WHIPPOORWILL LANE/MARBELLA LAKES DRIVE INTERCONNECTION

TRANSPORTATION ANALYSIS

PREPARED FOR:

COLLIER COUNTY TRANSPORTATION PLANNING DEPARTMENT
2800 NORTH HORSESHOE DRIVE
NAPLES, FLORIDA 34114

PREPARED BY:

STANTEC CONSULTING SERVICES INC.
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APRIL 2013

Stantec

WHIPPOORWILL LANE/MARBELLA
LAKES DRIVE INTERCONNECTION

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PROFESSIONAL ENGINEER'S CERTIFICATION

I hereby certify that I am a Licensed Professional Engineer in the State of Florida practicing with Stantec Consulting Services Inc. and that I have supervised the preparation of and approve the evaluations, findings, opinions, conclusions, and technical advice hereby reported for:

PROJECT: Whippoorwill Lane/Marbella Lakes Drive Interconnection Traffic Analysis
215810107

LOCATION: Generally located in the area south of Pine Ridge Road, west of I-75, and east of Livingston Road

_____

Matthew R. Crim, P.E., PTOE
Transportation Engineer
Florida Licensed Engineer No. 68297

_____

Date

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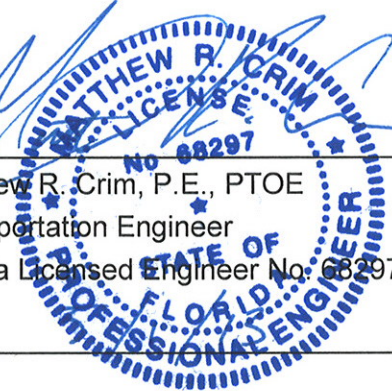
INTRODUCTION

The purpose of this report is to evaluate the impacts of the interconnection of Whippoorwill Lane and Marbella Lakes Drive. The interconnection of Whippoorwill Lane and Marbella Lakes Drive is being proposed as a means to improve mobility to the residential and non-residential land uses within the Whippoorwill Lane and Marbella Lakes Drive corridors. Today, land uses along each corridor have only one route to access the regulated roadway network. By interconnecting the two local roads, enhanced access and circulation for area land uses will be achieved. The location of the Whippoorwill Lane and Marbella Lakes Drive corridors as well as the proposed interconnection is shown in Figure 1.
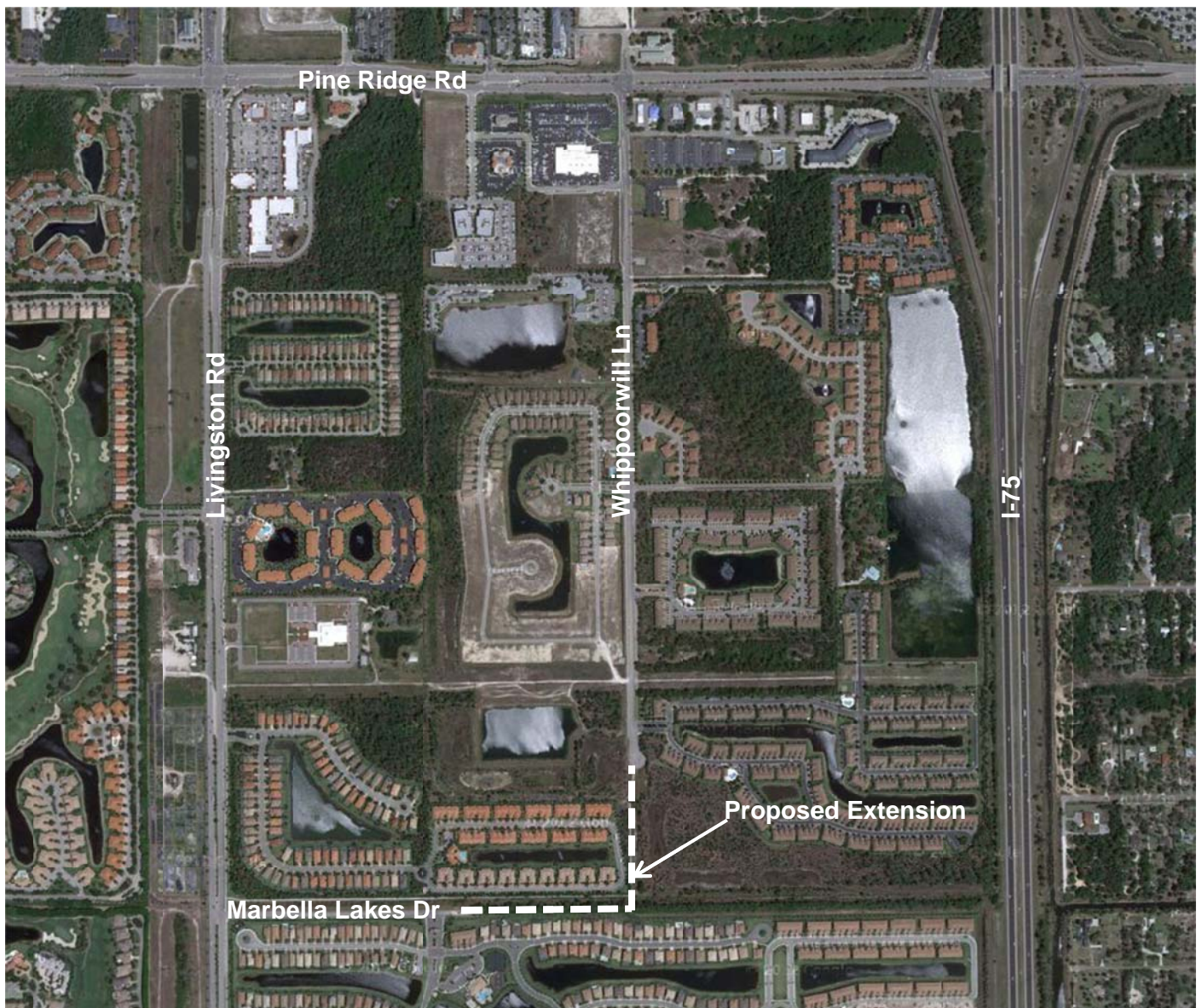
Source: Google 2013

Figure 1: Project Location

EXISTING CONDITIONS

The Marbella Lakes Drive corridor extends approximately 0.3 miles east of Livingston Road and serves the Marbella Lakes Planned Unit Development (PUD). The Whippoorwill Lane corridor extends approximately 0.8 miles south of Pine Ridge Road and serves a variety of residential and non-residential developments. To quantify the existing traffic volumes on each roadway, Collier County performed 24-hour machine counts on Marbella Lakes Drive east of Livingston Road and on Whippoorwill Lane south of Dudley Drive. The peak-season weekday average daily traffic (PSWADT) volumes are summarized in Table 1.

Table 1: Existing Traffic Volumes

Road	PSWADT	Max Service Volume	v/c Ratio
Marbella Lakes Drive	2,423	10,700	0.23
Whippoorwill Lane	7,286	10,700	0.68

FUTURE CONDITIONS

The future traffic conditions evaluated both the "with" and "without" interconnection scenarios. This was accomplished using the latest version of the 2035 Collier Metropolitan Planning Organization (MPO) travel demand model. The current (unmodified) 2035 travel demand model was used to obtain future traffic volumes if no interconnection is made between Marbella Lakes Drive and Whippoorwill Lane. The 2035 travel demand model was then modified to make the interconnection to determine the benefits of the change. Model plots for the unmodified and modified 2035 travel demand model are shown in Figure 2 and Figure 3.
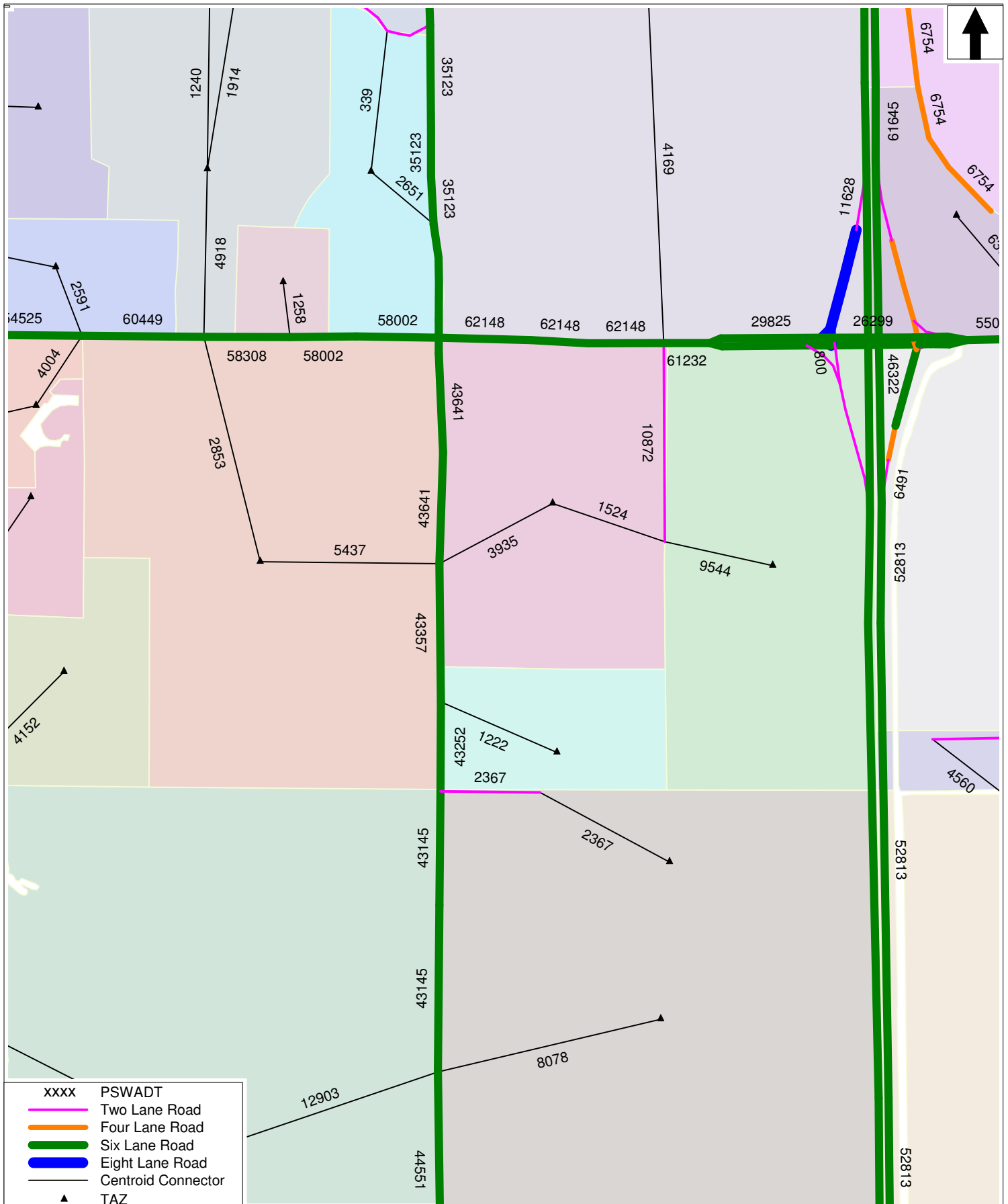
Peak-Season Weekday Average Traffic Volumes
2035 Existing Cost Feasible Network

1240 1914 339 35123 35123 2651 35123 4169 6754 6754 61945 6754 11628

4918 1258 2591 64525 60449 58002 62148 62148 62148 29825 26299 550

4004 58308 58002 61232 800 46322

2853 43641 10872 43641 5437 1524 3935 9544 1649 31825

43357 4152 43252 1222 2367 2367 43145 52813 4560

8078 12903 44551 52813

Legend

xxxx	PSWADT
	Two Lane Road
	Four Lane Road
	Six Lane Road
	Eight Lane Road
	Centroid Connector
▲	TAZ

cube

3
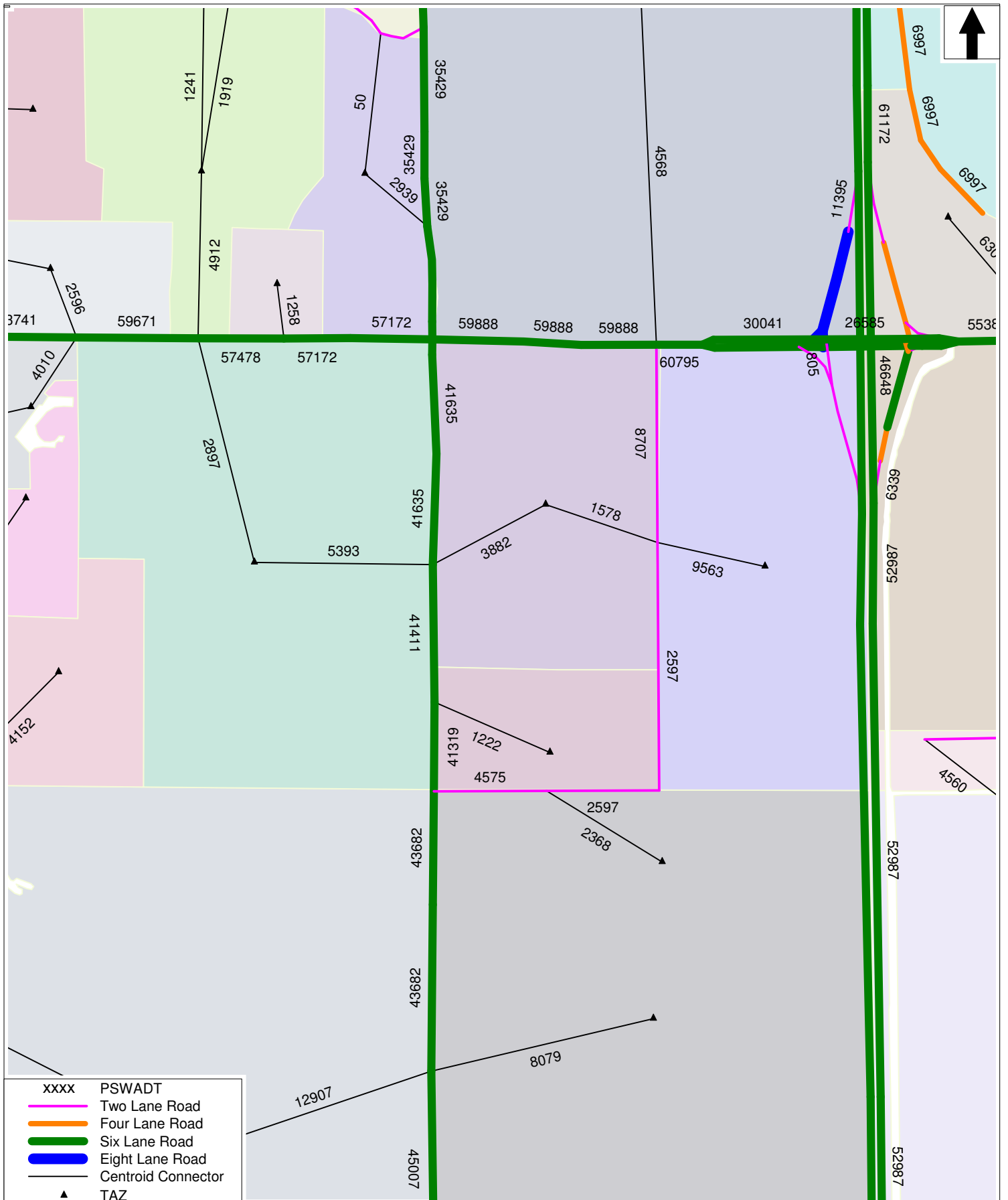
Peak-Season Weekday Average Traffic Volumes
2035 Modified Cost Feasible Network

Legend:
- xxxx PSWADT
- Two Lane Road
- Four Lane Road
- Six Lane Road
- Eight Lane Road
- Centroid Connector
- ▲ TAZ

1241
1919
50
35429
35429
2939
35429
4568
6997
6997
61172
6997
11395
630
2596
3741
59671
57172
59888
59888
59888
30041
26585
5538
4912
1258
57478
57172
60795
805
46648
4010
41635
8707
6339
2897
1578
28625
5393
3882
9563
41635
4152
41411
2597
1222
4560
6319
4575
2597
43682
2368
52987
43682
8079
12907
45007
52987

4

The model results demonstrate that traffic on Marbella Lakes Drive will increase, while traffic at the north end of Whippoorwill Lane will decrease. This is due to traffic on the Whippoorwill Lane having a new, more efficient way to access Livingston Road. The 2035 unmodified (without the interconnection) and modified (with the interconnection) PSWADT volumes are summarized in Table 2.

Table 2: 2035 Future Traffic Volumes

Road	Unmodified PSWADT	Modified PSWADT	Change in PSWADT	Max Service Volume	Unmodified v/c Ratio	Modified v/c Ratio
Marbella Lakes Drive	2,367	4,575	2,208	10,700	0.22	0.43
Whippoorwill Lane	10,872	8,707	-2,165	10,700	**1.02**	0.81
Total Traffic	**13,239**	**13,282**	**43**			

As Table 2 shows, Whippoorwill Lane is projected to have a PSWADT volume greater than the capacity of the roadway. The interconnection corrects this deficiency by creating an additional access point for Whippoorwill Lane traffic to access the regulated arterial roadway network. The interconnection takes advantage of the underutilized Marbella Lakes Drive corridor without creating any capacity issues.

The model was also used to evaluate any cut-through traffic that may deem the new interconnection a more efficient way to head southbound on Livingston Road or eastbound on Pine Ridge Road, bypassing the Pine Ridge Road/Livingston Road intersection. As shown in Table 2, the model indicates that essentially no cut-through traffic is produced by the interconnection. An increase of 43 vehicles is projected, which represents a change of less than one half of one percent of the PSWADT. Intuitively, this makes sense because there would be no clear time or distance savings realized by a motorist traveling along the new interconnected local road route simply to bypass the Livingston Road/Pine Ridge Road intersection. It should be noted that the MPO travel demand model is a macroscopic level analysis tool in which a 43 vehicle a day difference is inconsequential. The accuracy of the model is not to the level of 43 vehicles per day.

INTERSECTION ANALYSIS

Vehicle turning movement counts were conducted at the Pine Ridge Road/Livingston Road and Pine Ridge Road/Whippoorwill Lane intersections on Thursday March 14, 2013. The turning movement counts were taken during the AM peak period (7:00 AM – 9:00 AM) and the PM peak period (4:00 PM – 6:00 PM) to quantify existing AM and PM peak-hour conditions. The turning movement counts at the intersections were then adjusted to peak-season volumes using conversion factors published by the Florida Department of Transportation's (FDOT) peak-season conversion factors for Collier County. The peak-season factors, turning movement counts and existing signal timing are attached in Appendix A.

The intersection analysis was performed using the Synchro Software. As part of the analysis, existing lane geometry and signal timing were used at the study intersections. An overall intersection level-of-service standard of 'E' was used to evaluate the intersections. Level-of-service 'E' corresponds to the intersecting roadway level-of-service standards. In addition, each movement and approach was analyzed to ensure that vehicles did not experience excessive delay and that the volume-to-capacity ratio (v/c ratio) was less than 1.0. The results of the existing intersection analysis are summarized in Table 3 and indicate that both signalized intersections currently operate at acceptable level-of-service standards.

Table 3: Existing Traffic Intersection Analysis

Intersection	Time Period	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Existing			EB	WB	NB	SB
Pine Ridge Rd & Livingston Rd	AM Peak-Hour	E	D	43.1	0.78	D	C	E	D
	PM Peak-Hour	E	D	49.5	0.93	D	D	D	E
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	D	38.0	0.80	D	C	E	C
	PM Peak-Hour	E	C	27.8	0.88	C	C	D	E

The two intersections were again analyzed for 2035 operating conditions absent the interconnection. Existing traffic volumes were compared to 2035 model volumes to determine an average area-wide annual growth rate to forecast future volumes. Both the unmodified and modified 2035 traffic volumes yielded an average area-wide annual growth rate of less than one percent. A conservative one percent annual growth rate was used to forecast future traffic volumes. The results of the 2035 traffic intersection analysis are summarized in Table 4 and indicate that during the AM peak-hour, both signalized intersections are anticipated to continue to operate at acceptable level-of-service standards; however, during the PM peak-hour, both intersections are anticipated to have multiple movements exceed their v/c ratio.

Table 4: 2035 Future Traffic Intersection Analysis

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	50.3	0.95	D	D	E	E
	PM Peak-Hour	E	E	67.4	**1.06**	E	D	**F**	**F**
Pine Ridge Rd & Whippoorwill Ln	AM Peak-Hour	E	D	44.0	0.95	D	D	E	D
	PM Peak-Hour	E	D	48.3	**1.06**	D	D	**F**	E

Because both intersections have failures in 2035 during the PM peak-hour, an interim analysis was performed to determine how long before the intersections were anticipated to have movements with v/c ratios greater than 1.0. It is estimated that the intersections have 10-15 more years until the Pine Ridge Road/Livingston Road intersection begins to approach capacity for certain movements. Based on an annual growth rate of one percent, 2027 is the last year in which it is estimated that both intersections will operate within acceptable level-of-service standards. Depending on the actual growth rates exhibited at the intersections, intersection failure(s) could be earlier (or later). The results of the 2027 PM peak-hour traffic intersection analysis are summarized in Table 5 and indicate that both signalized intersections are anticipated to continue to operate at acceptable level-of-service standards through this time period.

Table 5: 2027 Interim Traffic Intersection Analysis

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	PM Peak-Hour	E	E	56.5	0.99	D	D	E	E
Pine Ridge Rd & Whippoorwill Ln	PM Peak-Hour	E	C	34.0	0.96	C	C	E	E

The intersection volume tables are provided in Appendix B, the Synchro intersection worksheets are provided in Appendix C and electronic versions of the Synchro files are attached on the accompanying CD.

The intersection analysis demonstrates that both the Pine Ridge Road/Livingston Road and Pine Ridge Road/Whippoorwill Lane intersections will have capacity issues in the future. The interconnection will allow residential and non-residential Whippoorwill Lane traffic an alternative to bypass the two congested intersections, freeing up additional capacity at the intersections which will benefit the overall operating conditions of the regulated roadway network. As shown

in Figure 2 and Figure 3, the interconnection produces a 3.6% decrease in traffic volumes on Pine Ridge Road between Livingston Road and Whippoorwill Lane and a 4.5% decrease in traffic volumes on Livingston Road between Pine Ridge Road and Marbella Lakes Drive.

In order for the interconnection to be as effective as possible, the Whippoorwill Lane corridor traffic must enter the regulated roadway system with the same convenience as the connection to Pine Ridge Road. When the interconnection is made, the majority of traffic exiting the Whippoorwill Lane corridor headed to areas south of Pine Ridge Road will make an eastbound to southbound left turn at the Marbella Lakes Drive/Livingston Road intersection. Reviewing the guidelines set forth in the Federal Highway Administration's *Manual of Uniform Traffic Control Devices (MUTCD), 2009 Edition*, it is anticipated that the additional traffic on Marbella Lakes Drive created by the interconnection will meet the criteria to satisfy the eight-hour and four-hour traffic volume warrants. The approach volumes and threshold values used to evaluate the volume warrants are attached in Appendix D. Volume warrants would not be met if the interconnection is not made.

SAFETY AND CIRCULATION BENEFITS

As mentioned previously, the Marbella Lakes Drive corridor serves one development, the Marbella Lakes PUD, which is substantially built-out. Along the Whippoorwill Lane corridor, there still exists future development opportunity, adding additional traffic to the already congested intersection at Pine Ridge Road. Even without future development along the Whippoorwill Lane corridor, making the connection between the two corridors improves mobility for area residents and non-residents by offering route choices.

The interconnection will also allow residents in the Marbella Lakes PUD to have direct access to Pine Ridge Road, the adjacent shopping areas (through additional local interconnections), and points east, e.g., I-75, without having to use Livingston Road and passing through the Livingston Road/Pine Ridge Road intersection. Likewise, residential and non-residential users in the Whippoorwill Lane corridor will be able to access Livingston Road without using Pine Ridge Road and the Whippoorwill Lane/Pine Ridge Road intersection.

Most importantly, a substantial benefit is realized from a public safety standpoint. Today, each of the two corridors is constrained by a single point of ingress/egress. By providing a secondary access route through such a connection, emergency access for residents as well as first-responders is enhanced. As congested intersections and mainline traffic clogs the facilities during peak hours of the travel day, it is critical for emergency providers to have choices/options for reaching their destinations.

To promote safe travel along the Marbella Lakes Corridor, it is our understanding that the County is considering adding eastbound right-turn and westbound left-turn lanes at the entrance to Marbella Lakes PUD and a traffic signal at Livingston Road. This connection forms an integral part of the collector network, therefore speed tables should only be considered as an option after the roadway is open, traffic normalizes, and enforcement or other remedies are considered ineffective. The proposed improvements by the County would be beneficial to the interconnected corridor.

CONCLUSION

The interconnection of Whippoorwill Lane and Marbella Lakes Drive is being proposed as a means to improve mobility to the residential and non-residential land uses within the Whippoorwill Lane and Marbella Lakes Drive corridors. Today, land uses along each corridor have only one route to access the regulated roadway network. By interconnecting the two local roads, enhanced access and circulation for area land uses will be achieved. To further enhance mobility the County intends to facilitate an interconnection from Whippoorwill Lane to/through the commercial areas along the south side of Pine Ridge Road west to Livingston Road. In combination all of these interconnections provide enhanced mobility to the residents in the Whippoorwill Lane and Marbella Lakes Drive areas, allowing them to travel to nearby destinations without having to travel along the arterial network. It should be noted that the MPO travel model used in this analysis is a "system model" encompassing all major collectors and arterials. Interconnections that are not currently incorporated in the model may not accurately account for traffic that may otherwise be diverted. As an example, had the study area been incorporated in the model as a single large-scale interconnected development, a larger internalization of traffic would be represented in the results. Absent that level of detail, we would assume that such internalization is not accurately represented by the model and that more internalization will take place as the interconnection of neighboring uses is achieved.

The interconnection will correct the projected failure for the northern portion of Whippoorwill Lane. The interconnection corrects this deficiency by reducing the number of northbound left-turning vehicles at Pine Ridge Road by creating an additional access point for Whippoorwill Lane traffic to access the regulated roadway network at Livingston Road. The interconnection takes advantage of the underutilized Marbella Lakes Drive corridor without creating any capacity issues.

The interconnection essentially generates no cut-through traffic. Intuitively, this makes sense because there would be no clear time or distance savings realized by a motorist traveling along the new interconnected local road route simply to bypass the Livingston Road/Pine Ridge Road

intersection. However; the interconnection will offer residential and non-residential land uses along Whippoorwill Lane and Marbella Lakes Drive an alternative to bypass the two congested intersections at Pine Ridge Road/Livingston Road and Pine Ridge Road/Whippoorwill Lane. Reducing the volumes at these intersections frees up additional capacity at the intersections which will benefit the overall operating conditions of the regulated roadway network.

Given the benefits of interconnecting the Whippoorwill Lane and Marbella Lakes corridors, it is recommended that the interconnection be made.

APPENDIX A

FDOT PEAK-SEASON CONVERSION FACTORS

TURNING MOVEMENT COUNTS

EXISTING SIGNAL TIMING

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 2012 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 0300   COLLIER COUNTYWIDE
                                            MOCF: 0.86
 WEEK         DATES                 SF       PSCF
 =================================================================================
    1    01/01/2012 - 01/07/2012   1.02      1.18
    2    01/08/2012 - 01/14/2012   0.98      1.14
    3    01/15/2012 - 01/21/2012   0.94      1.09
 *  4    01/22/2012 - 01/28/2012   0.92      1.07
 *  5    01/29/2012 - 02/04/2012   0.89      1.03
 *  6    02/05/2012 - 02/11/2012   0.87      1.01
 *  7    02/12/2012 - 02/18/2012   0.85      0.99
 *  8    02/19/2012 - 02/25/2012   0.84      0.98
 *  9    02/26/2012 - 03/03/2012   0.83      0.96
 *10    03/04/2012 - 03/10/2012   0.83      0.96
 *11    03/11/2012 - 03/17/2012   0.82      0.95
 *12    03/18/2012 - 03/24/2012   0.84      0.98
 *13    03/25/2012 - 03/31/2012   0.85      0.99
 *14    04/01/2012 - 04/07/2012   0.87      1.01
 *15    04/08/2012 - 04/14/2012   0.88      1.02
 *16    04/15/2012 - 04/21/2012   0.90      1.05
   17    04/22/2012 - 04/28/2012   0.93      1.08
   18    04/29/2012 - 05/05/2012   0.95      1.10
   19    05/06/2012 - 05/12/2012   0.98      1.14
   20    05/13/2012 - 05/19/2012   1.01      1.17
   21    05/20/2012 - 05/26/2012   1.03      1.20
   22    05/27/2012 - 06/02/2012   1.06      1.23
   23    06/03/2012 - 06/09/2012   1.08      1.25
   24    06/10/2012 - 06/16/2012   1.11      1.29
   25    06/17/2012 - 06/23/2012   1.10      1.28
   26    06/24/2012 - 06/30/2012   1.10      1.28
   27    07/01/2012 - 07/07/2012   1.10      1.28
   28    07/08/2012 - 07/14/2012   1.10      1.28
   29    07/15/2012 - 07/21/2012   1.09      1.27
   30    07/22/2012 - 07/28/2012   1.11      1.29
   31    07/29/2012 - 08/04/2012   1.12      1.30
   32    08/05/2012 - 08/11/2012   1.14      1.32
   33    08/12/2012 - 08/18/2012   1.15      1.34
   34    08/19/2012 - 08/25/2012   1.16      1.35
   35    08/26/2012 - 09/01/2012   1.17      1.36
   36    09/02/2012 - 09/08/2012   1.18      1.37
   37    09/09/2012 - 09/15/2012   1.19      1.38
   38    09/16/2012 - 09/22/2012   1.17      1.36
   39    09/23/2012 - 09/29/2012   1.15      1.34
   40    09/30/2012 - 10/06/2012   1.13      1.31
   41    10/07/2012 - 10/13/2012   1.11      1.29
   42    10/14/2012 - 10/20/2012   1.09      1.27
   43    10/21/2012 - 10/27/2012   1.08      1.25
   44    10/28/2012 - 11/03/2012   1.06      1.23
   45    11/04/2012 - 11/10/2012   1.04      1.21
   46    11/11/2012 - 11/17/2012   1.03      1.20
   47    11/18/2012 - 11/24/2012   1.02      1.18
   48    11/25/2012 - 12/01/2012   1.02      1.18
   49    12/02/2012 - 12/08/2012   1.02      1.18
   50    12/09/2012 - 12/15/2012   1.02      1.18
   51    12/16/2012 - 12/22/2012   0.99      1.15
   52    12/23/2012 - 12/29/2012   0.97      1.13
   53    12/30/2012 - 12/31/2012   0.94      1.09

 * PEAK SEASON

 08-FEB-2013 12:28:37                    830UPD [1,0,0,1]   1_0300_PKSEASON.TXT
```

Turning Movement Data

Start Time	Livingston Rd Northbound						Livingston Rd Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	25	37	26	0	88	0	24	90	16	0	130	1	4	98	16	0	119	0	66	215	28	0	309	646
7:15 AM	0	52	40	43	0	135	0	34	83	24	0	141	8	13	140	14	1	175	0	78	265	58	0	401	852
7:30 AM	0	54	135	37	2	226	0	37	168	44	0	249	4	26	138	30	3	198	0	114	395	68	0	577	1250
7:45 AM	0	82	147	43	1	272	0	71	191	101	0	363	5	35	159	31	0	230	0	91	405	69	0	565	1430
Hourly Total	0	213	359	149	3	721	0	166	532	185	0	883	18	78	535	91	4	722	0	349	1280	223	0	1852	4178
8:00 AM	0	61	89	42	3	192	0	47	128	71	0	246	6	30	177	44	0	257	0	95	400	41	0	536	1231
8:15 AM	0	81	93	37	0	211	0	64	146	53	0	263	5	28	179	46	0	258	0	82	401	66	0	549	1281
8:30 AM	1	67	88	49	0	205	0	58	146	42	1	246	8	30	182	30	0	250	0	75	322	58	0	455	1156
8:45 AM	0	92	87	38	0	217	0	36	117	49	0	202	9	33	195	39	0	276	0	92	392	64	0	548	1243
Hourly Total	1	301	357	166	3	825	0	205	537	215	1	957	28	121	733	159	0	1041	0	344	1515	229	0	2088	4911
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	93	172	77	1	342	0	69	151	46	1	266	2	60	395	95	0	552	0	56	277	51	0	384	1544
4:15 PM	1	63	146	81	1	291	0	58	114	46	1	218	10	59	496	94	1	659	0	47	247	64	0	358	1526
4:30 PM	0	68	146	92	1	306	0	88	139	36	1	263	7	45	462	77	0	591	0	64	310	55	0	429	1589
4:45 PM	0	81	165	101	1	347	0	63	139	46	0	248	6	52	496	82	1	636	0	50	259	72	0	381	1612
Hourly Total	1	305	629	351	4	1286	0	278	543	174	3	995	25	216	1849	348	2	2438	0	217	1093	242	0	1552	6271
5:00 PM	1	84	166	94	0	345	0	56	120	40	0	216	5	50	549	89	0	693	0	54	293	58	0	405	1659
5:15 PM	0	98	212	142	2	452	0	61	133	49	0	243	8	43	499	91	0	641	0	56	284	69	0	409	1745
5:30 PM	0	81	135	114	1	330	0	68	94	33	1	195	4	65	553	99	0	721	1	35	266	71	0	373	1619
5:45 PM	0	49	160	78	0	287	0	44	100	42	0	186	9	64	525	73	0	671	1	42	309	51	0	403	1547
Hourly Total	1	312	673	428	3	1414	0	229	447	164	1	840	26	222	2126	352	0	2726	2	187	1152	249	0	1590	6570
Grand Total	3	1131	2018	1094	13	4246	0	878	2059	738	5	3675	97	637	5243	950	6	6927	2	1097	5040	943	0	7082	21930
Approach %	0.1	26.6	47.5	25.8	-	-	0.0	23.9	56.0	20.1	-	-	1.4	9.2	75.7	13.7	-	-	0.0	15.5	71.2	13.3	-	-	-
Total %	0.0	5.2	9.2	5.0	-	19.4	0.0	4.0	9.4	3.4	-	16.8	0.4	2.9	23.9	4.3	-	31.6	0.0	5.0	23.0	4.3	-	32.3	-
Car	3	1122	1978	1061	-	4164	0	862	2007	729	-	3598	96	628	5100	929	-	6753	2	1069	4905	915	-	6891	21406
% Car	100.0	99.2	98.0	97.0	-	98.1	-	98.2	97.5	98.8	-	97.9	99.0	98.6	97.3	97.8	-	97.5	100.0	97.4	97.3	97.0	-	97.3	97.6
Truck	0	9	40	33	-	82	0	16	52	9	-	77	1	9	143	21	-	174	0	28	135	28	-	191	524
% Truck	0.0	0.8	2.0	3.0	-	1.9	-	1.8	2.5	1.2	-	2.1	1.0	1.4	2.7	2.2	-	2.5	0.0	2.6	2.7	3.0	-	2.7	2.4
Ped	-	-	-	-	13	-	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	0	-	
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	

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Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Livingston Rd at Pine Ridge Rd
Site Code:
Start Date: 03/14/2013
Page No: 2

Livingston Rd [N]

Out	In	Total
3521	3598	7119
77	77	154
0	0	0
3598	**3675**	**7273**

R	T	L	U	P
729	2007	862	0	0
9	52	16	0	0
0	0	0	0	5
738	**2059**	**878**	**0**	**5**

Pine Ridge Rd [W]

Out	In	Total
6852	6753	13605
154	174	328
0	0	0
7006	**6927**	**13933**

	U	L	T	R	P
	96	628	5100	929	0
	1	9	143	21	0
	0	0	0	0	6
	97	**637**	**5243**	**950**	**6**

03/14/2013 7:00 AM
Ending At
03/14/2013 6:00 PM

Car
Truck
Ped

Pine Ridge Rd [E]

R	T	L	U	P
943	4905	1069	2	0
28	135	28	0	0
915	4905	1069	2	0
943	**5040**	**1097**	**2**	**0**

Out	In	Total
7025	6891	13916
192	191	383
0	0	0
7217	**7082**	**14299**

Livingston Rd [S]

U	L	T	R	P
3	1122	1978	1061	0
0	9	40	33	0
0	0	0	0	13
3	**1131**	**2018**	**1094**	**13**

Out	In	Total
4008	4164	8172
101	82	183
0	0	0
4109	**4246**	**8355**

Turning Movement Data Plot

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Livingston Rd at Pine Ridge Rd
Site Code:
Start Date: 03/14/2013
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Livingston Rd Northbound						Livingston Rd Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	54	135	37	2	226	0	37	168	44	0	249	4	26	138	30	3	198	0	114	395	68	0	577	1250
7:45 AM	0	82	147	43	1	272	0	71	191	101	0	363	5	35	159	31	0	230	0	91	405	69	0	565	1430
8:00 AM	0	61	89	42	3	192	0	47	128	71	0	246	6	30	177	44	0	257	0	95	400	41	0	536	1231
8:15 AM	0	81	93	37	0	211	0	64	146	53	0	263	5	28	179	46	0	258	0	82	401	66	0	549	1281
Total	0	278	464	159	6	901	0	219	633	269	0	1121	20	119	653	151	3	943	0	382	1601	244	0	2227	5192
Approach %	0.0	30.9	51.5	17.6	-	-	0.0	19.5	56.5	24.0	-	-	2.1	12.6	69.2	16.0	-	-	0.0	17.2	71.9	11.0	-	-	-
Total %	0.0	5.4	8.9	3.1	-	17.4	0.0	4.2	12.2	5.2	-	21.6	0.4	2.3	12.6	2.9	-	18.2	0.0	7.4	30.8	4.7	-	42.9	-
PHF	0.000	0.848	0.789	0.924	-	0.828	0.000	0.771	0.829	0.666	-	0.772	0.833	0.850	0.912	0.821	-	0.914	0.000	0.838	0.988	0.884	-	0.965	0.908
Car	0	276	451	148	-	875	0	214	621	267	-	1102	20	119	617	144	-	900	0	374	1549	230	-	2153	5030
% Car	-	99.3	97.2	93.1	-	97.1	-	97.7	98.1	99.3	-	98.3	100.0	100.0	94.5	95.4	-	95.4	-	97.9	96.8	94.3	-	96.7	96.9
Truck	0	2	13	11	-	26	0	5	12	2	-	19	0	0	36	7	-	43	0	8	52	14	-	74	162
% Truck	-	0.7	2.8	6.9	-	2.9	-	2.3	1.9	0.7	-	1.7	0.0	0.0	5.5	4.6	-	4.6	-	2.1	3.2	5.7	-	3.3	3.1
Ped	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Livingston Rd at Pine
Ridge Rd
Site Code:
Start Date: 03/14/2013
Page No: 4
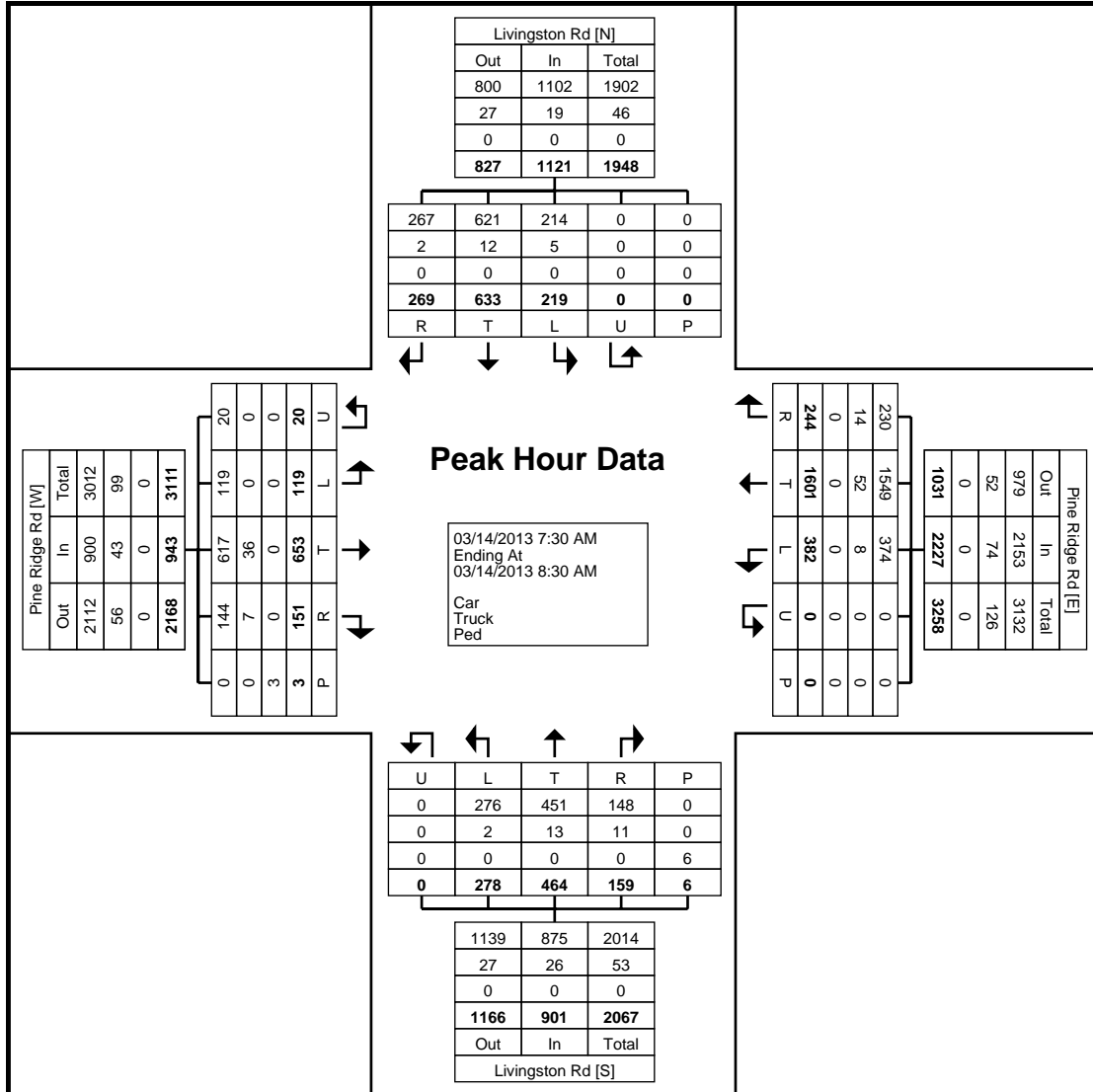
Peak Hour Data

Livingston Rd [N]

Out	In	Total
800	1102	1902
27	19	46
0	0	0
827	**1121**	**1948**

R	T	L	U	P
267	621	214	0	0
2	12	5	0	0
0	0	0	0	0
269	**633**	**219**	**0**	**0**
R	T	L	U	P

Pine Ridge Rd [W]

Out	In	Total
2112	900	3012
56	43	99
0	0	0
2168	**943**	**3111**

U	L	T	R	P
20	119	617	144	0
0	0	36	7	0
0	0	0	0	3
20	**119**	**653**	**151**	**3**
U	L	T	R	P

Pine Ridge Rd [E]

R	T	L	U	P
244	1601	382	0	0
0	0	0	0	0
14	52	8	0	0
230	1549	374	0	0

Out	In	Total
1031	**2227**	**3258**
0	0	0
52	74	126
979	2153	3132
Out	In	Total

Peak Hour Data

03/14/2013 7:30 AM
Ending At
03/14/2013 8:30 AM

Car
Truck
Ped

Livingston Rd [S]

U	L	T	R	P
0	276	451	148	0
0	2	13	11	0
0	0	0	0	6
0	**278**	**464**	**159**	**6**

	L	T	R	
	1139	875	2014	
	27	26	53	
	0	0	0	
	1166	**901**	**2067**	
	Out	In	Total	

Turning Movement Peak Hour Data Plot (7:30 AM)

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Livingston Rd at Pine Ridge Rd
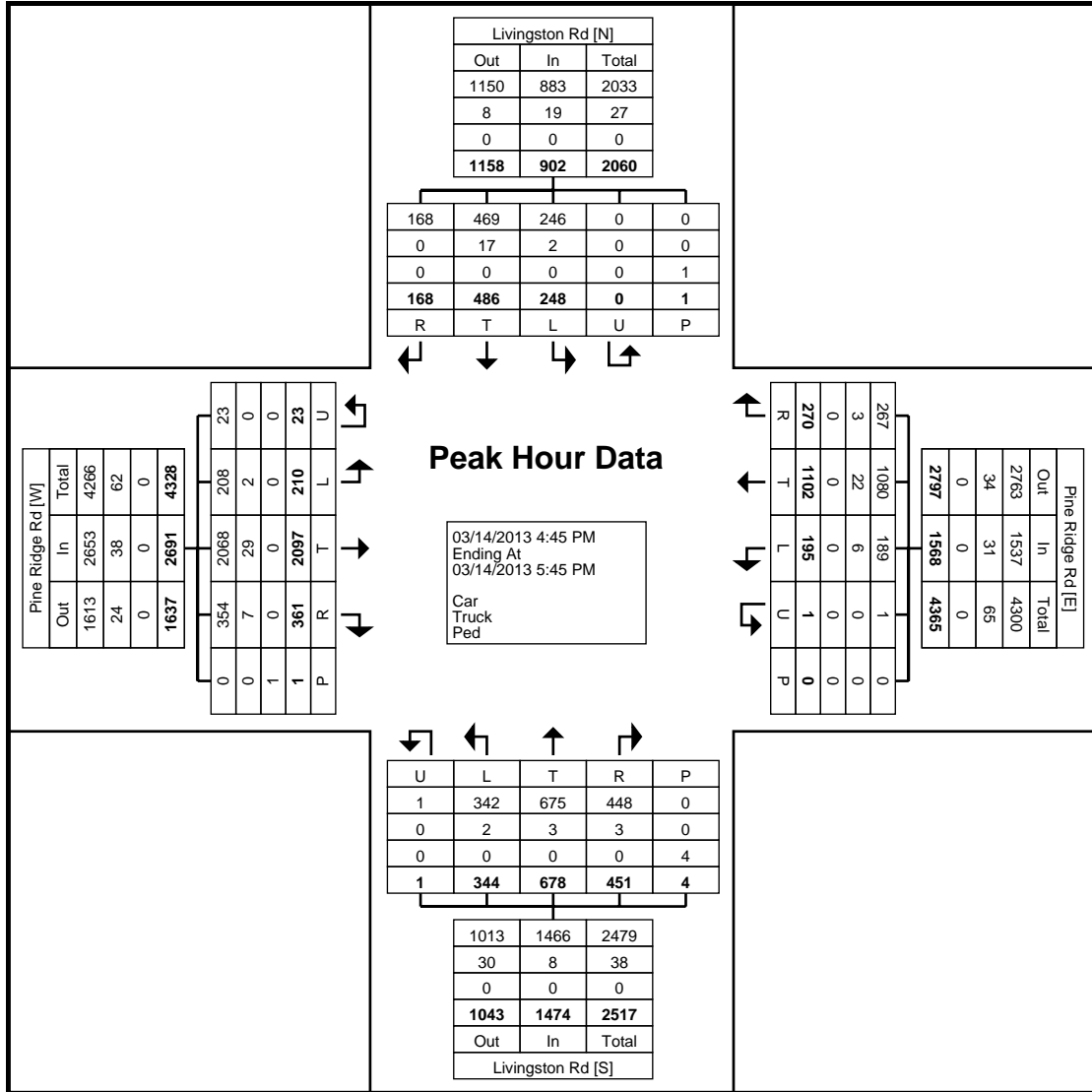Site Code:
Start Date: 03/14/2013
Page No: 5

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Livingston Rd Northbound						Livingston Rd Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	81	165	101	1	347	0	63	139	46	0	248	6	52	496	82	1	636	0	50	259	72	0	381	1612
5:00 PM	1	84	166	94	0	345	0	56	120	40	0	216	5	50	549	89	0	693	0	54	293	58	0	405	1659
5:15 PM	0	98	212	142	2	452	0	61	133	49	0	243	8	43	499	91	0	641	0	56	284	69	0	409	1745
5:30 PM	0	81	135	114	1	330	0	68	94	33	1	195	4	65	553	99	0	721	1	35	266	71	0	373	1619
Total	1	344	678	451	4	1474	0	248	486	168	1	902	23	210	2097	361	1	2691	1	195	1102	270	0	1568	6635
Approach %	0.1	23.3	46.0	30.6	-	-	0.0	27.5	53.9	18.6	-	-	0.9	7.8	77.9	13.4	-	-	0.1	12.4	70.3	17.2	-	-	-
Total %	0.0	5.2	10.2	6.8	-	22.2	0.0	3.7	7.3	2.5	-	13.6	0.3	3.2	31.6	5.4	-	40.6	0.0	2.9	16.6	4.1	-	23.6	-
PHF	0.250	0.878	0.800	0.794	-	0.815	0.000	0.912	0.874	0.857	-	0.909	0.719	0.808	0.948	0.912	-	0.933	0.250	0.871	0.940	0.938	-	0.958	0.951
Car	1	342	675	448	-	1466	0	246	469	168	-	883	23	208	2068	354	-	2653	1	189	1080	267	-	1537	6539
% Car	100.0	99.4	99.6	99.3	-	99.5	-	99.2	96.5	100.0	-	97.9	100.0	99.0	98.6	98.1	-	98.6	100.0	96.9	98.0	98.9	-	98.0	98.6
Truck	0	2	3	3	-	8	0	2	17	0	-	19	0	2	29	7	-	38	0	6	22	3	-	31	96
% Truck	0.0	0.6	0.4	0.7	-	0.5	-	0.8	3.5	0.0	-	2.1	0.0	1.0	1.4	1.9	-	1.4	0.0	3.1	2.0	1.1	-	2.0	1.4
Ped	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Livingston Rd at Pine
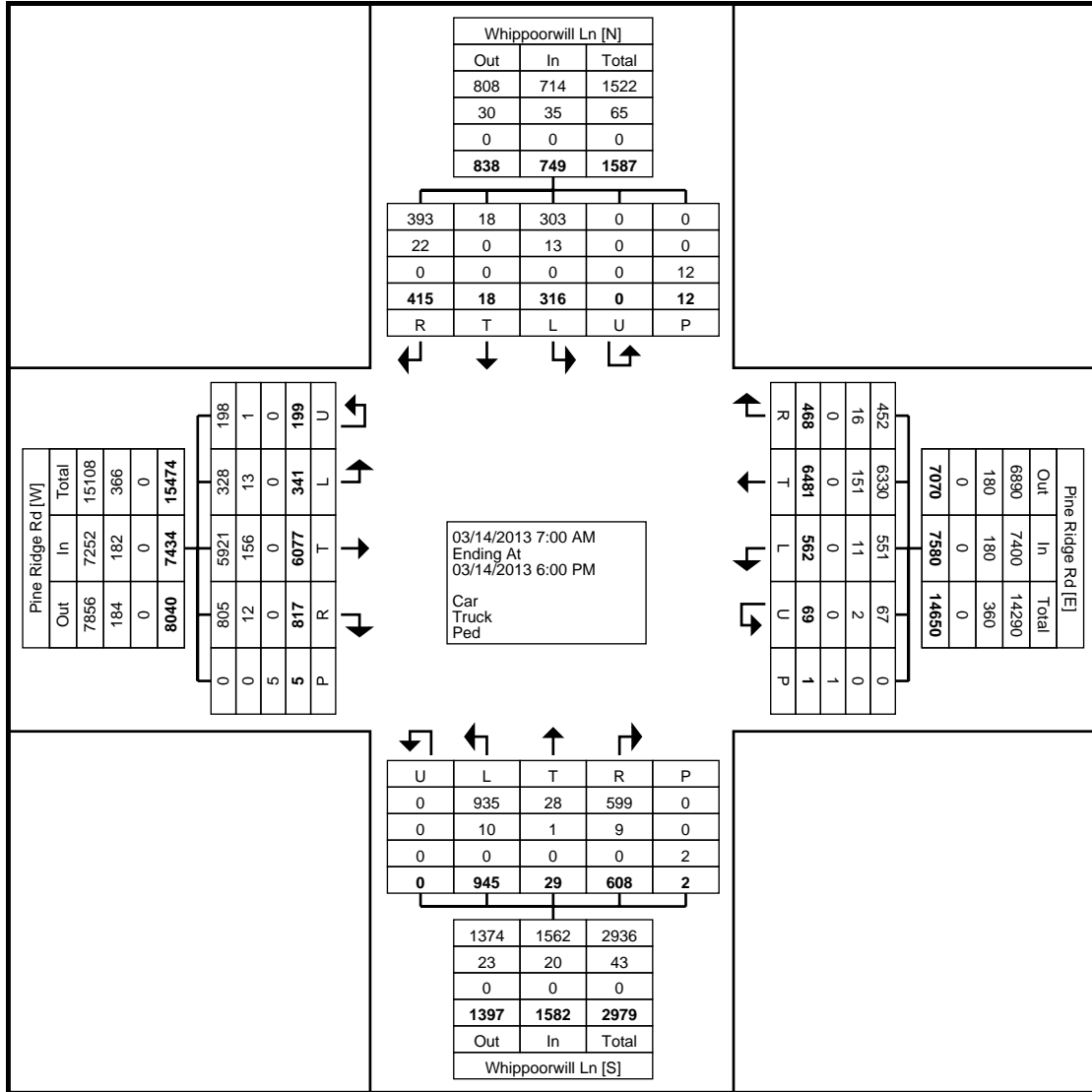Ridge Rd
Site Code:
Start Date: 03/14/2013
Page No: 6

Livingston Rd [N]

Out	In	Total
1150	883	2033
8	19	27
0	0	0
1158	**902**	**2060**

168	469	246	0	0
0	17	2	0	0
0	0	0	0	1
168	**486**	**248**	**0**	**1**
R	T	L	U	P

Peak Hour Data

03/14/2013 4:45 PM
Ending At
03/14/2013 5:45 PM

Car
Truck
Ped

Pine Ridge Rd [W]

Out	In	Total
1613	2653	4266
24	38	62
0	0	0
1637	**2691**	**4328**

U	L	T	R	P
23	208	2068	354	0
0	2	29	7	0
0	0	0	0	1
23	**210**	**2097**	**361**	**1**

Pine Ridge Rd [E]

R	T	L	U	P
270	1102	195	1	0
0	0	0	0	0
3	22	6	0	0
267	1080	189	1	0
2797	**1568**			

Out	In	Total
2763	1537	4300
34	31	65
0	0	0
2797	**1568**	**4365**

U	L	T	R	P
1	342	675	448	0
0	2	3	3	0
0	0	0	0	4
1	**344**	**678**	**451**	**4**

Out	In	Total
1013	1466	2479
30	8	38
0	0	0
1043	**1474**	**2517**

Livingston Rd [S]

Turning Movement Peak Hour Data Plot (4:45 PM)

Turning Movement Data

Start Time	Whippoorwill Ln Northbound						Whippoorwill Ln Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	22	1	24	0	47	0	7	0	24	0	31	2	10	119	16	0	147	8	24	333	42	0	407	632
7:15 AM	0	66	1	33	0	100	0	13	2	34	2	49	4	9	157	19	0	189	1	20	393	20	0	434	772
7:30 AM	0	58	4	37	0	99	0	12	0	30	1	42	4	10	188	14	0	216	6	25	558	37	1	626	983
7:45 AM	0	76	2	28	0	106	0	7	0	38	0	45	11	7	229	19	0	266	8	34	570	42	0	654	1071
Hourly Total	0	222	8	122	0	352	0	39	2	126	3	167	21	36	693	68	0	818	23	103	1854	141	1	2121	3458
8:00 AM	0	69	2	43	1	114	0	7	0	35	0	42	10	18	181	29	3	238	6	27	442	37	0	512	906
8:15 AM	0	57	2	25	0	84	0	16	1	28	0	45	11	12	253	38	0	314	3	56	494	36	0	589	1032
8:30 AM	0	83	1	35	1	119	0	15	1	34	3	50	10	18	201	38	0	267	2	36	453	22	0	513	949
8:45 AM	0	73	1	42	0	116	0	10	1	18	1	29	10	12	234	23	0	279	6	38	472	22	0	538	962
Hourly Total	0	282	6	145	2	433	0	48	3	115	4	166	41	60	869	128	3	1098	17	157	1861	117	0	2152	3849
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	46	0	25	0	71	0	32	1	21	2	54	17	36	509	57	0	619	4	21	346	24	0	395	1139
4:15 PM	0	41	4	38	0	83	0	33	1	23	1	57	18	26	512	67	0	623	5	33	356	21	0	415	1178
4:30 PM	0	53	3	32	0	88	0	31	1	23	2	55	9	31	542	59	2	641	3	34	338	27	0	402	1186
4:45 PM	0	48	1	36	0	85	0	18	3	29	0	50	19	38	556	93	0	706	6	39	401	22	0	468	1309
Hourly Total	0	188	8	131	0	327	0	114	6	96	5	216	63	131	2119	276	2	2589	18	127	1441	94	0	1680	4812
5:00 PM	0	66	1	66	0	133	0	27	0	18	0	45	20	18	563	91	0	692	3	38	325	18	0	384	1254
5:15 PM	0	71	3	57	0	131	0	36	0	20	0	56	14	33	668	93	0	808	1	45	294	36	0	376	1371
5:30 PM	0	50	2	41	0	93	0	23	6	20	0	49	18	32	620	91	0	761	7	46	369	30	0	452	1355
5:45 PM	0	66	1	46	0	113	0	29	1	20	0	50	22	31	545	70	0	668	0	46	337	32	0	415	1246
Hourly Total	0	253	7	210	0	470	0	115	7	78	0	200	74	114	2396	345	0	2929	11	175	1325	116	0	1627	5226
Grand Total	0	945	29	608	2	1582	0	316	18	415	12	749	199	341	6077	817	5	7434	69	562	6481	468	1	7580	17345
Approach %	0.0	59.7	1.8	38.4	-	-	0.0	42.2	2.4	55.4	-	-	2.7	4.6	81.7	11.0	-	-	0.9	7.4	85.5	6.2	-	-	-
Total %	0.0	5.4	0.2	3.5	-	9.1	0.0	1.8	0.1	2.4	-	4.3	1.1	2.0	35.0	4.7	-	42.9	0.4	3.2	37.4	2.7	-	43.7	-
Car	0	935	28	599	-	1562	0	303	18	393	-	714	198	328	5921	805	-	7252	67	551	6330	452	-	7400	16928
% Car	-	98.9	96.6	98.5	-	98.7	-	95.9	100.0	94.7	-	95.3	99.5	96.2	97.4	98.5	-	97.6	97.1	98.0	97.7	96.6	-	97.6	97.6
Truck	0	10	1	9	-	20	0	13	0	22	-	35	1	13	156	12	-	182	2	11	151	16	-	180	417
% Truck	-	1.1	3.4	1.5	-	1.3	-	4.1	0.0	5.3	-	4.7	0.5	3.8	2.6	1.5	-	2.4	2.9	2.0	2.3	3.4	-	2.4	2.4
Ped	-	-	-	-	2	-	-	-	-	-	12	-	-	-	-	-	5	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Whippoorwill Ln [N]

Out	In	Total
808	714	1522
30	35	65
0	0	0
838	**749**	**1587**

R	T	L	U	P
393	18	303	0	0
22	0	13	0	0
0	0	0	0	12
415	**18**	**316**	**0**	**12**

Pine Ridge Rd [W]

	Out	In	Total
	7856	7252	15108
	184	182	366
	0	0	0
	8040	**7434**	**15474**

	U	L	T	R	P
	198	328	5921	805	0
	1	13	156	12	0
	0	0	0	0	5
	199	**341**	**6077**	**817**	**5**

Pine Ridge Rd [E]

	R	T	L	U	P
	468	**6481**	**562**	**69**	**1**
	0	0	0	0	0
	16	151	11	2	1
	452	6330	551	67	0

Out	In	Total	
7070	**7580**	**14650**	
6890	7400	14290	
180	180	360	
0	0	0	

03/14/2013 7:00 AM
Ending At
03/14/2013 6:00 PM

Car
Truck
Ped

Whippoorwill Ln [S]

U	L	T	R	P
0	935	28	599	0
0	10	1	9	0
0	0	0	0	2
0	**945**	**29**	**608**	**2**

Out	In	Total
1374	1562	2936
23	20	43
0	0	0
1397	**1582**	**2979**

Turning Movement Data Plot

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Pine Ridge Rd at
Whippoorwill Ln
Site Code:
Start Date: 03/14/2013
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Whippoorwill Ln Northbound						Whippoorwill Ln Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	58	4	37	0	99	0	12	0	30	1	42	4	10	188	14	0	216	6	25	558	37	1	626	983
7:45 AM	0	76	2	28	0	106	0	7	0	38	0	45	11	7	229	19	0	266	8	34	570	42	0	654	1071
8:00 AM	0	69	2	43	1	114	0	7	0	35	0	42	10	18	181	29	3	238	6	27	442	37	0	512	906
8:15 AM	0	57	2	25	0	84	0	16	1	28	0	45	11	12	253	38	0	314	3	56	494	36	0	589	1032
Total	0	260	10	133	1	403	0	42	1	131	1	174	36	47	851	100	3	1034	23	142	2064	152	1	2381	3992
Approach %	0.0	64.5	2.5	33.0	-	-	0.0	24.1	0.6	75.3	-	-	3.5	4.5	82.3	9.7	-	-	1.0	6.0	86.7	6.4	-	-	-
Total %	0.0	6.5	0.3	3.3	-	10.1	0.0	1.1	0.0	3.3	-	4.4	0.9	1.2	21.3	2.5	-	25.9	0.6	3.6	51.7	3.8	-	59.6	-
PHF	0.000	0.855	0.625	0.773	-	0.884	0.000	0.656	0.250	0.862	-	0.967	0.818	0.653	0.841	0.658	-	0.823	0.719	0.634	0.905	0.905	-	0.910	0.932
Car	0	256	9	131	-	396	0	35	1	122	-	158	36	42	809	96	-	983	22	139	2008	146	-	2315	3852
% Car	-	98.5	90.0	98.5	-	98.3	-	83.3	100.0	93.1	-	90.8	100.0	89.4	95.1	96.0	-	95.1	95.7	97.9	97.3	96.1	-	97.2	96.5
Truck	0	4	1	2	-	7	0	7	0	9	-	16	0	5	42	4	-	51	1	3	56	6	-	66	140
% Truck	-	1.5	10.0	1.5	-	1.7	-	16.7	0.0	6.9	-	9.2	0.0	10.6	4.9	4.0	-	4.9	4.3	2.1	2.7	3.9	-	2.8	3.5
Ped	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Pine Ridge Rd at Whippoorwill Ln
Site Code:
Start Date: 03/14/2013
Page No: 4

Whippoorwill Ln [N]

Out	In	Total
197	158	355
12	16	28
0	0	0
209	**174**	**383**

R	T	L	U	P
122	1	35	0	0
9	0	7	0	0
0	0	0	0	1
131	**1**	**42**	**0**	**1**

Pine Ridge Rd [W]

Out	In	Total
2422	983	3405
69	51	120
0	0	0
2491	**1034**	**3525**

U	L	T	R	P
36	42	809	96	0
0	5	42	4	0
0	0	0	0	3
36	**47**	**851**	**100**	**3**

Peak Hour Data

03/14/2013 7:30 AM
Ending At
03/14/2013 8:30 AM

Car
Truck
Ped

Pine Ridge Rd [E]

R	T	L	U	P
152	2064	142	23	1
0	0	0	0	0
6	56	3	1	1
146	2008	139	22	0

Out	In	Total
1049	2381	3430
52	66	118
997	2315	3312
0	0	0

Whippoorwill Ln [S]

U	L	T	R	P
0	256	9	131	0
0	4	1	2	0
0	0	0	0	1
0	**260**	**10**	**133**	**1**

Out	In	Total
236	396	632
7	7	14
0	0	0
243	**403**	**646**

Turning Movement Peak Hour Data Plot (7:30 AM)

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Pine Ridge Rd at
Whippoorwill Ln
Site Code:
Start Date: 03/14/2013
Page No: 5

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Whippoorwill Ln Northbound						Whippoorwill Ln Southbound						Pine Ridge Rd Eastbound						Pine Ridge Rd Westbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	48	1	36	0	85	0	18	3	29	0	50	19	38	556	93	0	706	6	39	401	22	0	468	1309
5:00 PM	0	66	1	66	0	133	0	27	0	18	0	45	20	18	563	91	0	692	3	38	325	18	0	384	1254
5:15 PM	0	71	3	57	0	131	0	36	0	20	0	56	14	33	668	93	0	808	1	45	294	36	0	376	1371
5:30 PM	0	50	2	41	0	93	0	23	6	20	0	49	18	32	620	91	0	761	7	46	369	30	0	452	1355
Total	0	235	7	200	0	442	0	104	9	87	0	200	71	121	2407	368	0	2967	17	168	1389	106	0	1680	5289
Approach %	0.0	53.2	1.6	45.2	-	-	0.0	52.0	4.5	43.5	-	-	2.4	4.1	81.1	12.4	-	-	1.0	10.0	82.7	6.3	-	-	-
Total %	0.0	4.4	0.1	3.8	-	8.4	0.0	2.0	0.2	1.6	-	3.8	1.3	2.3	45.5	7.0	-	56.1	0.3	3.2	26.3	2.0	-	31.8	-
PHF	0.000	0.827	0.583	0.758	-	0.831	0.000	0.722	0.375	0.750	-	0.893	0.888	0.796	0.901	0.989	-	0.918	0.607	0.913	0.866	0.736	-	0.897	0.964
Car	0	234	7	196	-	437	0	103	9	86	-	198	71	118	2375	364	-	2928	17	166	1368	103	-	1654	5217
% Car	-	99.6	100.0	98.0	-	98.9	-	99.0	100.0	98.9	-	99.0	100.0	97.5	98.7	98.9	-	98.7	100.0	98.8	98.5	97.2	-	98.5	98.6
Truck	0	1	0	4	-	5	0	1	0	1	-	2	0	3	32	4	-	39	0	2	21	3	-	26	72
% Truck	-	0.4	0.0	2.0	-	1.1	-	1.0	0.0	1.1	-	1.0	0.0	2.5	1.3	1.1	-	1.3	0.0	1.2	1.5	2.8	-	1.5	1.4
Ped	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: Pine Ridge Rd at Whippoorwill Ln
Site Code:
Start Date: 03/14/2013
Page No: 6

Whippoorwill Ln [N]

Out	In	Total
228	198	426
6	2	8
0	0	0
234	**200**	**434**

86	9	103	0	0
1	0	1	0	0
0	0	0	0	0
87	**9**	**104**	**0**	**0**
R	T	L	U	P

Pine Ridge Rd [W]

Out	In	Total
1759	2928	4687
23	39	62
0	0	0
1782	**2967**	**4749**

U	71	0	0	71
L	118	3	0	121
T	2375	32	0	2407
R	364	4	0	368
P	0	0	0	0

Peak Hour Data

03/14/2013 4:45 PM
Ending At
03/14/2013 5:45 PM

Car
Truck
Ped

Pine Ridge Rd [E]

R	106	0	3	103
T	1389	0	21	1368
L	168	0	2	166
U	17	0	0	17
P	0	0	0	0

Out	In	Total
2728	1680	4408
2691	1654	4345
37	26	63
0	0	0

U	L	T	R	P
0	234	7	196	0
0	1	0	4	0
0	0	0	0	0
0	**235**	**7**	**200**	**0**

539	437	976
6	5	11
0	0	0
545	**442**	**987**
Out	In	Total

Whippoorwill Ln [S]

Turning Movement Peak Hour Data Plot (4:45 PM)

Programmed EPAC Data

03/12/2013
10:07:16 am

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

Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red
1	7	3.0	20	0	4.5	2.3
2	20	5.0	40	0	4.5	2.4
3	7	3.0	20	0	4.5	5.0
4	10	4.0	25	0	4.5	2.4
5	7	3.0	40	0	4.5	2.3
6	20	5.0	40	0	4.5	5.0
7	7	3.0	20	0	4.5	2.4
8	10	4.0	25	0	4.5	2.3

Vehical Density Timings

Added Initial	Max_Initial	Time B4 Reduction	Cars Before	Time To Reduce	Min_Gap
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0

Pedestrian Timing

Phase	Walk	Ped Clear	Flashing Walk	Extended Ped Clear	Actuated Rest in Walk
1	0	0	No	0	No
2	7	41	No	0	No
3	0	0	No	0	No
4	7	35	No	0	No
5	0	0	No	0	No
6	7	35	No	0	No
7	0	0	No	0	No
8	7	42	No	0	No

General Control

Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay
Inactive	None	None	None	0
Green	NonActI	Min	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0
Green	NonActI	Min	None	0
Inactive	None	None	None	0
Inactive	NonActII	None	None	0

Miscellaneous

Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
Yes	No	No	No	No
Yes	No	No	No	No
Yes	No	No	No	No
Yes	Yes	No	No	No
Yes	No	No	No	No
Yes	No	No	No	No
Yes	No	No	No	No
Yes	Yes	No	No	No

Special Sequence

Default Data

Vehical Detector Phase Assignment

	Assigned Phase	Mode	Switched Phase	Extend	Delay
Vehical Detector Channel :33	4	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: 6sec　　Startup State: All Red　　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

Test A = Flash Yes

Phase	Flash Entry Phase	Flash Exit Phase
2	No	Yes
4	Yes	No
6	No	Yes
8	Yes	No

Channel	Flash Color	Flash Alternat
1	Red	Yes
2	Yellow	Yes
3	Red	No
4	Red	No
5	Red	Yes
6	Yellow	Yes
7	Red	No
8	Red	No
14	Red	No
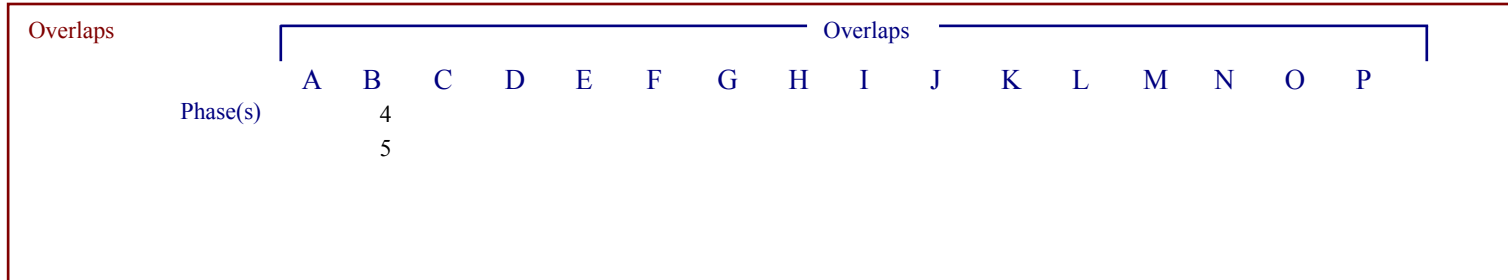
Overlaps

Overlaps	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)		4														
		5														

	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	Ring	Next Phase		Phase(s)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	3	Concurrent Phases	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 40
0	Used	No
1	Used	No
8	Used	No
9	Used	No
10	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	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

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

Operation Mode: 1=Auto

Coordination Mode: 2=Permissive Yield

Maximun 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

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	76	1=Coordinate	3	29	0=Actuated	4	30	0=Actuated
5	37	0=Actuated	6	64	1=Coordinate	7	24	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	27	0=Actuated	2	70	1=Coordinate	3	31	0=Actuated	4	32	0=Actuated
5	37	0=Actuated	6	60	1=Coordinate	7	26	0=Actuated	8	37	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:	Offset Time:	Alt. Sequence:	Mode:	Rg 2 Lag Time:	Rg 3 Lag Time:	Rg 4 Lag Time:
1/1/1	64	0	0=Normal	0	0	0
2/3/1	43	0	0=Normal	0	0	0
2/4/1	133	0	0=Normal	0	0	0
3/1/1	41	0	0=Normal	0	0	0
3/2/1	1	0	0=Normal	0	0	0
3/3/1	8	0	0=Normal	0	0	0
3/4/1	43	0	0=Normal	0	0	0
4/1/1	5	0	0=Normal	0	0	0
4/2/1	140	0	0=Normal	0	0	0
4/3/1	145	0	0=Normal	0	0	0
4/4/1	140	0	0=Normal	0	0	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

PHASE FUNCTION

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

AUX. Events

Event	Program Day	Hour	Min.	Aux Outputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 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	100	22	0
2	1	2	100	22	0
3	1	3	100	22	0
4	1	4	100	22	0
5	1	21	100	22	0
6	2	15	100	12	0
7	2	18	100	22	0
8	3	11	100	22	0
9	3	12	100	22	0
10	3	13	100	22	0
11	3	14	100	22	0
12	3	15	100	22	0
13	3	26	100	12	0
14	3	29	100	22	0
15	4	1	100	22	0
16	4	29	100	22	0
17	4	30	100	22	0
18	5	27	100	22	0
19	5	31	100	12	0
20	6	3	100	12	0
21	6	4	100	12	0
22	6	5	100	22	0
23	6	6	100	22	0
24	6	7	100	22	0
25	6	17	100	22	0
26	6	18	100	22	0
27	6	19	100	22	0
28	6	20	100	22	0
29	6	21	100	22	0
30	8	14	100	22	0
31	8	15	100	22	0
32	8	16	100	22	0
33	8	17	100	22	0
34	9	3	100	22	0
35	9	17	100	22	0
36	9	26	100	12	0
37	10	18	100	12	0
38	10	19	100	22	0
39	11	6	100	12	0
40	11	21	100	22	0
41	11	22	100	22	0
42	11	23	100	22	0
43	12	19	100	12	0
44	12	20	100	12	0
45	12	21	100	12	0
46	12	24	100	22	0
47	12	25	100	22	0
48	12	26	100	22	0
49	12	27	100	22	0
50	12	28	100	22	0
51	12	29	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 Max2	X															
Phase 2 Max2		X														
Phase 3 Max2			X													
Phase 4 Max2				X												
Phase 5 Max2					X											
Phase 6 Max2						X										
Phase 7 Max2							X									
Phase 8 Max2								X								
Phase 1 Phase Omit									X							
Phase 2 Phase Omit										X						
Phase 3 Phase Omit											X					
Phase 4 Phase Omit												X				
Phase 5 Phase Omit													X			
Phase 6 Phase Omit														X		
Phase 7 Phase Omit															X	
Phase 8 Phase Omit																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   Preepmt 2 = Preempt 3   Preepmt 4 = Preempt 5
Preepmt 1 > Preempt 2   Preepmt 3 = Preempt 4   Preepmt 5 = Preempt 6

Preempt Timers

Preempt	Non-Locking	Link to Preempt	Delay	Extend	Duration	MaxCall	Lock-Out	Select Ped Clear	Select Yel	Select Red	Track Grn	Track Ped	Track Yel	Track Red	Dwell Green	Return Ped Clear	Return Yel	Return 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

Phase	Exit Phase	Exit Calls
2	Yes	No
6	Yes	No

Preempt 2

Phase	Exit Phase	Exit Calls
4	Yes	No
8	Yes	No

Preempt 3

Phase	Exit Phase	Exit Calls
2	Yes	No
6	Yes	No

Preempt 4

Phase	Exit Phase	Exit Calls
4	Yes	No
8	Yes	No

Preempt 5

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

Preempt 6

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

Phase	Exit Phase	Exit Calls

Priority 2

Phase	Exit Phase	Exit Calls

Priority 3

Phase	Exit Phase	Exit Calls

Priority 4

Phase	Exit Phase	Exit Calls

Priority 5

Phase	Exit Phase	Exit Calls

Priority 6

Phase	Exit Phase	Exit Calls

Preempt 1

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Green	No
6	Red	Green	No

Pedestrian Phases

Ph	Track	Dwell	Cycle

Default Data

Overlaps

Ovlp	Track	Dwell	Cycle

Default Data

Preempt 2

Vehical Phases

Ph.	Track	Dwell	Cycle
3	Red	Green	No
8	Red	Green	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Default Data

Overlaps

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
2	Red	Green	No	**Default Data**				**Default Data**			
5	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	**Default Data**				2	Red	Grn	No
7	Red	Green	No								

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

Revert to Backup: 15   1st Phone: 2395135428

Local Free: No	Cycle Failure: No	Coord Failure: No	Conflict Flash: Yes	Remote Flash: No	2nd Phone:
Local Fash: No	Cycle Fault: No	Coord Fault: No	Premption: No	Voltage Monitor: Yes	

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	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	**Default Data**			**Default Data**		
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

Queue: 2   Input Selection: 0=Average

Detector Failed Level : 0

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical 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

Vehical 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

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 :

Default Data

Dial/Split/Offset //	Speed Trap Low Treshold	Speed Trap High Treshold

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

Intersection Name: Pine Ridge @ Whippoorwill   **Intersection Alias: PR@Whipwill**

Access Code: 9999   Channel: 49   Address: 65   Revision: 3.33b

Access Data

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

Phase Data

Vehical Basic Timings

Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red
1	7	2.0	20	30	4.5	2.0
2	20	5.0	50	50	4.5	2.0
3	5	1.0	20	25	4.0	2.3
4	8	1.0	25	30	4.0	2.3
5	7	2.0	32	40	4.5	2.0
6	20	5.0	50	50	4.5	2.0
7	5	1.0	20	25	4.0	2.3
8	8	1.0	20	25	4.0	2.3

Vehical Density Timings

Added Initial	Max_Initial	Time B4 Reduction	Cars Before	Time To Reduce	Min_Gap
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0

Pedestrian Timing / General Control / Miscellaneous

Phase	Walk	Ped Clear	Flashing Walk	Extended Ped Clear	Actuated 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	22	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No	No
3	0	0	No	0	No	Inactive	None	Min	None	0	Yes	No	No	No	No
4	0	0	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	7	22	No	0	No	Green	NonActI	Min	None	0	Yes	No	No	No	No
7	0	0	No	0	No	Inactive	None	None	None	0	Yes	No	No	No	No
8	7	33	No	0	No	Inactive	NonActII	None	None	0	Yes	Yes	No	No	No

Special Sequence

Phase	Phase Omit	Minus Yellow Phase	Omit Call
1	6	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	2	0	0
6	0	0	0
7	0	0	0
8	0	0	0

Vehical Detector Phase Assignment

	Assigned Phase	Mode	Switched Phase	Extend	Delay
Vehical Detector Channel :1	1	Veh	6	0.0	0
Vehical Detector Channel :2	2	Veh	0	0.0	0
Vehical Detector Channel :3	3	Veh	0	0.0	0
Vehical Detector Channel :4	4	Veh	0	0.0	0
Vehical Detector Channel :5	5	Veh	2	0.0	0
Vehical Detector Channel :6	6	Veh	0	0.0	0
Vehical Detector Channel :7	7	Veh	0	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

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

Test A = Flash Yes

Phase	Flash Entry Phase	Flash Exit Phase
2	No	Yes
4	Yes	No
6	No	Yes
8	Yes	No

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

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	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	Ring	Next Phase	Concurrent Phases	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	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 40
0	Used	No
1	Used	No
8	Used	No
9	Used	No
10	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	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	Offset Mode: 0=Beg Grn	Manual Dial: 0
Coordination Mode: 2=Permissive Yield	Force Mode: 0=Plan	Manual Split: 0
Maximun Mode: 0=Inhibit	Max Dwell Time: 0	Manual Offset: 0
Correction Mode: 2=Short Way	Yield Period: 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:	Offset Time:	Alt. Sequence:	Mode:	Rg 2 Lag Time:	Rg 3 Lag Time:	Rg 4 Lag Time:
1/1/1	118	0	0=Normal	0	0	0
2/3/1	139	0	0=Normal	0	0	0
2/4/1	47	0	0=Normal	0	0	0
3/1/1	4	0	0=Normal	0	0	0
3/2/1	70	0	0=Normal	0	0	0
3/3/1	70	0	0=Normal	0	0	0
3/4/1	159	0	0=Normal	0	0	0
4/1/1	115	0	0=Normal	0	0	0
4/2/1	38	0	0=Normal	0	0	0
4/3/1	36	0	0=Normal	0	0	0
4/4/1	38	0	0=Normal	0	0	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	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	8:0	3/4/1																	
13	2	9:20	3/3/1																	
14	2	14:0	4/2/1																	
15	2	15:35	4/4/1																	
16	2	16:20	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	8:0	3/4/1																	
33	12	9:20	3/3/1																	
34	12	12:35	4/4/1																	
35	12	13:20	3/3/1																	
36	12	14:0	4/2/1																	
37	12	16:20	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	9:20	3/3/1																	
45	22	14:0	4/2/1																	

46	22	16:20	4/3/1		☐	☐	☐	☐	☐ ☐	☐	☐ ☐	☐	☐ ☐	☐	☐	☐	☐	☐
47	22	18:30	1/1/1		☐	☐	☐	☐	☐ ☐	☐	☐ ☐	☐	☐ ☐	☐	☐	☐	☐	☐
48	22	22:0	0/0/4		☐	☐	☐	☐	☐ ☐	☐	☐ ☐	☐	☐ ☐	☐	☐	☐	☐	☐
49	22	23:0	5/5/0	Flash On	☐	☐	☐	☐	☐ ☐	☐	☐ ☐	☐	☐ ☐	☐	☐	☐	☐	☐

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8
1	1	0	1	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	2	0	1	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	2	17	0	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	7	0	1	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	12	0	1	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	22	0	1	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Event	Month	Day	Year	Special Day	Special Week
1	1	1	100	22	0
2	1	2	100	22	0
3	1	3	100	22	0
4	1	4	100	22	0
5	1	21	100	22	0
6	2	15	100	12	0
7	2	18	100	22	0
8	3	11	100	22	0
9	3	12	100	22	0
10	3	13	100	22	0
11	3	14	100	22	0
12	3	15	100	22	0
13	3	26	100	12	0
14	3	29	100	22	0
15	4	1	100	22	0
16	4	29	100	22	0
17	4	30	100	22	0
18	5	27	100	22	0
19	5	31	100	12	0
20	6	3	100	12	0
21	6	4	100	12	0
22	6	5	100	22	0
23	6	6	100	22	0
24	6	7	100	22	0
25	6	17	100	22	0
26	6	18	100	22	0
27	6	19	100	22	0
28	6	20	100	22	0
29	6	21	100	22	0
30	8	14	100	22	0
31	8	15	100	22	0
32	8	16	100	22	0
33	8	17	100	22	0
34	9	3	100	22	0
35	9	17	100	22	0
36	9	26	100	12	0
37	10	18	100	12	0
38	10	19	100	22	0
39	11	6	100	12	0
40	11	21	100	22	0
41	11	22	100	22	0
42	11	23	100	22	0
43	12	19	100	12	0
44	12	20	100	12	0
45	12	21	100	12	0
46	12	24	100	22	0
47	12	25	100	22	0
48	12	26	100	22	0
49	12	27	100	22	0
50	12	28	100	22	0
51	12	29	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									X							
Phase 2 Phase Omit										X						
Phase 3 Phase Omit											X					
Phase 4 Phase Omit												X				
Phase 5 Phase Omit													X			
Phase 6 Phase Omit														X		
Phase 7 Phase Omit															X	
Phase 8 Phase Omit																X
Phase 5 Max Recall					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 Ped Clear	Yel	Red	Track Grn	Ped	Yel	Red	Dwell Green	Return 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
Phase	Exit Phase	Exit Calls

Preempt 2
Phase	Exit Phase	Exit Calls

Preempt 3
Phase	Exit Phase	Exit Calls

Preempt 4
Phase	Exit Phase	Exit Calls

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

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

Priority 2
Phase	Exit Phase	Exit Calls

Priority 3
Phase	Exit Phase	Exit Calls

Priority 4
Phase	Exit Phase	Exit Calls

Priority 5
Phase	Exit Phase	Exit Calls

Priority 6
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

Default Data   **Default Data**

Preempt 2

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

Default Data

Default Data   **Default Data**

Preempt 3

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

Default Data

Default Data   **Default Data**

Preempt 4

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

Default Data

Default Data   **Default Data**

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

Revert to Backup: 15   1st Phone:

Local Free: No   Cycle Failure: No   Coord Failure: No   Conflict Flash: No   Remote Flash: No   2nd Phone:

Local Fash: No   Cycle Fault: No   Coord Fault: No   Premption: No   Voltage Monitor: No

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	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	**Default Data**			**Default Data**		
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:

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**

Vehical Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count
5	180	180	60
6	30	180	60
7	180	180	60
8	30	180	60
9	30	180	60
10	30	180	60
11	30	180	60
12	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
33	30	180	60
34	30	180	60
35	30	180	60

Vehical Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Valu

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

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 :

Default Data

Dial/Split/Offset	Speed Trap Low Treshold	Speed Trap High Treshold
//		

Default Data

Volume Detector Data

Volume Detector Number	Report Interval Controller Detector Channel
1	24
2	25
3	26
5	33
6	34
7	35
10	22
11	21
12	20
17	19
18	18
19	17

APPENDIX B

**EXISTING AND FUTURE
INTERSECTION VOLUMES**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Pine Ridge Road & Livingston Road
Count Date: 03/14/13
A.M. Peak Time Period: 7:30 - 8:30 AM
Peak Hour Factor: 0.91

	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
Existing Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	139	653	151	382	1601	244	278	464	159	219	633	269
Peak Season 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
2013 Existing Conditions	**132**	**620**	**143**	**363**	**1521**	**232**	**264**	**441**	**151**	**208**	**601**	**256**

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	132	620	143	363	1521	232	264	441	151	208	601	256
Years to Build-out	22	22	22	22	22	22	22	22	22	22	22	22
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	32	152	35	89	372	57	65	108	37	51	147	63
2035 Future Conditions	**164**	**772**	**178**	**452**	**1893**	**289**	**329**	**549**	**188**	**259**	**748**	**319**

Intersection: Pine Ridge Road & Livingston Road
Count Date: 03/14/13
P.M. Peak Time Period: 4:45 - 5:45 PM
Peak Hour Factor: 0.95

	Pine Ridge Rd			Pine Ridge Rd			Livingston Rd			Livingston Rd		
Existing Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	233	2097	361	196	1102	270	345	678	451	248	486	168
Peak Season 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
2013 Existing Conditions	**221**	**1992**	**343**	**186**	**1047**	**257**	**328**	**644**	**428**	**236**	**462**	**160**

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	221	1992	343	186	1047	257	328	644	428	236	462	160
Years to Build-out	14	14	14	14	14	14	14	14	14	14	14	14
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	33	298	51	28	156	38	49	96	64	35	69	24
2027 Interim Conditions	**254**	**2290**	**394**	**214**	**1203**	**295**	**377**	**740**	**492**	**271**	**531**	**184**

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	221	1992	343	186	1047	257	328	644	428	236	462	160
Years to Build-out	22	22	22	22	22	22	22	22	22	22	22	22
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	54	487	84	46	256	63	80	158	105	58	113	39
2035 Future Conditions	**275**	**2479**	**427**	**232**	**1303**	**320**	**408**	**802**	**533**	**294**	**575**	**199**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Pine Ridge Road & Whippoorwill Lane
Count Date: 03/14/13
A.M. Peak Time Period: 7:30 - 8:30 AM
Peak Hour Factor: 0.93

	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
Existing Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	83	851	100	165	2064	152	260	10	133	42	1	131
Peak Season 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
2013 Existing Conditions	**79**	**808**	**95**	**157**	**1961**	**144**	**247**	**10**	**126**	**40**	**1**	**124**

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	79	808	95	157	1961	144	247	10	126	40	1	124
Years to Build-out	22	22	22	22	22	22	22	22	22	22	22	22
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	19	198	23	38	480	35	60	2	31	10	0	30
2035 Future Conditions	**98**	**1006**	**118**	**195**	**2441**	**179**	**307**	**12**	**157**	**50**	**1**	**154**

Intersection: Pine Ridge Road & Whippoorwill Lane
Count Date: 03/14/13
P.M. Peak Time Period: 4:45 - 5:45 PM
Peak Hour Factor: 0.96

	Pine Ridge Rd			Pine Ridge Rd			Whippoorwill Ln			Whippoorwill Ln		
Existing Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	192	2407	368	185	1389	106	235	7	200	104	9	87
Peak Season 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
2013 Existing Conditions	**182**	**2287**	**350**	**176**	**1320**	**101**	**223**	**7**	**190**	**99**	**9**	**83**

Interim Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	182	2287	350	176	1320	101	223	7	190	99	9	83
Years to Build-out	14	14	14	14	14	14	14	14	14	14	14	14
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	27	342	52	26	197	15	33	1	28	15	1	12
2027 Interim Conditions	**209**	**2629**	**402**	**202**	**1517**	**116**	**256**	**8**	**218**	**114**	**10**	**95**

Future Traffic	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Existing Conditions	182	2287	350	176	1320	101	223	7	190	99	9	83
Years to Build-out	22	22	22	22	22	22	22	22	22	22	22	22
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	45	560	86	43	323	25	55	2	46	24	2	20
2035 Future Conditions	**227**	**2847**	**436**	**219**	**1643**	**126**	**278**	**9**	**236**	**123**	**11**	**103**

APPENDIX C

SYNCHRO WORKSHEETS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱↱	↱↱	↑↑↑	↱
Volume (vph)	132	620	143	363	1521	232	264	441	151	208	601	256
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)	3502	4893	1538	3433	5036	1524	3467	5036	2656	3433	5085	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	4893	1538	3433	5036	1524	3467	5036	2656	3433	5085	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			217			184			247
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1533			1358	
Travel Time (s)		19.3			39.6			23.2			20.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	5%	2%	3%	6%	1%	3%	7%	2%	2%	1%
Adj. Flow (vph)	145	681	157	399	1671	255	290	485	166	229	660	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	681	157	399	1671	255	290	485	166	229	660	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)	13.8	29.5	29.5	13.8	29.5	29.5	16.5	22.9	22.9	16.5	22.9	22.9
Total Split (s)	27.0	60.0	60.0	37.0	70.0	70.0	26.0	32.0	32.0	31.0	37.0	37.0
Total Split (%)	16.9%	37.5%	37.5%	23.1%	43.8%	43.8%	16.3%	20.0%	20.0%	19.4%	23.1%	23.1%
Maximum Green (s)	20.2	50.5	50.5	30.2	63.1	63.1	19.1	25.1	25.1	21.5	30.2	30.2
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.0	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	9.5	9.5	6.8	6.9	6.9	6.9	6.9	6.9	9.5	6.8	6.8
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	Min	Min	None	C-Min	C-Min	None	Max	Max	None	Max	Max
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)	12.0	53.9	53.9	23.8	68.3	68.3	17.5	33.7	33.7	15.9	34.9	34.9
Actuated g/C Ratio	0.08	0.34	0.34	0.15	0.43	0.43	0.11	0.21	0.21	0.10	0.22	0.22
v/c Ratio	0.56	0.41	0.25	0.78	0.78	0.33	0.77	0.46	0.24	0.67	0.60	0.52
Control Delay	79.3	41.9	5.3	104.5	21.4	1.5	83.0	58.1	5.8	79.1	59.9	13.5
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
Total Delay	79.3	41.9	5.3	104.5	21.4	1.5	83.0	58.1	5.8	79.1	59.9	13.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	A	F	C	A	F	E	A	E	E	B
Approach Delay		41.6			33.5			56.6			52.5	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	76	195	0	218	275	7	153	168	0	121	237	30
Queue Length 95th (ft)	113	248	48	264	348	m10	206	217	28	164	287	126
Internal Link Dist (ft)		1197			2532			1453			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	442	1647	627	647	2149	774	413	1060	704	461	1107	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	0.33	0.41	0.25	0.62	0.78	0.33	0.70	0.46	0.24	0.50	0.60	0.52

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 43 (27%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78

Intersection Signal Delay: 43.1   Intersection LOS: D
Intersection Capacity Utilization 77.2%   ICU Level of Service D
Analysis Period (min) 15

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

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

ø1	ø2 (R)		ø3	ø4
27 s	70 s		31 s	32 s

ø5	ø6		ø7	ø8
37 s	60 s		26 s	37 s
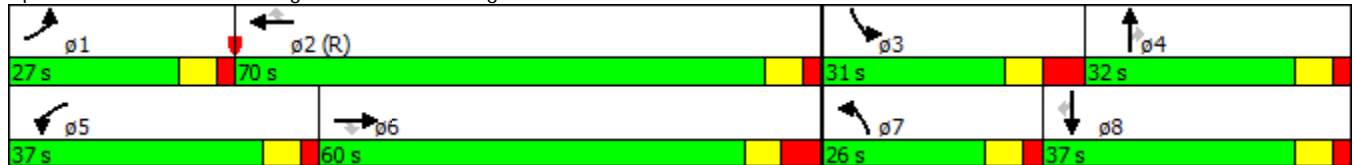
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	808	95	157	1961	144	247	10	126	40	1	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		1	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		0.861			0.851	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	4940	1553	1752	5036	1553	3433	1594	0	1543	1512	0
Flt Permitted	0.050			0.265			0.950			0.950		
Satd. Flow (perm)	90	4940	1553	489	5036	1553	3433	1594	0	1543	1512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			110		135			129	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			994			746			316	
Travel Time (s)		39.6			15.1			17.0			7.2	
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 (%)	6%	5%	4%	3%	3%	4%	2%	10%	2%	17%	0%	7%
Adj. Flow (vph)	85	869	102	169	2109	155	266	11	135	43	1	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	869	102	169	2109	155	266	146	0	43	134	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)	13.5	26.5	26.5	13.5	26.5	26.5	11.3	22.3		11.3	22.3	
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)	11.5	70.5	70.5	27.5	86.5	86.5	19.7	19.7		16.7	16.7	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3		6.3	6.3	
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	Min	Min	None	C-Min	C-Min	None	Max		None	Max	
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)	91.2	81.9	81.9	96.0	84.3	84.3	17.1	33.4		9.8	23.7	
Actuated g/C Ratio	0.57	0.51	0.51	0.60	0.53	0.53	0.11	0.21		0.06	0.15	
v/c Ratio	0.59	0.34	0.12	0.44	0.80	0.18	0.72	0.33		0.46	0.40	
Control Delay	49.2	52.9	17.3	15.6	33.4	6.4	80.6	13.3		86.7	15.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	49.2	52.9	17.3	15.6	33.4	6.4	80.6	13.3		86.7	15.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D	B	B	C	A	F	B		F	B	
Approach Delay		49.1			30.5			56.8			32.4	
Approach LOS		D			C			E			C	
Queue Length 50th (ft)	64	332	31	68	625	22	140	10		44	5	
Queue Length 95th (ft)	106	383	76	97	682	59	189	79		88	74	
Internal Link Dist (ft)		2532			914			666			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	168	2527	869	522	2724	890	422	439		161	333	
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	0.34	0.12	0.32	0.77	0.17	0.63	0.33		0.27	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 159 (99%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 38.0   Intersection LOS: D
Intersection Capacity Utilization 79.8%   ICU Level of Service D
Analysis Period (min) 15

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

ø1		ø2 (R)			ø3	ø4
18 s		93 s			23 s	26 s

ø5		ø6		ø7	ø8
34 s		77 s		26 s	23 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱↱	↱↱	↑↑↑	↱
Volume (vph)	221	1992	343	186	1047	257	328	644	428	236	462	160
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	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			361			271			451			168
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1533			1358	
Travel Time (s)		19.3			39.6			23.2			20.6	
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 (%)	1%	1%	2%	3%	2%	1%	1%	1%	1%	1%	4%	0%
Adj. Flow (vph)	233	2097	361	196	1102	271	345	678	451	248	486	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	233	2097	361	196	1102	271	345	678	451	248	486	168
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)	13.8	29.5	29.5	13.8	29.5	29.5	16.5	22.9	22.9	16.5	22.9	22.9
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)	24.2	60.5	60.5	24.2	63.1	63.1	24.1	25.1	25.1	17.5	21.2	21.2
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.0	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	9.5	9.5	6.8	6.9	6.9	6.9	6.9	6.9	9.5	6.8	6.8
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	Min	Min	None	Max	Max	None	Max	Max
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)	16.0	70.2	70.2	14.5	71.3	71.3	20.7	26.8	26.8	15.8	24.6	24.6
Actuated g/C Ratio	0.10	0.44	0.44	0.09	0.45	0.45	0.13	0.17	0.17	0.10	0.15	0.15
v/c Ratio	0.67	0.93	0.40	0.63	0.49	0.31	0.77	0.79	0.53	0.73	0.63	0.43
Control Delay	79.0	51.3	4.0	64.2	43.9	20.4	79.2	71.5	7.2	82.6	68.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	51.3	4.0	64.2	43.9	20.4	79.2	71.5	7.2	82.6	68.3	11.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	A	E	D	C	E	E	A	F	E	B
Approach Delay		47.3			42.4			53.6			61.7	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	123	755	0	105	378	110	182	254	0	131	178	0
Queue Length 95th (ft)	167	#910	63	147	441	201	235	307	55	180	226	72
Internal Link Dist (ft)		1197			2532			1453			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	524	2252	896	514	2264	862	522	860	847	379	767	390
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	0.93	0.40	0.38	0.49	0.31	0.66	0.79	0.53	0.65	0.63	0.43

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

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

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 49.5   Intersection LOS: D

Intersection Capacity Utilization 90.7%   ICU Level of Service E

Analysis Period (min) 15

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

       Queue shown is maximum after two cycles.

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

ø1	ø2		ø3	ø4
31 s	70 s		27 s	32 s

ø5	ø6 (R)		ø7	ø8
31 s	70 s		31 s	28 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↑↑	↗	↱	↑↑↑	↗	↱↱	↱		↱	↱	
Volume (vph)	182	2287	350	176	1320	101	223	7	190	99	9	83
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		0.855			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5136	1599	1787	5085	1568	3467	1594	0	1787	1627	0
Flt Permitted	0.141			0.046			0.950			0.950		
Satd. Flow (perm)	263	5136	1599	87	5085	1568	3467	1594	0	1787	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			249			110		198			86	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			994			746			316	
Travel Time (s)		39.6			15.1			17.0			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 (%)	2%	1%	1%	1%	2%	3%	1%	0%	2%	1%	0%	1%
Adj. Flow (vph)	190	2382	365	183	1375	105	232	7	198	103	9	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	2382	365	183	1375	105	232	205	0	103	95	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)	13.5	26.5	26.5	13.5	26.5	26.5	11.3	22.3		11.3	22.3	
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)	23.5	81.5	81.5	18.5	76.5	76.5	17.7	17.7		16.7	16.7	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3		6.3	6.3	
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	Min	Min	None	Max		None	Max	
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)	98.0	84.5	84.5	102.0	86.5	86.5	15.5	20.5		13.9	18.9	
Actuated g/C Ratio	0.61	0.53	0.53	0.64	0.54	0.54	0.10	0.13		0.09	0.12	
v/c Ratio	0.66	0.88	0.38	0.84	0.50	0.12	0.69	0.54		0.67	0.36	
Control Delay	33.6	24.3	2.8	73.3	24.4	3.2	80.9	14.9		91.1	19.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.6	24.3	2.8	73.3	24.4	3.2	80.9	14.9		91.1	19.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	E	C	A	F	B		F	B	
Approach Delay		22.3			28.4			50.0			56.5	
Approach LOS		C			C			D			E	
Queue Length 50th (ft)	59	859	61	135	318	0	122	7		106	9	
Queue Length 95th (ft)	m69	960	m62	#244	400	30	169	90		172	68	
Internal Link Dist (ft)		2532			914			666			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	395	2713	962	253	2748	898	383	377		186	267	
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	0.48	0.88	0.38	0.72	0.50	0.12	0.61	0.54		0.55	0.36	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 27.8   Intersection LOS: C

Intersection Capacity Utilization 92.9%   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

ø1	ø2		ø3	ø4
30 s	83 s		23 s	24 s

ø5	ø6 (R)		ø7	ø8
25 s	88 s		24 s	23 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	⇥	↑↑↑	↱	⇥	↑↑↑	↱	⇥	↑↑↑	↱↱	⇥	↑↑↑	↱
Volume (vph)	164	772	178	452	1893	289	329	549	188	259	748	319
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)	3502	4893	1538	3433	5036	1524	3467	5036	2656	3433	5085	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	4893	1538	3433	5036	1524	3467	5036	2656	3433	5085	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			217			207			241
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1533			1358	
Travel Time (s)		19.3			39.6			23.2			20.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	5%	2%	3%	6%	1%	3%	7%	2%	2%	1%
Adj. Flow (vph)	180	848	196	497	2080	318	362	603	207	285	822	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	848	196	497	2080	318	362	603	207	285	822	351
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)	13.8	29.5	29.5	13.8	29.5	29.5	16.5	22.9	22.9	16.5	22.9	22.9
Total Split (s)	27.0	60.0	60.0	37.0	70.0	70.0	26.0	32.0	32.0	31.0	37.0	37.0
Total Split (%)	16.9%	37.5%	37.5%	23.1%	43.8%	43.8%	16.3%	20.0%	20.0%	19.4%	23.1%	23.1%
Maximum Green (s)	20.2	50.5	50.5	30.2	63.1	63.1	19.1	25.1	25.1	21.5	30.2	30.2
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.0	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	9.5	9.5	6.8	6.9	6.9	6.9	6.9	6.9	9.5	6.8	6.8
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	Min	Min	None	C-Min	C-Min	None	Max	Max	None	Max	Max
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)	13.5	53.4	53.4	27.3	69.8	69.8	18.8	28.4	28.4	18.2	30.5	30.5
Actuated g/C Ratio	0.08	0.33	0.33	0.17	0.44	0.44	0.12	0.18	0.18	0.11	0.19	0.19
v/c Ratio	0.61	0.52	0.30	0.85	0.95	0.40	0.89	0.67	0.32	0.73	0.85	0.70
Control Delay	79.3	44.8	6.1	95.5	33.5	5.7	93.4	66.3	8.3	79.8	71.8	27.0
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
Total Delay	79.3	44.8	6.1	95.5	33.5	5.7	93.4	66.3	8.3	79.8	71.8	27.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	A	F	C	A	F	E	A	E	E	C
Approach Delay		43.7			41.1			64.4			62.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	95	265	0	265	582	26	195	219	0	151	308	108
Queue Length 95th (ft)	136	317	60	m284	#904	m42	#281	273	42	199	363	232
Internal Link Dist (ft)		1197			2532			1453			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	442	1633	643	647	2195	786	413	895	642	461	969	500
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	0.41	0.52	0.30	0.77	0.95	0.40	0.88	0.67	0.32	0.62	0.85	0.70

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 43 (27%), Referenced to phase 2:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 50.3   Intersection LOS: D

Intersection Capacity Utilization 89.1%   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: 1: Livingston Rd & Pine Ridge Rd

ø1	ø2 (R)		ø3	ø4
27 s	70 s		31 s	32 s

ø5	ø6		ø7	ø8
37 s	60 s		26 s	37 s
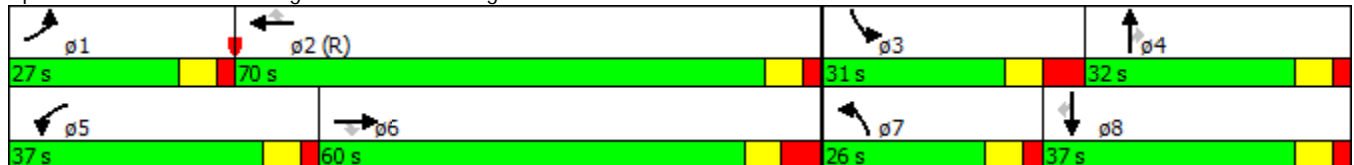
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	98	1006	118	195	2441	179	307	12	157	50	1	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage Lanes	1		1	1		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		0.861			0.851	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	4940	1553	1752	5036	1553	3433	1595	0	1543	1512	0
Flt Permitted	0.048			0.199			0.950			0.950		
Satd. Flow (perm)	86	4940	1553	367	5036	1553	3433	1595	0	1543	1512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			110		169			121	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			994			746			316	
Travel Time (s)		39.6			15.1			17.0			7.2	
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 (%)	6%	5%	4%	3%	3%	4%	2%	10%	2%	17%	0%	7%
Adj. Flow (vph)	105	1082	127	210	2625	192	330	13	169	54	1	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	1082	127	210	2625	192	330	182	0	54	167	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)	13.5	26.5	26.5	13.5	26.5	26.5	11.3	22.3		11.3	22.3	
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)	11.5	70.5	70.5	27.5	86.5	86.5	19.7	19.7		16.7	16.7	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3		6.3	6.3	
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	Min	Min	None	C-Min	C-Min	None	Max		None	Max	
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)	94.8	84.9	84.9	101.2	88.1	88.1	18.7	28.0		11.0	17.7	
Actuated g/C Ratio	0.59	0.53	0.53	0.63	0.55	0.55	0.12	0.18		0.07	0.11	
v/c Ratio	0.70	0.41	0.14	0.61	0.95	0.21	0.82	0.44		0.51	0.61	
Control Delay	55.8	52.5	20.4	18.9	42.5	8.4	86.1	14.0		87.8	31.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.8	52.5	20.4	18.9	42.5	8.4	86.1	14.0		87.8	31.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	C	B	D	A	F	B		F	C	
Approach Delay		49.7			38.7			60.5			45.1	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	80	416	48	82	933	40	175	12		56	45	
Queue Length 95th (ft)	#139	472	112	120	#1019	85	#234	90		103	130	
Internal Link Dist (ft)		2532			914			666			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	168	2621	896	477	2773	904	422	418		161	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	0.63	0.41	0.14	0.44	0.95	0.21	0.78	0.44		0.34	0.61	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 159 (99%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95

Intersection Signal Delay: 44.0	Intersection LOS: D
Intersection Capacity Utilization 92.7%	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.

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

ø1	ø2 (R)		ø3	ø4
18 s	93 s		23 s	26 s

ø5	ø6		ø7	ø8
34 s	77 s		26 s	23 s
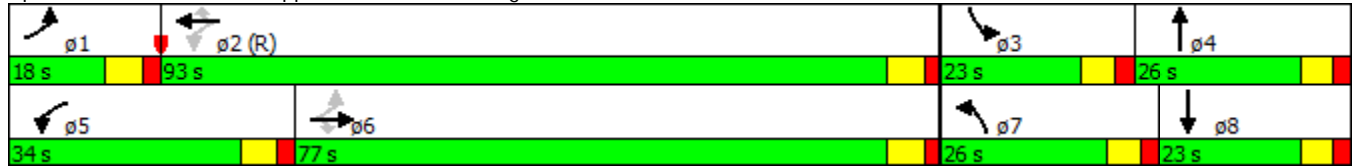
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱	↱↱	↑↑↑	↱↱	↱↱	↑↑↑	↱
Volume (vph)	275	2479	427	232	1303	320	408	802	533	294	575	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		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	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			335			327			235			202
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1533			1358	
Travel Time (s)		19.3			39.6			23.2			20.6	
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 (%)	1%	1%	2%	3%	2%	1%	1%	1%	1%	1%	4%	0%
Adj. Flow (vph)	289	2609	449	244	1372	337	429	844	561	309	605	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	2609	449	244	1372	337	429	844	561	309	605	209
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)	13.8	29.5	29.5	13.8	29.5	29.5	16.5	22.9	22.9	16.5	22.9	22.9
Total Split (s)	29.0	86.0	86.0	18.3	75.3	75.3	28.1	32.1	32.1	23.6	27.6	27.6
Total Split (%)	18.1%	53.8%	53.8%	11.4%	47.1%	47.1%	17.6%	20.1%	20.1%	14.8%	17.3%	17.3%
Maximum Green (s)	22.2	76.5	76.5	11.5	68.4	68.4	21.2	25.2	25.2	14.1	20.8	20.8
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.0	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	9.5	9.5	6.8	6.9	6.9	6.9	6.9	6.9	9.5	6.8	6.8
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	Min	Min	None	Max	Max	None	Max	Max
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	76.5	76.5	11.5	72.2	72.2	21.2	25.2	25.2	14.1	20.8	20.8
Actuated g/C Ratio	0.12	0.48	0.48	0.07	0.45	0.45	0.13	0.16	0.16	0.09	0.13	0.13
v/c Ratio	0.73	1.06	0.48	1.00	0.60	0.37	0.93	1.04	0.88	1.01	0.93	0.54
Control Delay	79.0	77.7	8.4	120.4	25.9	11.3	96.4	107.4	53.3	125.1	90.6	14.3
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
Total Delay	79.0	77.7	8.4	120.4	25.9	11.3	96.4	107.4	53.3	125.1	90.6	14.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E	A	F	C	B	F	F	D	F	F	B
Approach Delay		68.5			35.2			88.3			85.9	
Approach LOS		E			D			F			F	
Queue Length 50th (ft)	153	~1096	66	123	430	150	232	~349	200	~172	233	7
Queue Length 95th (ft)	201	#1174	159	m#214	m490	m243	#337	#444	#306	#277	#311	89
Internal Link Dist (ft)		1197			2532			1453			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	481	2455	931	244	2295	901	459	808	641	305	648	385
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	0.60	1.06	0.48	1.00	0.60	0.37	0.93	1.04	0.88	1.01	0.93	0.54

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 116 (73%), Referenced to phase 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 67.4   Intersection LOS: E

Intersection Capacity Utilization 105.6%   ICU Level of Service G

Analysis Period (min) 15

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

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

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

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

ø1	ø2		ø3	ø4
29 s	75.3 s		23.6 s	32.1 s

ø5	ø6 (R)		ø7	ø8
18.3 s	86 s		28.1 s	27.6 s
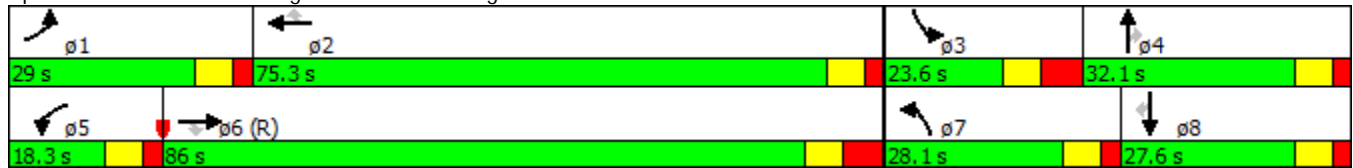
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↑↑	↱	↱	↑↑↑	↱	↱↱	↱		↱	↱	
Volume (vph)	227	2847	436	219	1643	126	278	9	236	123	11	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	525		300	500		175	375		0	0		125
Storage 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		0.855			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5136	1599	1787	5085	1568	3467	1594	0	1787	1627	0
Flt Permitted	0.072			0.048			0.950			0.950		
Satd. Flow (perm)	134	5136	1599	90	5085	1568	3467	1594	0	1787	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			278			154		164			107	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			994			746			316	
Travel Time (s)		39.6			15.1			17.0			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 (%)	2%	1%	1%	1%	2%	3%	1%	0%	2%	1%	0%	1%
Adj. Flow (vph)	236	2966	454	228	1711	131	290	9	246	128	11	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	236	2966	454	228	1711	131	290	255	0	128	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)	13.5	26.5	26.5	13.5	26.5	26.5	11.3	22.3		11.3	22.3	
Total Split (s)	34.5	96.1	96.1	21.6	83.2	83.2	20.0	23.3		19.0	22.3	
Total Split (%)	21.6%	60.1%	60.1%	13.5%	52.0%	52.0%	12.5%	14.6%		11.9%	13.9%	
Maximum Green (s)	28.0	89.6	89.6	15.1	76.7	76.7	13.7	17.0		12.7	16.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3		6.3	6.3	
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	Min	Min	None	Max		None	Max	
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)	108.4	89.6	89.6	99.2	84.1	84.1	13.7	17.0		12.7	16.0	
Actuated g/C Ratio	0.68	0.56	0.56	0.62	0.53	0.53	0.09	0.11		0.08	0.10	
v/c Ratio	0.78	1.03	0.45	1.06	0.64	0.15	0.98	0.81		0.91	0.46	
Control Delay	41.0	53.2	8.8	124.8	29.2	2.1	118.8	44.7		125.8	20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.0	53.2	8.8	124.8	29.2	2.1	118.8	44.7		125.8	20.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D	A	F	C	A	F	D		F	C	
Approach Delay		46.9			38.1			84.1			75.1	
Approach LOS		D			D			F			E	
Queue Length 50th (ft)	137	~1225	177	~208	459	0	158	95		135	11	
Queue Length 95th (ft)	m120	m1104	m170	#399	563	24	#259	#237		#267	77	
Internal Link Dist (ft)		2532			914			666			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	379	2876	1017	215	2672	896	296	315		141	259	
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	0.62	1.03	0.45	1.06	0.64	0.15	0.98	0.81		0.91	0.46	

Intersection Summary

Area Type:　　　　　Other

Cycle Length: 160

Actuated Cycle Length: 160

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

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 48.3　　　　　　　Intersection LOS: D

Intersection Capacity Utilization 110.4%　　　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		ø3	ø4
34.5 s	83.2 s		19 s	23.3 s

ø5	ø6 (R)		ø7	ø8
21.6 s	96.1 s		20 s	22.3 s
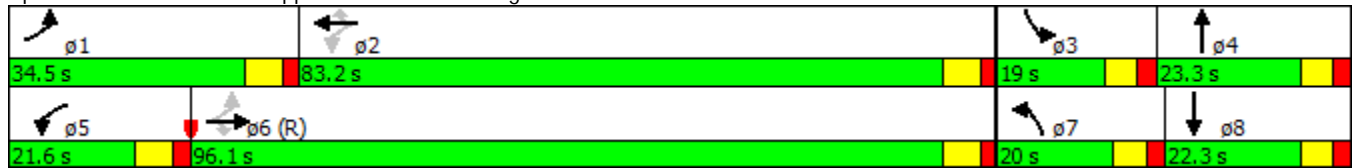
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱↱	↑↑↑	↗	↱↱	↑↑↑	↗	↱↱	↑↑↑	↗↗	↱↱	↑↑↑	↗
Volume (vph)	254	2290	394	214	1203	295	377	740	492	271	531	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		850	425		325	600		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	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5136	1583	3400	5085	1599	3467	5136	2814	3467	4988	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			325			311			239			202
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1277			2612			1533			1358	
Travel Time (s)		19.3			39.6			23.2			20.6	
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 (%)	1%	1%	2%	3%	2%	1%	1%	1%	1%	1%	4%	0%
Adj. Flow (vph)	267	2411	415	225	1266	311	397	779	518	285	559	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	267	2411	415	225	1266	311	397	779	518	285	559	194
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)	13.8	29.5	29.5	13.8	29.5	29.5	16.5	22.9	22.9	16.5	22.9	22.9
Total Split (s)	26.1	85.7	85.7	18.4	78.0	78.0	26.2	32.2	32.2	23.7	29.7	29.7
Total Split (%)	16.3%	53.6%	53.6%	11.5%	48.8%	48.8%	16.4%	20.1%	20.1%	14.8%	18.6%	18.6%
Maximum Green (s)	19.3	76.2	76.2	11.6	71.1	71.1	19.3	25.3	25.3	14.2	22.9	22.9
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.3	5.0	5.0	2.3	2.4	2.4	2.4	2.4	2.4	5.0	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	9.5	9.5	6.8	6.9	6.9	6.9	6.9	6.9	9.5	6.8	6.8
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	Min	Min	None	Max	Max	None	Max	Max
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	76.2	76.2	11.6	73.4	73.4	19.3	25.3	25.3	14.2	22.9	22.9
Actuated g/C Ratio	0.11	0.48	0.48	0.07	0.46	0.46	0.12	0.16	0.16	0.09	0.14	0.14
v/c Ratio	0.73	0.99	0.45	0.91	0.54	0.34	0.95	0.96	0.80	0.93	0.78	0.48
Control Delay	80.8	56.2	7.4	94.0	31.4	7.2	101.9	89.2	44.8	107.2	74.8	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
Total Delay	80.8	56.2	7.4	94.0	31.4	7.2	101.9	89.2	44.8	107.2	74.8	10.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	F	E	A	F	C	A	F	F	D	F	E	B
Approach Delay		51.8			35.0			78.6			71.7	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	141	899	52	117	236	14	215	300	167	155	209	0
Queue Length 95th (ft)	191	#1025	134	m#195	356	m101	#321	#389	245	#246	257	68
Internal Link Dist (ft)		1197			2532			1453			1278	
Turn Bay Length (ft)	425		850	425		325	600		450	550		725
Base Capacity (vph)	418	2446	924	246	2332	902	418	812	646	307	713	404
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	0.64	0.99	0.45	0.91	0.54	0.34	0.95	0.96	0.80	0.93	0.78	0.48

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 30 (19%), Referenced to phase 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 56.5   Intersection LOS: E

Intersection Capacity Utilization 99.6%   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

ø1	ø2		ø3	ø4
26.1 s	78 s		23.7 s	32.2 s

ø5	ø6 (R)		ø7	ø8
18.4 s	85.7 s		26.2 s	29.7 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↑↑	↱	↱	↑↑↑	↱	↱↱	↱		↱	↱	
Volume (vph)	209	2629	402	202	1517	116	256	8	218	114	10	95
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		0.855			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5136	1599	1787	5085	1568	3467	1594	0	1787	1627	0
Flt Permitted	0.101			0.045			0.950			0.950		
Satd. Flow (perm)	188	5136	1599	85	5085	1568	3467	1594	0	1787	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			275			154		170			99	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2612			994			746			316	
Travel Time (s)		39.6			15.1			17.0			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 (%)	2%	1%	1%	1%	2%	3%	1%	0%	2%	1%	0%	1%
Adj. Flow (vph)	218	2739	419	210	1580	121	267	8	227	119	10	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	2739	419	210	1580	121	267	235	0	119	109	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)	13.5	26.5	26.5	13.5	26.5	26.5	11.3	22.3		11.3	22.3	
Total Split (s)	29.9	95.5	95.5	22.2	87.8	87.8	20.0	24.1		18.2	22.3	
Total Split (%)	18.7%	59.7%	59.7%	13.9%	54.9%	54.9%	12.5%	15.1%		11.4%	13.9%	
Maximum Green (s)	23.4	89.0	89.0	15.7	81.3	81.3	13.7	17.8		11.9	16.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3		6.3	6.3	
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	Min	Min	None	Max		None	Max	
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)	105.5	89.1	89.1	103.6	88.0	88.0	13.7	17.8		11.9	16.0	
Actuated g/C Ratio	0.66	0.56	0.56	0.65	0.55	0.55	0.09	0.11		0.07	0.10	
v/c Ratio	0.76	0.96	0.41	0.95	0.56	0.13	0.90	0.72		0.90	0.43	
Control Delay	41.8	28.9	7.1	97.4	25.1	1.4	103.9	33.3		127.2	20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.8	28.9	7.1	97.4	25.1	1.4	103.9	33.3		127.2	20.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	A	F	C	A	F	C		F	C	
Approach Delay		27.0			31.5			70.8			76.0	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	141	479	54	170	386	0	145	64		126	10	
Queue Length 95th (ft)	m155	m504	m68	#348	472	17	#231	169		#255	73	
Internal Link Dist (ft)		2532			914			666			236	
Turn Bay Length (ft)	525		300	500		175	375					
Base Capacity (vph)	362	2859	1012	222	2797	932	296	328		132	251	
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	0.60	0.96	0.41	0.95	0.56	0.13	0.90	0.72		0.90	0.43	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 36 (23%), Referenced to phase 6:EBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96

Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 103.5%	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: 2: Whippoorwill Ln & Pine Ridge Rd

ø1	ø2		ø3	ø4
29.9 s	87.8 s		18.2 s	24.1 s

ø5	ø6 (R)		ø7	ø8
22.2 s	95.5 s		20 s	22.3 s

APPENDIX D

SIGNAL WARRANT ANALYSIS

APPROACH VOLUMES - Livingston Road / Marbella Lakes Drive (2035 Modified Traffic Conditions)

Hour	2013 Approach Volumes			PSCF	Peak Season Approach Volumes			Future Traffic Growth			Total Traffic		
	NB[1]	SB[1]	WBL[2]		NB	SB	WBL	NB[3]	SB[3]	WBL[4]	NB	SB	WBL
07:00 AM - 08:00 AM	447	351	28	0.96	429	337	27	109	86	58	538	423	85
08:00 AM - 09:00 AM	899	706	54	0.96	863	678	52	220	173	120	1,083	851	172
09:00 AM - 10:00 AM	747	587	32	0.96	717	564	31	183	144	112	900	708	143
10:00 AM - 11:00 AM	780	613	39	0.96	749	588	37	191	150	112	940	738	149
11:00 AM - 12:00 PM	904	710	41	0.96	868	682	39	221	174	134	1,089	856	173
12:00 PM - 01:00 PM	904	710	40	0.96	868	682	38	221	174	135	1,089	856	173
01:00 PM - 02:00 PM	799	628	33	0.96	767	603	32	196	154	121	963	757	153
02:00 PM - 03:00 PM	942	740	44	0.96	904	710	42	231	181	138	1,135	891	180
03:00 PM - 04:00 PM	937	736	35	0.96	900	707	34	229	180	146	1,129	887	180
04:00 PM - 05:00 PM	828	650	28	0.96	795	624	27	203	159	132	998	783	159
05:00 PM - 06:00 PM	951	748	34	0.96	913	718	33	233	183	150	1,146	901	183
06:00 PM - 07:00 PM	875	688	34	0.96	840	660	33	214	168	135	1,054	828	168
Peak Hour													
05:00 AM - 06:00 AM	951	748	34	0.96	913	718	33	233	183	150	1,146	901	183

1. *Volumes estimated from FDOT Count Station 034690, assumed the same hourly distribution as Mabella Lakes Drive traffic*

2. *Assumed that 40% of westbound traffic made left turns*

3. *Used a 1% annual growth rate*

4. *Distributed the additional 2,271 PSWADT generated by the interconnection in the same manner as the existing left turn volume*

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2035 MODIFIED TRAFFIC CONDITIONS)

Intersection Name: Livingston Road / Marbella Lakes Drive

Count Date: 2/26/2013 - 2/27/2013

Intersection Condition: Two-Way Stop Control

Major Street: Livingston Road   Number of approach lanes: 3
Minor Street: Marbella Lakes Drive   Number of approach lanes: 1

Isolated community with a population less than 10,000:   N
85th percentile speed greater than 40 mph on major street: Y

Hour	Major St Both Approaches	Minor St Highest Approach	Pedestrian Volumes Crossing Major Street	Warrant 1, Condition A			Warrant 1, Condition B			Warrant 1, Combination Warrant						Warrant 2	Warrant 3
										Condition A			Condition B				
				Major Street	Minor Street	Both Met?	Major Street	Minor Street	Both Met?	Major Street	Minor Street	Both Met?	Major Street	Minor Street	Both Met?		
Threshold Values ⟶				420	105		630	53		336	84		504	42		60	n/a
07:00 AM - 08:00 AM	961	85	0	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
08:00 AM - 09:00 AM	1,934	172	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
09:00 AM - 10:00 AM	1,608	143	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
10:00 AM - 11:00 AM	1,678	149	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
11:00 AM - 12:00 PM	1,945	173	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
12:00 PM - 01:00 PM	1,945	173	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
01:00 PM - 02:00 PM	1,720	153	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
02:00 PM - 03:00 PM	2,026	180	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
03:00 PM - 04:00 PM	2,016	180	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
04:00 PM - 05:00 PM	1,781	159	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
05:00 PM - 06:00 PM	2,047	183	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
06:00 PM - 07:00 PM	1,882	168	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
05:00 PM - 06:00 PM	2,047	183	0														
						11			12			12			12	12	
				8 Hours Needed			8 Hours Needed			8 Hours of Both Condition A & B Needed						4 Hrs Needed	1 Hr Needed
				Satisfied			**Satisfied**			**Satisfied**						**Satisfied**	**Not Applicable**