time (s)					5.7	5.7					
Lead/Lag							Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Min	None	None	C-Min
Walk Time (s)					5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)					11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)					0	0		0	0		0
Act Effct Green (s)	78.6	78.6		99.3	39.3	39.3					
Actuated g/C Ratio	0.52	0.52		0.66	0.26	0.26					
v/c Ratio	0.51	0.23		0.87	0.57	0.59					
Control Delay	15.7	1.9		10.6	51.5	52.5					
Queue Delay	0.3	0.0		0.0	0.0	0.0					

Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Total Delay	16.0	1.9		10.6	51.5	52.5					
LOS	B	A		B	D	D					
Approach Delay	14.0			10.6	51.9						
Approach LOS	B			B	D						
Queue Length 50th (ft)	201	0		209	241	227					
Queue Length 95th (ft)	230	28		270	295	286					
Internal Link Dist (ft)	728			368	741						
Turn Bay Length (ft)		300				350					
Base Capacity (vph)	2563	932		3270	882	730					
Starvation Cap Reductn	0	0		3	0	0					
Spillback Cap Reductn	584	0		0	0	0					
Storage Cap Reductn	0	0		0	0	0					
Reduced v/c Ratio	0.66	0.23		0.87	0.57	0.59					

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 83 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 18.9  
 Intersection Capacity Utilization 77.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 1: Jughandle & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Lane Configurations	↑↑↑	↗		↑↑↑	↖	↗					
Traffic Volume (vph)	2481	475	0	1674	356	436					
Future Volume (vph)	2481	475	0	1674	356	436					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)		300	0		0	350					
Storage Lanes		1	0		2	1					
Taper Length (ft)			25		25						
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	0.88					
Frt		0.850				0.850					
Flt Protected					0.950						
Satd. Flow (prot)	5036	1599	0	5036	3433	2760					
Flt Permitted					0.950						
Satd. Flow (perm)	5036	1599	0	5036	3433	2760					
Right Turn on Red		Yes				No					
Satd. Flow (RTOR)		490									
Link Speed (mph)	35			35	35						
Link Distance (ft)	808			467	837						
Travel Time (s)	15.7			9.1	16.3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97					
Heavy Vehicles (%)	3%	1%	0%	3%	2%	3%					
Adj. Flow (vph)	2558	490	0	1726	367	449					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	2558	490	0	1726	367	449					
Turn Type	NA	Perm		NA	Prot	Perm					
Protected Phases	2 5			1 6	8		1	2	4	5	6
Permitted Phases		2 5				8					
Detector Phase	2 5	2 5		1 6	8	8					
Switch Phase											
Minimum Initial (s)					7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)					23.2	23.2	14.2	23.2	23.2	14.2	23.2
Total Split (s)					41.0	41.0	19.0	90.0	41.0	27.0	82.0
Total Split (%)					27.3%	27.3%	13%	60%	27%	18%	55%
Maximum Green (s)					33.8	33.8	11.8	82.8	33.8	19.8	74.8
Yellow Time (s)					4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)					2.4	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)					-1.5	-1.5					
Total Lost Time (s)					5.7	5.7					
Lead/Lag							Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Min	None	None	C-Min
Walk Time (s)					5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)					11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)					0	0		0	0		0
Act Effct Green (s)	103.3	103.3		89.6	35.3	35.3					
Actuated g/C Ratio	0.69	0.69		0.60	0.24	0.24					
v/c Ratio	0.74	0.39		0.57	0.45	0.69					
Control Delay	16.4	1.6		7.2	73.6	81.1					
Queue Delay	4.7	0.0		0.1	0.0	0.0					

Lanes, Volumes, Timings  
1: Jughandle & Pine Ridge Rd

02/05/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø2	Ø4	Ø5	Ø6
Total Delay	21.1	1.6		7.2	73.6	81.1					
LOS	C	A		A	E	F					
Approach Delay	18.0			7.2	77.7						
Approach LOS	B			A	E						
Queue Length 50th (ft)	538	0		138	177	239					
Queue Length 95th (ft)	588	34		143	227	305					
Internal Link Dist (ft)	728			387	757						
Turn Bay Length (ft)		300				350					
Base Capacity (vph)	3468	1253		3008	807	649					
Starvation Cap Reductn	0	0		236	0	0					
Spillback Cap Reductn	838	0		0	0	0					
Storage Cap Reductn	0	0		0	0	0					
Reduced v/c Ratio	0.97	0.39		0.62	0.45	0.69					

Intersection Summary

































Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 143 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 23.4  
 Intersection Capacity Utilization 72.7%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 1: Jughandle & Pine Ridge Rd



Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  	 		  	
Traffic Volume (vph)	276	1403	0	502	2305	359	0	833	232	0	1511	465
Future Volume (vph)	276	1403	0	502	2305	359	0	833	232	0	1511	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		0	425		325	0		450	0		725
Storage Lanes	2		0	2		1	0		1	0		2
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.88	1.00	0.86	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3335	4893	0	3183	4940	1538	0	4893	2707	0	6285	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3335	4893	0	3183	4940	1538	0	4893	2707	0	6285	1568
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												83
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		448			1910			581			942	
Travel Time (s)		8.7			37.2			11.3			18.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	0%	10%	5%	5%	0%	6%	5%	0%	4%	3%
Adj. Flow (vph)	285	1446	0	518	2376	370	0	859	239	0	1558	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1446	0	518	2376	370	0	859	239	0	1558	479
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov		NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	6		8	1		4	5
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Minimum Split (s)	14.2	23.2		14.2	23.2	23.2		23.2	14.2		23.2	14.2
Total Split (s)	22.0	68.0		37.0	83.0	83.0		45.0	37.0		45.0	22.0
Total Split (%)	14.7%	45.3%		24.7%	55.3%	55.3%		30.0%	24.7%		30.0%	14.7%
Maximum Green (s)	14.8	60.8		29.8	75.8	75.8		37.8	29.8		37.8	14.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4		2.4	2.4		2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	5.7	5.7		5.7	5.7	5.7		5.7	5.7		5.7	5.7
Lead/Lag	Lead	Lag		Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min		None	None		None	None
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	16.3	62.3		31.3	77.3	77.3		39.3	76.3		39.3	61.3
Actuated g/C Ratio	0.11	0.42		0.21	0.52	0.52		0.26	0.51		0.26	0.41
v/c Ratio	0.79	0.71		0.78	0.93	0.47		0.67	0.17		0.95	0.70
Control Delay	81.5	38.7		60.2	32.8	18.2		52.6	20.3		66.9	36.1
Queue Delay	0.0	0.3		0.0	0.0	0.0		0.0	0.0		0.0	0.0



Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.5	39.0		60.2	32.8	18.2		52.6	20.3		66.9	36.1
LOS	F	D		E	C	B		D	C		E	D
Approach Delay		46.0			35.5			45.5			59.6	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	130	467		238	755	216		277	69		438	323
Queue Length 95th (ft)	#200	523		312	808	264		328	100		#509	461
Internal Link Dist (ft)		368			1830			501			862	
Turn Bay Length (ft)	425			425		325			450			725
Base Capacity (vph)	362	2032		664	2545	792		1281	1376		1646	689
Starvation Cap Reductn	0	171		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.79	0.78		0.78	0.93	0.47		0.67	0.17		0.95	0.70

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 83 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 45.1 Intersection LOS: D  
 Intersection Capacity Utilization 88.6% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

































Splits and Phases: 2: Livingston Rd & Pine Ridge Rd



## Lanes, Volumes, Timings

### 2: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  	 		  	
Traffic Volume (vph)	298	2619	0	221	1674	437	0	1095	611	0	1285	330
Future Volume (vph)	298	2619	0	221	1674	437	0	1095	611	0	1285	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		0	425		325	0		450	0		725
Storage Lanes	2		0	2		1	0		1	0		2
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.88	1.00	0.86	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3467	5036	0	3367	5036	1583	0	5036	2733	0	6285	1599
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3467	5036	0	3367	5036	1583	0	5036	2733	0	6285	1599
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												31
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		467			1908			581			917	
Travel Time (s)		9.1			37.2			11.3			17.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	0%	4%	3%	2%	0%	3%	4%	0%	4%	1%
Adj. Flow (vph)	307	2700	0	228	1726	451	0	1129	630	0	1325	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2700	0	228	1726	451	0	1129	630	0	1325	340
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov		NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	6		8	1		4	5
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Minimum Split (s)	14.2	23.2		14.2	23.2	23.2		23.2	14.2		23.2	14.2
Total Split (s)	27.0	90.0		19.0	82.0	82.0		41.0	19.0		41.0	27.0
Total Split (%)	18.0%	60.0%		12.7%	54.7%	54.7%		27.3%	12.7%		27.3%	18.0%
Maximum Green (s)	19.8	82.8		11.8	74.8	74.8		33.8	11.8		33.8	19.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4		2.4	2.4		2.4	2.4
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	5.7	5.7		5.7	5.7	5.7		5.7	5.7		5.7	5.7
Lead/Lag	Lead	Lag		Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min		None	None		None	None
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	21.3	84.3		13.3	76.3	76.3		35.3	54.3		35.3	62.3
Actuated g/C Ratio	0.14	0.56		0.09	0.51	0.51		0.24	0.36		0.24	0.42
v/c Ratio	0.62	0.95		0.77	0.67	0.56		0.95	0.64		0.90	0.50
Control Delay	76.9	32.2		81.9	25.5	26.1		72.7	43.1		64.4	32.2
Queue Delay	0.0	11.4		0.0	0.0	0.0		0.0	0.0		0.0	0.0

Lanes, Volumes, Timings  
2: Livingston Rd & Pine Ridge Rd

02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	76.9	43.6		81.9	25.5	26.1		72.7	43.1		64.4	32.2
LOS	E	D		F	C	C		E	D		E	C
Approach Delay		47.0			31.0			62.1			57.9	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	142	925		119	344	242		402	289		368	221
Queue Length 95th (ft)	191	994		#174	431	351		#495	365		415	319
Internal Link Dist (ft)		387			1828			501			837	
Turn Bay Length (ft)	425			425		325			450			725
Base Capacity (vph)	492	2830		298	2561	805		1185	989		1479	682
Starvation Cap Reductn	0	180		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.62	1.02		0.77	0.67	0.56		0.95	0.64		0.90	0.50

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 143 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 47.7 Intersection LOS: D  
 Intersection Capacity Utilization 92.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

















Splits and Phases: 2: Livingston Rd & Pine Ridge Rd



# Lanes, Volumes, Timings

## 5: Livingston Rd & Jughandle

02/05/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			 	  	  	
Traffic Volume (vph)	0	210	491	1065	1593	420
Future Volume (vph)	0	210	491	1065	1593	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			0
Storage Lanes	0	1	2			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	0.97	0.91	0.91	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	3367	4893	4988	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	3367	4893	4988	1583
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		28				
Link Speed (mph)	35			35	35	
Link Distance (ft)	821			1216	581	
Travel Time (s)	16.0			23.7	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	4%	6%	4%	2%
Adj. Flow (vph)	0	216	506	1098	1642	433
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	216	506	1098	1642	433
Turn Type		Over	Prot	NA	NA	Free
Protected Phases		1	1	Free	2	
Permitted Phases						Free
Detector Phase		1	1		2	
Switch Phase						
Minimum Initial (s)		7.0	7.0		7.0	
Minimum Split (s)		14.2	14.2		23.2	
Total Split (s)		53.0	53.0		97.0	
Total Split (%)		35.3%	35.3%		64.7%	
Maximum Green (s)		45.8	45.8		89.8	
Yellow Time (s)		4.8	4.8		4.8	
All-Red Time (s)		2.4	2.4		2.4	
Lost Time Adjust (s)		-1.5	-1.5		-1.5	
Total Lost Time (s)		5.7	5.7		5.7	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		None	None		C-Min	
Walk Time (s)					5.0	
Flash Dont Walk (s)					11.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)		29.9	29.9	150.0	108.7	150.0
Actuated g/C Ratio		0.20	0.20	1.00	0.72	1.00
v/c Ratio		0.63	0.75	0.22	0.45	0.27
Control Delay		54.1	63.8	0.1	0.5	0.3
Queue Delay		0.0	0.0	0.0	0.3	0.0

Lanes, Volumes, Timings  
5: Livingston Rd & Jughandle

02/05/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay		54.1	63.8	0.1	0.8	0.3
LOS		D	E	A	A	A
Approach Delay	54.1			20.2	0.7	
Approach LOS	D			C	A	
Queue Length 50th (ft)		171	243	0	0	0
Queue Length 95th (ft)		249	290	0	m1	m0
Internal Link Dist (ft)	741			1136	501	
Turn Bay Length (ft)			400			
Base Capacity (vph)		527	1061	4893	3614	1583
Starvation Cap Reductn		0	0	0	1153	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.41	0.48	0.22	0.67	0.27

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 58 (39%), Referenced to phase 2:SBT and 6:, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 11.7  
 Intersection Capacity Utilization 54.3%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

















Splits and Phases: 5: Livingston Rd & Jughandle



# Lanes, Volumes, Timings

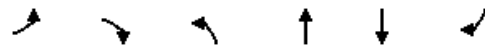
## 5: Livingston Rd & Jughandle

02/05/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			 	  	  	
Traffic Volume (vph)	0	475	356	1706	1070	436
Future Volume (vph)	0	475	356	1706	1070	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			0
Storage Lanes	0	1	2			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	0.97	0.91	0.91	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1627	3433	5036	4988	1568
Flt Permitted			0.950			
Satd. Flow (perm)	0	1627	3433	5036	4988	1568
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		60				
Link Speed (mph)	35			35	35	
Link Distance (ft)	837			2204	581	
Travel Time (s)	16.3			42.9	11.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	2%	3%	4%	3%
Adj. Flow (vph)	0	490	367	1759	1103	449
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	490	367	1759	1103	449
Turn Type		Over	Prot	NA	NA	Perm
Protected Phases		1	1	Free	2	
Permitted Phases						2
Detector Phase		1	1		2	2
Switch Phase						
Minimum Initial (s)		7.0	7.0		7.0	7.0
Minimum Split (s)		14.2	14.2		23.2	23.2
Total Split (s)		68.0	68.0		82.0	82.0
Total Split (%)		45.3%	45.3%		54.7%	54.7%
Maximum Green (s)		60.8	60.8		74.8	74.8
Yellow Time (s)		4.8	4.8		4.8	4.8
All-Red Time (s)		2.4	2.4		2.4	2.4
Lost Time Adjust (s)		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)		5.7	5.7		5.7	5.7
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		None	None		C-Min	C-Min
Walk Time (s)					5.0	5.0
Flash Dont Walk (s)					11.0	11.0
Pedestrian Calls (#/hr)					0	0
Act Effct Green (s)		49.5	49.5	150.0	89.1	89.1
Actuated g/C Ratio		0.33	0.33	1.00	0.59	0.59
v/c Ratio		0.85	0.32	0.35	0.37	0.48
Control Delay		53.0	37.3	0.2	3.7	7.0
Queue Delay		0.0	0.0	0.0	0.0	0.3

Lanes, Volumes, Timings  
5: Livingston Rd & Jughandle

02/05/2018

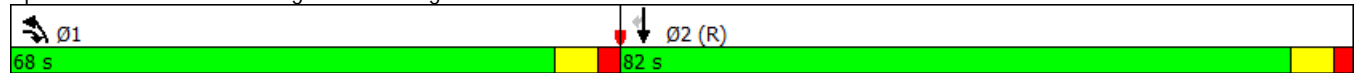


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay		53.0	37.3	0.2	3.7	7.3
LOS		D	D	A	A	A
Approach Delay	53.0			6.6	4.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)		398	138	0	38	51
Queue Length 95th (ft)		486	159	0	m0	m70
Internal Link Dist (ft)	757			2124	501	
Turn Bay Length (ft)			400			
Base Capacity (vph)		710	1425	5036	2962	931
Starvation Cap Reductn		0	0	0	0	135
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.69	0.26	0.35	0.37	0.56

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 90 (60%), Referenced to phase 2:SBT and 6:, Start of Green  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 11.4  
 Intersection Capacity Utilization 59.6%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Livingston Rd & Jughandle



























**2040 Future w/Innovative Improvements (SPUI) and Interconnect**

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Future			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	53.2	0.98	D	D	E	E
	PM Peak-Hour	E	D	50.5	0.94	D	D	E	E



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	983	210	502	2305	359	491	83	232	420	109	465
Future Volume (vph)	276	983	210	502	2305	359	491	83	232	420	109	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		2	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4893	1583	3183	4940	1538	3367	1792	2707	3433	1827	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4893	1583	3183	4940	1538	3367	1792	2707	3433	1827	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			262			95			144
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	6%	2%	10%	5%	5%	4%	6%	5%	2%	4%	3%
Adj. Flow (vph)	285	1013	216	518	2376	370	506	86	239	433	112	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1013	216	518	2376	370	506	86	239	433	112	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	17.2	14.1	16.9	17.2	14.1
Total Split (s)	24.0	68.0	68.0	40.0	84.0	84.0	30.5	20.0	40.0	32.0	21.5	24.0
Total Split (%)	15.0%	42.5%	42.5%	25.0%	52.5%	52.5%	19.1%	12.5%	25.0%	20.0%	13.4%	15.0%
Maximum Green (s)	16.9	58.2	58.2	32.9	76.8	76.8	23.3	12.8	32.9	22.1	14.3	16.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.3	5.1	2.4	2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.6	8.4	5.7	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	19.6	63.7	63.7	31.6	78.3	78.3	24.8	13.5	50.8	23.2	14.6	39.9
Actuated g/C Ratio	0.12	0.40	0.40	0.20	0.49	0.49	0.16	0.08	0.32	0.14	0.09	0.25
v/c Ratio	0.70	0.52	0.28	0.82	0.98	0.42	0.97	0.57	0.26	0.87	0.67	0.96
Control Delay	77.7	38.4	4.8	59.6	46.2	15.0	99.1	85.3	23.9	85.2	90.0	72.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
 1: Livingston Rd & Pine Ridge Rd

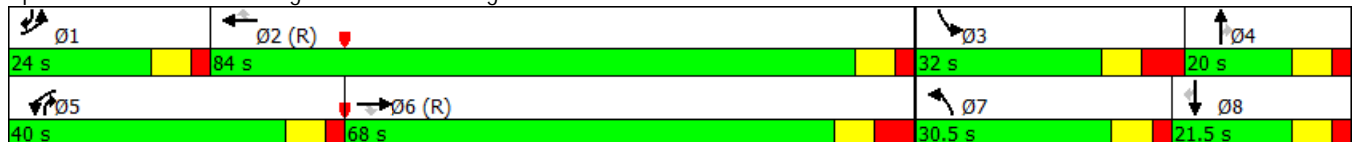
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	77.7	38.4	4.8	59.6	46.2	15.0	99.1	85.3	23.9	85.2	90.0	72.2
LOS	E	D	A	E	D	B	F	F	C	F	F	E
Approach Delay		41.0			44.8			76.1			79.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	151	303	0	289	721	110	275	88	60	231	115	374
Queue Length 95th (ft)	205	354	57	m267	m550	m89	#394	150	100	#315	187	#609
Internal Link Dist (ft)		1197			2532			1108			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	407	1947	760	684	2417	886	521	160	970	506	180	499
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.52	0.28	0.76	0.98	0.42	0.97	0.54	0.25	0.86	0.62	0.96

Intersection Summary

























Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 53.2 Intersection LOS: D  
 Intersection Capacity Utilization 101.5% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

02/05/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	2183	475	221	1674	437	356	110	611	436	85	330
Future Volume (vph)	298	2183	475	221	1674	437	356	110	611	436	85	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		450	550		725
Storage Lanes	2		1	2		1	2		2	2		1
Taper Length (ft)	100			100			150			100		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5036	1599	3367	5036	1583	3433	1845	2733	3400	1827	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5036	1599	3367	5036	1583	3433	1845	2733	3400	1827	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			490			415			95			95
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1188			1358	
Travel Time (s)		19.3			39.6			18.0			20.6	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	1%	4%	3%	2%	2%	3%	4%	3%	4%	1%
Adj. Flow (vph)	307	2251	490	228	1726	451	367	113	630	449	88	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2251	490	228	1726	451	367	113	630	449	88	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	14.1	29.8	29.8	14.1	29.5	29.5	16.5	17.2	14.1	16.9	17.2	14.1
Total Split (s)	32.0	84.0	84.0	27.0	79.0	79.0	26.0	18.0	27.0	31.0	23.0	32.0
Total Split (%)	20.0%	52.5%	52.5%	16.9%	49.4%	49.4%	16.3%	11.3%	16.9%	19.4%	14.4%	20.0%
Maximum Green (s)	24.9	74.2	74.2	19.9	71.8	71.8	18.8	10.8	19.9	21.1	15.8	24.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.3	5.1	2.4	2.3
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.6	8.3	8.3	5.6	5.7	5.7	5.7	5.7	5.6	8.4	5.7	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	21.0	76.4	76.4	20.8	78.7	78.7	20.0	12.2	38.7	22.6	17.5	44.2
Actuated g/C Ratio	0.13	0.48	0.48	0.13	0.49	0.49	0.12	0.08	0.24	0.14	0.11	0.28
v/c Ratio	0.67	0.94	0.48	0.52	0.70	0.46	0.86	0.81	0.86	0.94	0.44	0.67
Control Delay	73.6	48.3	3.5	49.6	44.6	16.6	87.4	109.1	61.6	95.0	74.4	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings  
1: Livingston Rd & Pine Ridge Rd

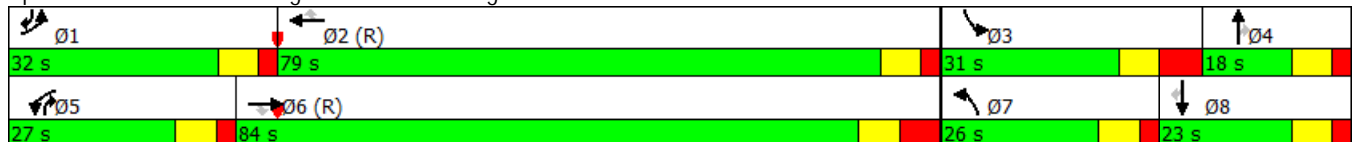
02/05/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	73.6	48.3	3.5	49.6	44.6	16.6	87.4	109.1	61.6	95.0	74.4	42.9
LOS	E	D	A	D	D	B	F	F	E	F	E	D
Approach Delay	43.6			39.8			75.0			72.7		
Approach LOS	D			D			E			E		
Queue Length 50th (ft)	160	810	0	102	678	189	196	118	311	243	88	233
Queue Length 95th (ft)	206	884	62	m121	m688	m223	#275	#228	399	#349	150	335
Internal Link Dist (ft)	1197			2532			1108			1278		
Turn Bay Length (ft)	425	850		425	325		600	450		550	725	
Base Capacity (vph)	572	2403	1019	450	2478	989	435	141	743	480	199	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.94	0.48	0.51	0.70	0.46	0.84	0.80	0.85	0.94	0.44	0.61

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 145 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 50.5 Intersection LOS: D  
 Intersection Capacity Utilization 92.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Livingston Rd & Pine Ridge Rd



## **Appendix M**

### Innovative Intersection Cost Estimates

**Project: Pine Ridge Rd and Livingston Rd DLT Intersection**

Item No.	Description	Unit	QTY	Unit Price	Amount
<b>ROAD CONSTRUCTION</b>					
100	Mobilization and General Conditions (10% of Construction Cost)	LS	1	\$550,000.00	\$550,000.00
110	Maintenance of Traffic (15% of Construction Cost)	LS	1	\$830,000.00	\$830,000.00
110-1	Clearing & Grubbing	AC	6.2	\$8,000.00	\$49,600.00
120-1	Regular Excavation	CY	2,000	\$4.00	\$8,000.00
120-6	Embankment	CY	60,000	\$8.00	\$480,000.00
160-4	Type "B" Stabilization (12")	SY	22,255	\$8.00	\$178,040.00
162-1-11	Prepared Soil Layer, Finish Soil Layer, 6"	SY	6,456	\$2.00	\$12,912.00
285-7	Optional Base, (9")	SY	22,255	\$24.00	\$534,120.00
334-1-13	Superpave Asphalt Concrete, (12.5) Traffic C, (3")	TN	3,672	\$105.00	\$385,560.00
337-7-42	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	1,224	\$123.00	\$150,552.00
400	Utility and Drainage Adjustments	LS	1	\$550,000.00	\$550,000.00
520-1-10	Concrete Curb and Gutter, Type 'F'	LF	9,477	\$18.00	\$170,586.00
570-1-2	Performance Turf, Sod	SY	6,456	\$2.00	\$12,912.00
580-1-1	Landscape Complete	LS	1	\$50,000.00	\$50,000.00
700-1	Signage and Pavement Markings	LS	1	\$70,000.00	\$70,000.00
700-2	Signalization	LS	1	\$1,500,000.00	\$1,500,000.00
<b>SUBTOTAL ROAD CONSTRUCTION BID PRICE</b>					\$5,532,282.00
	Project Engineering (15% of Construction Cost)	LS	1	\$829,842.30	\$829,842.30
	Construction Support/Construction Management (5% of Construction Cost)	LS	1	\$276,614.10	\$276,614.10
<b>TOTAL</b>					\$6,638,738.40

**Project: Pine Ridge Rd and Livingston Rd JH Intersection**

Item No.	Description	Unit	QTY	Unit Price	Amount
<b>ROAD CONSTRUCTION</b>					
100	Mobilization and General Conditions (10% of Construction Cost)	LS	1	\$600,000.00	\$600,000.00
110	Maintenance of Traffic (15% of Construction Cost)	LS	1	\$920,000.00	\$920,000.00
110-1	Clearing & Grubbing	AC	7.3	\$8,000.00	\$58,400.00
120-1	Regular Excavation	CY	3,000	\$4.00	\$12,000.00
120-6	Embankment	CY	60,000	\$8.00	\$480,000.00
160-4	Type "B" Stabilization (12")	SY	28,838	\$8.00	\$230,704.00
162-1-11	Prepared Soil Layer, Finish Soil Layer, 6"	SY	5,266	\$2.00	\$10,532.00
285-7	Optional Base, (9")	SY	28,838	\$24.00	\$692,112.00
334-1-13	Superpave Asphalt Concrete, (12.5) Traffic C, (3")	TN	4,758	\$105.00	\$499,590.00
337-7-42	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	1,586	\$123.00	\$195,078.00
400	Utility and Drainage Adjustments	LS	1	\$600,000.00	\$600,000.00
520-1-10	Concrete Curb and Gutter, Type 'F'	LF	8,807	\$18.00	\$158,526.00
570-1-2	Performance Turf, Sod	SY	5,266	\$2.00	\$10,532.00
580-1-1	Landscape Complete	LS	1	\$50,000.00	\$50,000.00
700-1	Signage and Pavement Markings	LS	1	\$70,000.00	\$70,000.00
700-2	Signalization	LS	1	\$1,500,000.00	\$1,500,000.00
<b>SUBTOTAL ROAD CONSTRUCTION BID PRICE</b>					\$6,087,474.00
	Project Engineering (15% of Construction Cost)	LS	1	\$913,121.10	\$913,121.10
	Construction Support/Construction Management (5% of Construction Cost)	LS	1	\$304,373.70	\$304,373.70
<b>TOTAL</b>					\$7,304,968.80

**Project: Pine Ridge Rd and Livingston Rd OP Intersection**

Item No.	Description	Unit	QTY	Unit Price	Amount
<b>ROAD CONSTRUCTION</b>					
100	Mobilization (10% of Construction Cost)	LS	1	\$1,100,000.00	\$1,100,000.00
110	Maintenance of Traffic (15% of Construction Cost)	LS	1	\$1,650,000.00	\$1,650,000.00
110-1	Clearing & Grubbing	AC	6.4	\$8,000.00	\$51,200.00
120-1	Regular Excavation	CY	2,000	\$4.00	\$8,000.00
120-6	Embankment	CY	75,000	\$8.00	\$600,000.00
160-4	Type "B" Stabilization (12")	SY	28,586	\$8.00	\$228,688.00
162-1-11	Prepared Soil Layer, Finish Soil Layer, 6"	SY	3,497	\$2.00	\$6,994.00
285-7	Optional Base, (9")	SY	28,586	\$24.00	\$686,064.00
334-1-13	Superpave Asphalt Concrete, (12.5) Traffic C, (3")	TN	4,717	\$105.00	\$495,285.00
337-7-42	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	1,572	\$123.00	\$193,356.00
400	Utility and Drainage Adjustments	LS	1	\$550,000.00	\$550,000.00
520-1-10	Concrete Curb and Gutter, Type 'F'	LF	7,967	\$18.00	\$143,406.00
521-1-1	Median Concrete Barrier Wall	LF	944	\$127.00	\$119,888.00
570-1-2	Performance Turf, Sod	SY	3,497	\$2.00	\$6,994.00
580-1-1	Landscape Complete	LS	1	\$50,000.00	\$50,000.00
700-1	Signage and Pavement Markings	LS	1	\$66,000.00	\$66,000.00
700-2	Signalization	LS	1	\$500,000.00	\$500,000.00
999-1	Structural (MSE Retaining Walls)	LS	1	\$602,000.00	\$602,000.00
999-2	Structural (Single Span Bridge) (82'wide x 256' long)	LS	1	\$4,000,000.00	\$4,000,000.00
<b>SUBTOTAL ROAD CONSTRUCTION BID PRICE</b>					\$11,057,875.00
	Project Engineering (15% of Construction Cost)	LS	1	\$1,658,681.25	\$1,658,681.25
	Construction Support/Construction Management (5% of Construction Cost)	LS	1	\$552,893.75	\$552,893.75
<b>TOTAL</b>					\$13,269,450.00



**Project: Pine Ridge Rd and Whippoorwill Ln SS Intersection**

Item No.	Description	Unit	QTY	Unit Price	Amount
<b>ROAD CONSTRUCTION</b>					
100	Mobilization (10% of Construction Cost)	LS	1	\$400,000.00	\$400,000.00
110	Maintenance of Traffic (15% of Construction Cost)	LS	1	\$600,000.00	\$600,000.00
110-1	Clearing & Grubbing	AC	5.5	\$8,000.00	\$44,000.00
120-1	Regular Excavation	CY	2,000	\$4.00	\$8,000.00
120-6	Embankment	CY	10,000	\$8.00	\$80,000.00
160-4	Type "B" Stabilization (12")	SY	24,561	\$8.00	\$196,488.00
162-1-11	Prepared Soil Layer, Finish Soil Layer, 6"	SY	1,249	\$2.00	\$2,498.00
285-7	Optional Base, (9")	SY	24,561	\$24.00	\$589,464.00
334-1-13	Superpave Asphalt Concrete, (12.5) Traffic C, (3")	TN	4,053	\$105.00	\$425,565.00
337-7-42	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	1,351	\$123.00	\$166,173.00
400	Utility and Drainage Adjustments	LS	1	\$300,000.00	\$300,000.00
520-1-10	Concrete Curb and Gutter, Type 'F'	LF	5,073	\$18.00	\$91,314.00
570-1-2	Performance Turf, Sod	SY	1,249	\$2.00	\$2,498.00
580-1-1	Landscape Complete	LS	1	\$40,000.00	\$40,000.00
700-1	Signage and Pavement Markings	LS	1	\$50,000.00	\$50,000.00
700-2	Signalization	LS	1	\$1,000,000.00	\$1,000,000.00
<b>SUBTOTAL ROAD CONSTRUCTION BID PRICE</b>					\$3,996,000.00
	Project Engineering (15% of Construction Cost)	LS	1	\$599,400.00	\$599,400.00
	Construction Support/Construction Management (5% of Construction Cost)	LS	1	\$199,800.00	\$199,800.00
<b>TOTAL</b>					\$4,795,200.00

**Project: Pine Ridge Rd and I-75 DD Intersection**

Item No.	Description	Unit	QTY	Unit Price	Amount
<b>ROAD CONSTRUCTION</b>					
100-1	Mobilization and General Conditions (10%± of Construction Cost)	LS	1	\$700,000.00	\$700,000.00
102-1	Maintenance of Traffic (15%± of Construction Cost)	LS	1	\$1,100,000.00	\$1,100,000.00
110-1	Clearing & Grubbing	AC	14.4	\$8,000.00	\$115,200.00
120-1	Regular Excavation	CY	10,000	\$4.00	\$40,000.00
120-6	Embankment	CY	35,000	\$8.00	\$280,000.00
160-4	Type "B" Stabilization (12")	SY	35,553	\$8.00	\$284,424.00
162-1-11	Prepared Soil Layer, Finish Soil Layer, 6"	SY	26,684	\$2.00	\$53,368.00
285-7	Optional Base, (9")	SY	35,553	\$24.00	\$853,272.00
334-1-13	Superpave Asphalt Concrete, (12.5) Traffic C, (3")	TN	5,866	\$105.00	\$615,930.00
337-7-42	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	1,955	\$123.00	\$240,465.00
400-1	Utility and Drainage Adjustments	LS	1	\$500,000.00	\$500,000.00
520-1-10	Concrete Curb and Gutter, Type 'F'	LF	3,463	\$18.00	\$62,334.00
570-1-2	Performance Turf, Sod	SY	26,684	\$2.00	\$53,368.00
580-1-1	Landscape Complete	LS	1	\$75,000.00	\$75,000.00
700-1	Signage and Pavement Markings	LS	1	\$1,000,000.00	\$1,000,000.00
700-2	Signalization	LS	1	\$1,300,000.00	\$1,300,000.00
<b>SUBTOTAL ROAD CONSTRUCTION BID PRICE</b>					\$7,273,361.00
	Project Engineering (15% of Construction Cost)	LS	1	\$1,091,004.15	\$1,091,004.15
	Construction Support/Construction Management (5% of Construction Cost)	LS	1	\$363,668.05	\$363,668.05
<b>TOTAL</b>					\$8,728,033.20