Kimley»Horn

MEMORANDUM

From: Adam B. Kerr
Kimley-Horn and Associates, Inc.

Date: February 1, 2022

Subject: ***Encompass Health Operational Analysis***
Palm Beach Gardens, Florida

Kimley-Horn has conducted an operation analysis of BallenIsles Drive to evaluate the potential impacts of the proposed Encompass site. This analysis evaluates the interaction of the additional traffic with the existing traffic and illustrates proposed modifications to enhance the safety and operations.

BACKGROUND

The proposed Encompass facility is anticipated to generate 736 daily trips, 61 AM peak hour trips (7:00 AM – 9:00 AM), and 67 PM peak hour trips (4:00 PM to 6:00 PM) based on rates and equations published by the Institute of Transportation Engineers and accepted by Palm Beach Gardens and Palm Beach County. Table 1 includes the proposed trip generation.

Table 1
Trip Generation Potential

Land Use	Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Proposed Scenario									
Hospital	76.319	KSF	818	68	46	22	74	24	50
		Subtotal	*818*	*68*	*46*	*22*	*74*	*24*	*50*
Internal Capture									
Hospital			0	0	0	0	0	0	0
		Subtotal	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Pass-By Capture									
Hospital	10.0%		82	7	5	2	7	2	5
		Subtotal	*82*	*7*	*5*	*2*	*7*	*2*	*5*
Driveway Volumes			**818**	**68**	**46**	**22**	**74**	**24**	**50**
Net New External Trips			**736**	**61**	**41**	**20**	**67**	**22**	**45**
Proposed Net External Trips-Existing Net New External Trips			**736**	**61**	**41**	**20**	**67**	**22**	**45**

Land Use	Daily	AM Peak Hour	PM Peak Hour	Pass By
Hospital	10.72 trips/1,000 sf	0.89 trips/1,000 sf (68% in, 32% out)	0.97 trips/1,000 sf (32% in, 68% out)	10.0%

Based on discussion with County and City staff, this site will most similarly represent the traffic volumes of a hospital use. For comparison, the proposed use will generate significantly less traffic than other common uses. For example, a similarly sized medical office building would generate 2,390 daily trips, 191 AM peak hour trips, and 238 PM peak hour trips. It is important to note that these are peak hour

projections, which typically coincide with a significant number of employee trips, and traffic volumes will be significantly less throughout the day.

TRAFFIC ANALYSIS

Traffic volumes at the intersection of BallenIsles Drive & the proposed project driveway were based on traffic counts collected on October 19, 2021. Traffic volumes at the intersection of BallenIsles Drive & PGA Boulevard were based on traffic counts by the Palm Beach County Traffic Division on April 25, 2018. These counts were collected when the guard house was operating under normal conditions, processing residents and visitors, and has been adjusted using historical growth rates and adjustment factors provided by the Florida Department of Transportation to represent future background (2026) peak season conditions. BallenIsles Drive is a four-lane roadway which is capable of handling much higher volume of traffic than currently utilizes the roadway.

Typically, residential developments generate more outbound traffic in the AM peak hour compared to inbound traffic, and more inbound PM peak traffic compared to the outbound traffic. However, because this is the primary access point for guests and service vehicles, this entrance to BallenIsles serves more inbound traffic in the AM peak hour, and more outbound traffic in the PM peak hour. This correlates with the peak directions of traffic for the proposed project; in the morning when the peak direction of traffic flow for BallenIsles is inbound, the peak direction for Encompass is inbound, and vice-versa in the afternoon. This actually creates fewer conflicts; for example, in the afternoon, traffic exiting Encompass only crosses the lower-volume inbound traffic entering BallenIsles. Although it is not anticipated that the queue from the BallenIsles guard house would extend north to the Encompass driveway, even if that were to happen, it would not create issues with that driveway. BallenIsles drive has its highest volume in the AM peak hour with a higher proportionate of service vehicles needing to check in at the guard house. At this time of day, there is very little traffic is exiting Encompass – 20 vehicles per hour or one vehicle every three minutes. With such low volume exiting Encompass, there is more than ample opportunity for clear path even on the off chance that BallenIsles Drive is backed up to the driveway.

Based on information provided by the tenant, the shift changes for employees will be 7:00 AM and 7:00 PM; therefore, only the morning shift change overlaps with peak hours of BallenIsles traffic. Patient traffic will also be limited; the average stay is 13 days, so traffic associated with moving patients into and out of the facility will be limited. It should be noted the Homeowners Association requires all commercial vendors to enter after 8:00 AM; therefore, the peak of commercial traffic queued at the guard house will not coincide with the shift change of this facility. Furthermore, walk-in patients are not accepted. It is important to remember that the traffic characteristics are very different than medical office buildings, which see outpatient visitors throughout the day, with a much shorter (hours) turnover time. This equates to much less traffic than a medical office outpatient facility.

The peak season traffic volumes were then analyzed using *Synchro* software, which is based on methodologies presented in the *Institute of Traffic Engineers Highway Capacity Manual*. The 95th percentile vehicular queues were determined based on this analysis; the 95th percentile represents

the length of queue that will not be exceed 95 percent of the time and is the professional accepted measurement for determining maximum queue length.

The anticipated project traffic volumes from the Encompass Health facility were then added to the future background volumes and analyzed using *Synchro* software. The 95th percentile queues were then reported. Table 2 illustrates the existing and proposed queues. As can be seen, the expected northbound vehicular queues are anticipated to increase by 25 feet or approximately one (1) vehicle length in the AM peak hour and 69 feet or approximately three (3) vehicle lengths in the PM peak hour. All queues are anticipated to be contained within the existing turn lane storage areas.

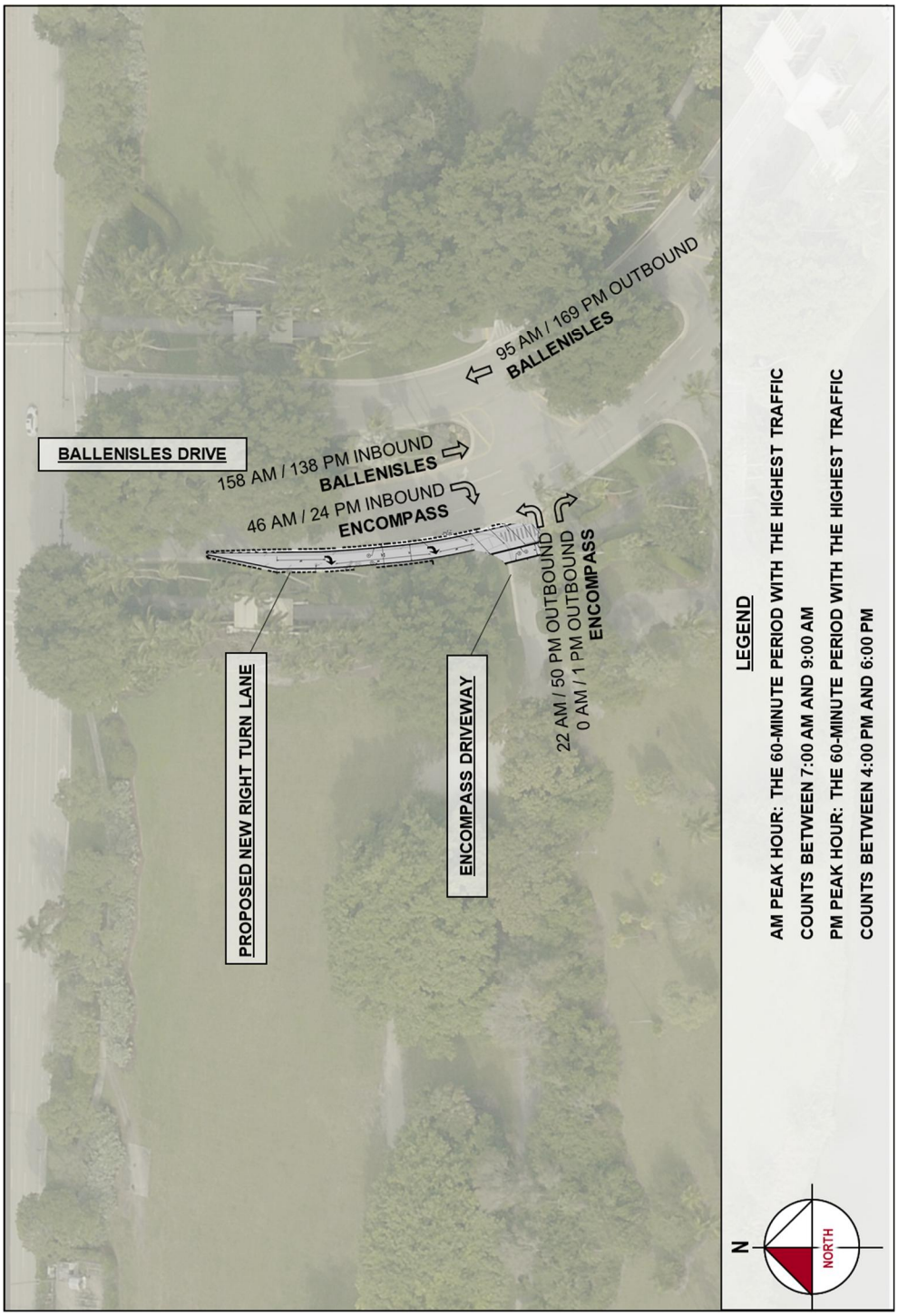
Table 2
95th Percentile Queues – BallenIsles Drive & PGA Boulevard

	Eastbound Right	Westbound Right	Northbound Left/Through	Northbound Right
Storage Area (ft)	90	420	300	300
Background AM Queue (ft)	12	77	101	29
Future Total AM Queue (ft)	17	105	105	54
AM Peak Queue Increase (ft)	+5	+32	+4	+25
Background PM Queue (ft)	17	52	131	95
Future Total PM Queue (ft)	22	64	147	164
PM Peak Queue Increase (ft)	+5	+12	+16	+69

MEDIAN OPENING MODIFICATIONS

As discussed above, the traffic movements associated with the Encompass Health facility be complimentary to the existing traffic patterns; when the majority of the traffic is entering BallenIsles, the majority of traffic will be entering the Encompass facility, with less traffic exiting and crossing the inbound flow to BallenIsles. Figure 1 illustrates the traffic volumes. As can be seen, the conflicting volumes at the median opening on BallenIsles Drive are relatively low. In the AM peak hour, only 22 vehicles are anticipated to exit the site and cross BallenIsles Drive, which equates to one vehicle every three minutes. In the PM peak hour, 50 vehicles will exit the facility, which is less than one vehicle per minute. It is important to note that these are peak hour projections, which typically coincide with a significant number of employee trips, and traffic volumes will be significantly less throughout the day.

Figure 1
Peak Hour Trip Projections



Modifications are being proposed to the median opening in BallenIsles Drive to enhance the operations and safety at this location. Striping and signage are proposed to be added to reduce conflict within the median opening. Furthermore, stop signs are proposed to be added within the media to reinforce that exiting traffic must stop and allow traffic exiting the guard house to pass before turning onto BallenIsles Drive. By providing clear striping and signage within the median opening, it is established that only one vehicle at a time can queue within the median. Figure 2 shows the proposed modifications. Signalization would not be appropriate or warranted at this location.

Additionally, a right-turn lane is being proposed entering the Encompass site from BallenIsles Drive. Although right-turn lanes would not be constructed for low volumes of traffic, it is being proposed at this location so that traffic entering the Encompass Health site does not impede the flow of traffic entering BallenIsles.

This analysis demonstrates that the anticipated traffic generated by the Encompass Health facility will not result in detrimental traffic operations along BallenIsles Boulevard. The conflicting traffic volumes are very low – less than one car per minute in the worst-case peak hour scenario. Additionally, a turn lane is being added to BallenIsles Drive to further reduce the impact of this project's traffic on BallenIsles Drive and striping and signage are being added to the median opening on BallenIsles to enhance safety and further reinforce that exiting traffic must stop for exiting BallenIsles traffic. Should you have any question regarding the information provided herein, please contact me via telephone at (561) 840-0874 or via e-mail at adam.kerr@kimley-horn.com.

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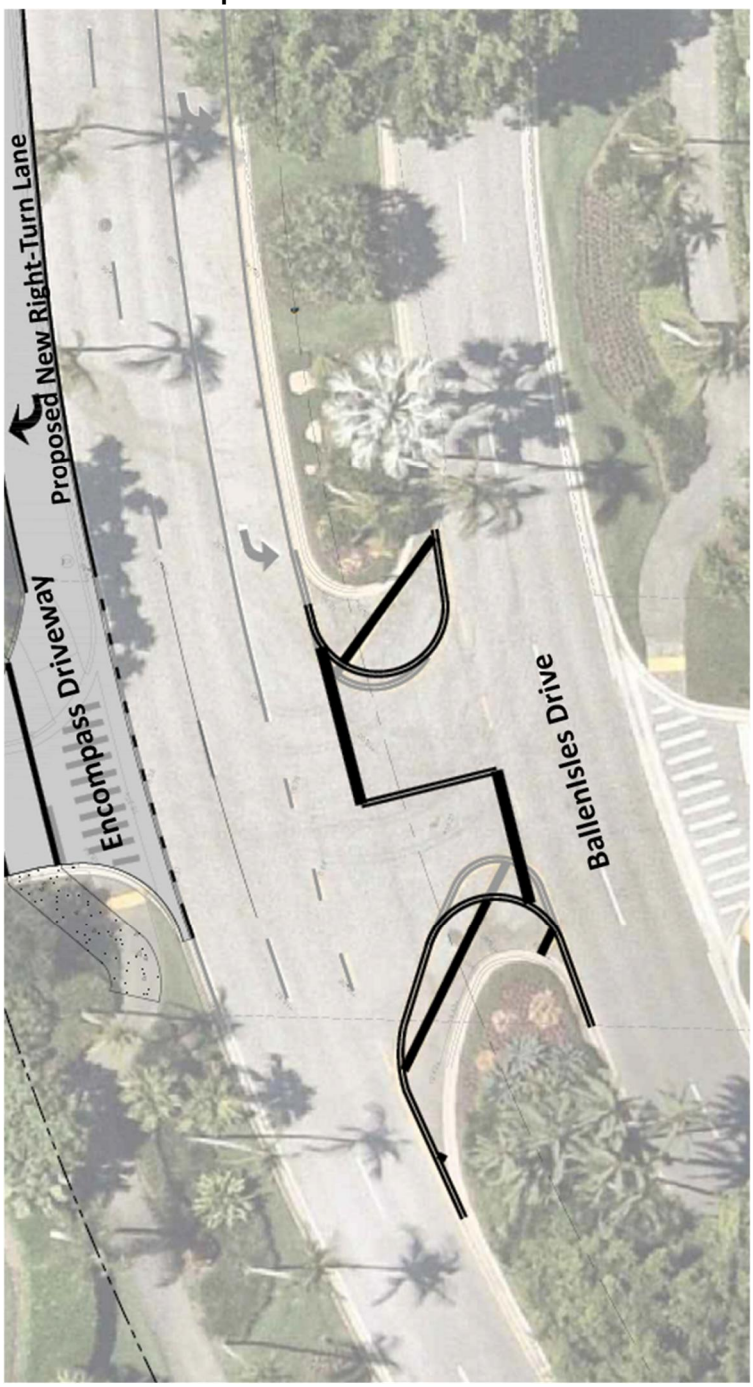
Figure 2
Proposed Median Modifications



ATTACHMENTS

VOLUME DEVELOPMENT SHEET
BALLENISLES WEST PARCEL
BallenIsles Dr. & Project Dwy.

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound			
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	
Peak Season 2021 Volumes*	0	85	0	0	141	0	0	0	0	0	0	0	2,018
Background Traffic Volumes	0	95	0	0	158	0	0	0	0	0	0	0	
Project Traffic													
Inbound Traffic Assignment	1.0%					99.0%							Inbound
Inbound Traffic Volumes						46							46
Outbound Traffic Assignment							99.0%		1.0%				Outbound
Outbound Traffic Volumes							22						22
Project Traffic	0	0	0	0	0	46	22	0	0	0	0	0	
TOTAL TRAFFIC	0	95	0	0	158	46	22	0	0	0	0	0	

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound			
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	
Peak Season 2021 Volumes*	0	151	0	0	123	0	0	0	0	0	0	0	2,018
Background Traffic Volumes	0	169	0	0	138	0	0	0	0	0	0	0	
Project Traffic													
Inbound Traffic Assignment	1.0%					99.0%							Inbound
Inbound Traffic Volumes						24							24
Outbound Traffic Assignment							99.0%		1.0%				Outbound
Outbound Traffic Volumes							50		1				50
Project Traffic	0	0	0	0	0	24	50	0	1	0	0	0	
TOTAL TRAFFIC	0	169	0	0	138	24	50	0	1	0	0	0	

*Volume data for this location extrapolated from counts at intersection of BallenIsles Dr. & PGA Boulevard

VOLUME DEVELOPMENT SHEET
BALLENISLES WEST PARCEL
BallenIsles Dr. & PGA Blvd.

Growth Rate =	2.31%	
Peak Season =	1.01	1.01
Buildout Year =	2026	2026

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound			
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	
Existing Volume on 4/25/2018	36	1	42	28	0	15	30	2,181	44	86	1,753	59	2,018
2021 Peak Season Volume	39	1	45	30	0	16	32	2,359	48	93	1,896	64	
Traffic Volume Growth	5	0	5	4	0	2	4	285	6	11	229	8	
Committed Development	0	0	0	0	0	0	0	420	0	0	359	0	
1.0% Traffic Volume Growth	2	0	2	2	0	1	2	120	2	5	97	3	
Committed + 1.0% Growth	2	0	2	2	0	1	2	540	2	5	456	3	
Max (Committed + 1.0% or Historic Growth)	5	0	5	4	0	2	4	540	6	11	456	8	
Background Traffic Volumes	44	1	50	34	0	18	36	2,899	54	104	2,352	72	
Project Traffic													
Inbound Traffic Assignment					1.0%				15.0%	83.0%			Inbound
Inbound Traffic Volumes									7	38			46
Outbound Traffic Assignment	15.0%	1.0%	83.0%										Outbound
Outbound Traffic Volumes	3		18										22
Project Traffic	3	0	18	0	0	0	0	0	7	38	0	0	
Total Traffic w/o RTOR	47	1	68	34	0	18	36	2,899	61	142	2,352	72	
RTOR Reduction													
TOTAL TRAFFIC	47	1	68	34	0	18	36	2,899	61	142	2,352	72	

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound			
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	
Existing Volume on 4/25/2018	49	2	89	29	0	36	28	1,800	50	64	2,219	13	2,018
2021 Peak Season Volume	53	2	96	31	0	39	30	1,947	54	69	2,400	14	
Traffic Volume Growth	6	0	12	4	0	5	4	236	7	8	290	2	
Committed Development	0	0	0	0	0	0	0	441	0	0	457	0	
1.0% Traffic Volume Growth	3	0	5	2	0	2	2	99	3	4	122	1	
Committed + 1.0% Growth	3	0	5	2	0	2	2	540	3	4	579	1	
Max (Committed + 1.0% or Historic Growth)	6	0	12	4	0	5	4	540	7	8	579	2	
Background Traffic Volumes	59	2	108	35	0	44	34	2,487	61	77	2,979	16	
Project Traffic													
Inbound Traffic Assignment					1.0%				15.0%	83.0%			Inbound
Inbound Traffic Volumes									4	20			24
Outbound Traffic Assignment	15.0%	1.0%	83.0%										Outbound
Outbound Traffic Volumes	8	1	42										50
Project Traffic	8	1	42	0	0	0	0	0	4	20	0	0	
Total Traffic w/o RTOR	67	3	150	35	0	44	34	2,487	65	97	2,979	16	
RTOR Reduction													
TOTAL TRAFFIC	67	3	150	35	0	44	34	2,487	65	97	2,979	16	

CONTROLLER TIME SHEET

DATE TIMING INSTALLED: _____

INTERSECTION:	PGA BLVD & BALLENISLE DR (TEMPORARY)	CONTROLLER TYPE:	NAZTEC
SIGNAL #	14305	SYSTEM #	445

PHASE NUMBER	BOUND	TIMING INTERVAL													
		MIN GREEN	GAP EXT	MAX 1	MAX 2	YEL CLR	RED CLR	WALK	PED CLR	MIN RCL	MAX RCL	PED RCL	PHASE ENABLE	LOCKED CALLS	DETECTOR SETTINGS
1	EBLT	4.0	2.0	20.0		5.0	2.0	0.0	0.0	0	0	0	1	0	L1=NORMAL
2	WB	15.0	4.0	60.0		5.0	2.0	7.0	21.0	1	1	0	1	1	L2=NORMAL
3															
4	NB	6.0	2.0	20.0		4.0	3.5	7.0	33.0	0	0	0	1	0	L4=NORMAL L4R=D/N(10)
5	WBLT	4.0	3.0	40.0		5.0	2.0	0.0	0.0	0	0	0	1	0	L5=NORMAL
6	EB	15.0	4.0	60.0		5.0	2.0	7.0	26.0	1	1	0	1	1	L6=NORMAL
7															
8	SB	6.0	2.0	20.0		4.0	3.5	7.0	32.0	0	0	0	1	0	L8=NORMAL L8R=D/N(10)

PRE-EMPTION TIMING								
	DELAY BEFORE	GREEN BEFORE	PRE-EMPT 1 LOCK MEMORY	TRACK CLR Φ	TRACK CLR GREEN	DWELL Φ	MIN DWELL	EXIT Φ
R/R								
BRIDGE								
FIRE STN								
BUS								

SPECIAL FUNCTIONS						
	START Φ	DUAL ENTRY	DET SWITCH	OUT OF FLASH	INTO FLASH	
	2,6	2,4,6,8	1,5	2,6	4,8	
Notes:	1. REFER TO SYSTEM TIMING AND ALT TIMING PLANS					
2. UPDATED TS						
3.						
4.						

TIMING DESIGNED BY:	CEDRIC ANDERSON	DATE:	2/11/2021	APPROVED BY:	SUNIL GYAWALI, P.E. , PTOE	DATE:	2/16/202

SYSTEM TIMING SHEET

DATE TIMING INSTALLED: _____

INTERSECTION:	PGA BLVD & BALLENISLE DR (TEMPORARY)			CONTROLLER TYPE:	NAZTEC
SYSTEM:		SIGNAL #	14305	SYSTEM #	445

TOD SCHEDULER											
WEEKDAY				WEEKEND							
				SATURDAY				SUNDAY			
TIME	PATTERN	TIME	PATTERN	TIME	PATTERN	TIME	PATTERN	TIME	PATTERN	TIME	PATTERN
0:00	100	6:30	2	0:00	100	9:00	1	0:00	100	9:00	1
9:00	1	16:00	3	20:00	100			20:00	100		
20:00	4										

TIMING PLANS													
PATTERN		1		2		3		4		8			
CYCLE LENGTH (SEC)		120		170		180		100		160			
OFFSET (SEC)		116		27		134		81		10			
COORDINATED PHASE		2		2		2		2					
SEQUENCE		1		1		1		1		1			
ALT TIMING PLAN		1		2		3		2					
		SPLIT	MODE	SPLIT	MODE	SPLIT	MODE	SPLIT	MODE	SPLIT	MODE	SPLIT	MODE
FORCE-OFF 1 (SEC)	EBLT	20	NON	26	NON	17	NON	19	NON	25	NON		
FORCE-OFF 2 (SEC)	WB	51	MAX	103	MAX	116	MAX	61	MAX	75	MAX		
FORCE-OFF 3 (SEC)													
FORCE-OFF 4 (SEC)	NB	49	NON	41	NON	47	NON	20	NON	60	NON		
FORCE-OFF 5 (SEC)	WBLT	20	NON	26	NON	17	NON	19	NON	40	NON		
FORCE-OFF 6 (SEC)	EB	51	MAX	103	MAX	116	MAX	61	MAX	60	MAX		
FORCE-OFF 7 (SEC)													
FORCE-OFF 8 (SEC)	SB	49	NON	41	NON	47	NON	20	NON	60	NON		

Special Features:

1)

2)

3)

TIMING DESIGNED BY:	CEDRIC ANDERSON	DATE:	~~11/25/2019~~ 2/11/202
APPROVED BY:	SUNIL GYAWALI, P.E. , PTOE	DATE:	2/16/2021

[1.1.6.1] ALTERNATE TIMING SHEET

INTERSECTION:	PGA BLVD & BALLENISLE DR (TEMPORARY)										SIGNAL #	14305								SYSTEM #	445
	MIN GREEN	GAP TIME	MAX 1	MAX 2	YELLOW	RED CLEAR	WALK	PED CLEAR	ASSIGNED PHASE	BIKE CLEAR		MIN GREEN	GAP TIME	MAX 1	MAX 2	YELLOW	RED CLEAR	WALK	PED CLEAR	ASSIGNED PHASE	BIKE CLEAR
	ALT TIMING PLAN 1											ALT TIMING PLAN 2									
1	4.0	2.0	20.0	8.0	5.0	2.0	0.0	0.0	1		1	4.0	2.0	20.0	8.0	5.0	2.0	0.0	0.0	1	
2	15.0	4.0	60.0	39.0	5.0	2.0	7.0	21.0	2		2	15.0	4.0	60.0	39.0	5.0	2.0	7.0	21.0	2	
3											3										
4	6.0	2.0	18.0	12.0	4.0	3.5	7.0	33.0	4		4	6.0	2.0	20.0	10.0	4.0	3.5	7.0	33.0	4	
5	4.0	3.0	40.0	8.0	5.0	2.0	0.0	0.0	5		5	4.0	3.0	40.0	8.0	5.0	2.0	0.0	0.0	5	
6	15.0	4.0	60.0	39.0	5.0	2.0	7.0	26.0	6		6	15.0	4.0	60.0	39.0	5.0	2.0	7.0	26.0	6	
7											7										
8	6.0	2.0	18.0	12.0	4.0	3.5	7.0	32.0	8		8	6.0	2.0	20.0	10.0	4.0	3.5	7.0	32.0	8	

	MIN GREEN	GAP TIME	MAX 1	MAX 2	YELLOW	RED CLEAR	WALK	PED CLEAR	ASSIGNED PHASE	BIKE CLEAR		MIN GREEN	GAP TIME	MAX 1	MAX 2	YELLOW	RED CLEAR	WALK	PED CLEAR	ASSIGNED PHASE	BIKE CLEAR
	ALT TIMING PLAN 3											ALT TIMING PLAN 4									
1	4.0	2.0	20.0	8.0	5.0	2.0	0.0	0.0	1		1										
2	15.0	4.0	60.0	39.0	5.0	2.0	7.0	21.0	2		2										
3											3										
4	6.0	2.0	20.0	10.0	4.0	3.5	7.0	33.0	4		4										
5	4.0	3.0	40.0	8.0	5.0	2.0	0.0	0.0	5		5										
6	15.0	4.0	60.0	39.0	5.0	2.0	7.0	26.0	6		6										
7											7										
8	6.0	2.0	20.0	10.0	4.0	3.5	7.0	32.0	8		8										

	MIN GREEN	GAP TIME	MAX 1	MAX 2	YELLOW	RED CLEAR	WALK	PED CLEAR	ASSIGNED PHASE	BIKE CLEAR
	ALT TIMING PLAN 5									
1										
2										
3										
4										
5										
6										
7										
8										

ALT TIMING PLAN ASSIGNMENTS	
ALT TIMING PLAN 1	PATTERN 1
ALT TIMING PLAN 2	PATTERN 2, 4
ALT TIMING PLAN 3	PATTERN 3
ALT TIMING PLAN 4	
ALT TIMING PLAN 5	

NOTES;

TIMING DESIGNED BY:	CEDRIC ANDERSON
APPROVED BY:	SUNIL GYAWALI, P.E. , PTOE

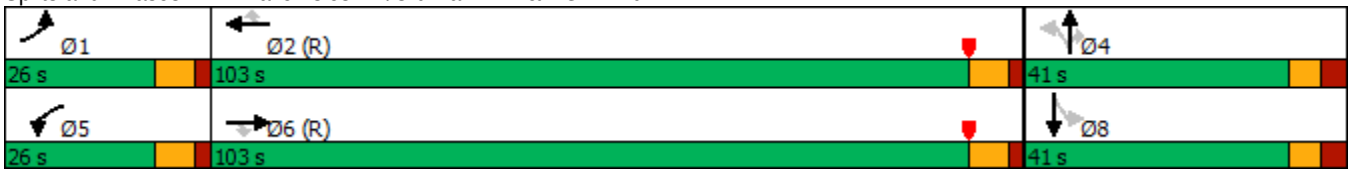
DATE ~~11/25/2019~~ 2/11/2021

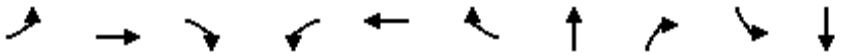
DATE 2/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	36	2899	54	104	2352	72	44	1	50	34	0
Future Volume (vph)	36	2899	54	104	2352	72	44	1	50	34	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	2			4			8
Permitted Phases			6			2	4		4	8	
Detector Phase	1	6	6	5	2	2	4	4	4	8	8
Switch Phase											
Minimum Initial (s)	4.0	15.0	15.0	4.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	40.0	40.0	11.0	35.0	35.0	47.5	47.5	47.5	46.5	46.5
Total Split (s)	26.0	103.0	103.0	26.0	103.0	103.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	15.3%	60.6%	60.6%	15.3%	60.6%	60.6%	24.1%	24.1%	24.1%	24.1%	24.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.5	3.5	3.5	3.5	3.5
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)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	9.1	120.8	120.8	16.1	130.3	130.3		11.6	11.6	11.6	11.6
Actuated g/C Ratio	0.05	0.71	0.71	0.09	0.77	0.77		0.07	0.07	0.07	0.07
v/c Ratio	0.41	0.87	0.05	0.68	0.66	0.06		0.54	0.31	0.41	0.07
Control Delay	89.8	23.5	1.3	52.1	36.1	7.3		96.8	11.7	87.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	89.8	23.5	1.3	52.1	36.1	7.3		96.8	11.7	87.4	0.5
LOS	F	C	A	D	D	A		F	B	F	A
Approach Delay		23.9			35.9			52.2			56.9
Approach LOS		C			D			D			E

Intersection Summary	
Cycle Length: 170	
Actuated Cycle Length: 170	
Offset: 27 (16%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 30.0	Intersection LOS: C
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: BallenIsles Dr./Old Palm Dr. & PGA Blvd.

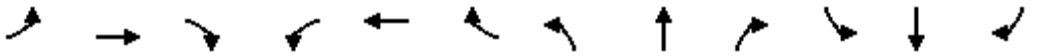




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	39	3151	59	113	2557	78	49	54	37	20
v/c Ratio	0.41	0.87	0.05	0.68	0.66	0.06	0.54	0.31	0.41	0.07
Control Delay	89.8	23.5	1.3	52.1	36.1	7.3	96.8	11.7	87.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	23.5	1.3	52.1	36.1	7.3	96.8	11.7	87.4	0.5
Queue Length 50th (ft)	43	911	0	129	713	11	54	0	40	0
Queue Length 95th (ft)	85	1209	12	m77	m301	m5	101	29	81	0
Internal Link Dist (ft)		1128			1260		383			307
Turn Bay Length (ft)	275		110	450		280				
Base Capacity (vph)	197	3613	1146	203	3898	1230	262	368	266	458
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	0.20	0.87	0.05	0.56	0.66	0.06	0.19	0.15	0.14	0.04

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	2899	54	104	2352	72	44	1	50	34	0	18
Future Volume (vph)	36	2899	54	104	2352	72	44	1	50	34	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1776	1583	1770	1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.72	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1334	1583	1351	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	3151	59	113	2557	78	48	1	54	37	0	20
RTOR Reduction (vph)	0	0	17	0	0	18	0	0	50	0	19	0
Lane Group Flow (vph)	39	3151	42	113	2557	60	0	49	4	37	1	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		4	8		
Actuated Green, G (s)	8.0	120.8	120.8	16.1	128.9	128.9		11.6	11.6	11.6	11.6	
Effective Green, g (s)	8.0	120.8	120.8	16.1	128.9	128.9		11.6	11.6	11.6	11.6	
Actuated g/C Ratio	0.05	0.71	0.71	0.09	0.76	0.76		0.07	0.07	0.07	0.07	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	83	3613	1124	167	3855	1200		91	108	92	108	
v/s Ratio Prot	0.02	c0.62		c0.06	c0.50						0.00	
v/s Ratio Perm			0.03			0.04		c0.04	0.00	0.03		
v/c Ratio	0.47	0.87	0.04	0.68	0.66	0.05		0.54	0.03	0.40	0.01	
Uniform Delay, d1	78.9	18.7	7.3	74.4	10.0	5.2		76.6	74.0	75.9	73.9	
Progression Factor	1.00	1.00	1.00	0.68	3.36	4.61		1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	3.2	0.1	1.0	0.1	0.0		6.0	0.1	2.9	0.0	
Delay (s)	83.1	21.9	7.4	51.7	33.7	23.8		82.6	74.1	78.7	73.9	
Level of Service	F	C	A	D	C	C		F	E	E	E	
Approach Delay (s)		22.4			34.1			78.2			77.0	
Approach LOS		C			C			E			E	

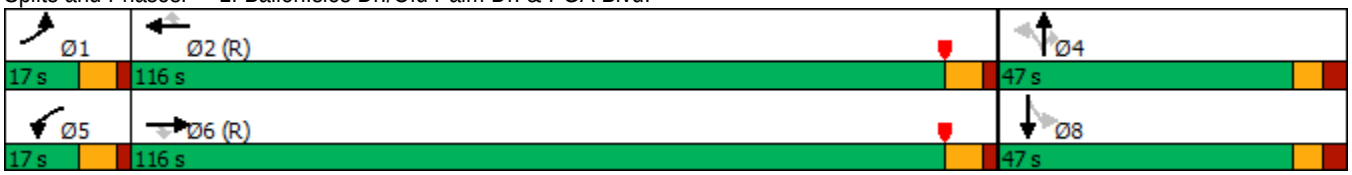
Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

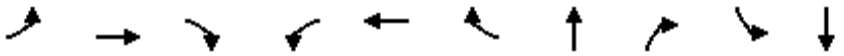
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	34	2487	61	77	2979	16	59	2	108	35	0
Future Volume (vph)	34	2487	61	77	2979	16	59	2	108	35	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	2			4			8
Permitted Phases			6			2	4		4	8	
Detector Phase	1	6	6	5	2	2	4	4	4	8	8
Switch Phase											
Minimum Initial (s)	4.0	15.0	15.0	4.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	40.0	40.0	11.0	35.0	35.0	47.5	47.5	47.5	46.5	46.5
Total Split (s)	17.0	116.0	116.0	17.0	116.0	116.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.4%	64.4%	64.4%	9.4%	64.4%	64.4%	26.1%	26.1%	26.1%	26.1%	26.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.5	3.5	3.5	3.5	3.5
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)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	9.2	129.0	129.0	15.0	137.3	137.3		14.5	14.5	14.5	14.5
Actuated g/C Ratio	0.05	0.72	0.72	0.08	0.76	0.76		0.08	0.08	0.08	0.08
v/c Ratio	0.41	0.74	0.06	0.57	0.83	0.01		0.63	0.55	0.36	0.23
Control Delay	95.4	18.1	1.9	60.4	46.0	0.2		104.9	29.8	85.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0		0.0	0.0	0.0	0.0
Total Delay	95.4	18.1	1.9	60.4	46.3	0.2		104.9	29.8	85.5	2.5
LOS	F	B	A	E	D	A		F	C	F	A
Approach Delay		18.8			46.4			56.9			39.2
Approach LOS		B			D			E			D

Intersection Summary	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 134 (74%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 86.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: BallenIsles Dr./Old Palm Dr. & PGA Blvd.

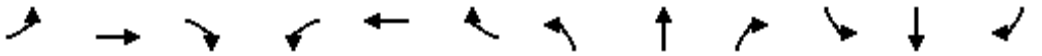




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	2703	66	84	3238	17	66	117	38	48
v/c Ratio	0.41	0.74	0.06	0.57	0.83	0.01	0.63	0.55	0.36	0.23
Control Delay	95.4	18.1	1.9	60.4	46.0	0.2	104.9	29.8	85.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	18.1	1.9	60.4	46.3	0.2	104.9	29.8	85.5	2.5
Queue Length 50th (ft)	43	667	0	103	957	0	77	26	43	0
Queue Length 95th (ft)	87	865	17	m52	m200	m0	131	95	84	0
Internal Link Dist (ft)		1128			1260		383			307
Turn Bay Length (ft)	275		110	450		280				
Base Capacity (vph)	104	3643	1154	147	3880	1224	284	420	291	419
Starvation Cap Reductn	0	0	0	0	154	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	0.36	0.74	0.06	0.57	0.87	0.01	0.23	0.28	0.13	0.11

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2487	61	77	2979	16	59	2	108	35	0	44
Future Volume (vph)	34	2487	61	77	2979	16	59	2	108	35	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1777	1583	1770	1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00	0.71	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1299	1583	1330	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	2703	66	84	3238	17	64	2	117	38	0	48
RTOR Reduction (vph)	0	0	19	0	0	4	0	0	86	0	44	0
Lane Group Flow (vph)	37	2703	47	84	3238	13	0	66	31	38	4	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		4	8		
Actuated Green, G (s)	8.0	129.0	129.0	15.0	136.0	136.0		14.5	14.5	14.5	14.5	
Effective Green, g (s)	8.0	129.0	129.0	15.0	136.0	136.0		14.5	14.5	14.5	14.5	
Actuated g/C Ratio	0.04	0.72	0.72	0.08	0.76	0.76		0.08	0.08	0.08	0.08	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	78	3644	1134	147	3842	1196		104	127	107	127	
v/s Ratio Prot	0.02	0.53		c0.05	c0.64						0.00	
v/s Ratio Perm			0.03			0.01		c0.05	0.02	0.03		
v/c Ratio	0.47	0.74	0.04	0.57	0.84	0.01		0.63	0.24	0.36	0.03	
Uniform Delay, d1	83.9	15.4	7.4	79.4	14.8	5.4		80.2	77.6	78.3	76.3	
Progression Factor	1.00	1.00	1.00	0.75	2.82	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	1.4	0.1	0.5	0.2	0.0		12.0	1.0	2.0	0.1	
Delay (s)	88.4	16.8	7.5	59.9	42.0	5.4		92.2	78.6	80.3	76.4	
Level of Service	F	B	A	E	D	A		F	E	F	E	
Approach Delay (s)		17.6			42.2			83.5			78.1	
Approach LOS		B			D			F			E	

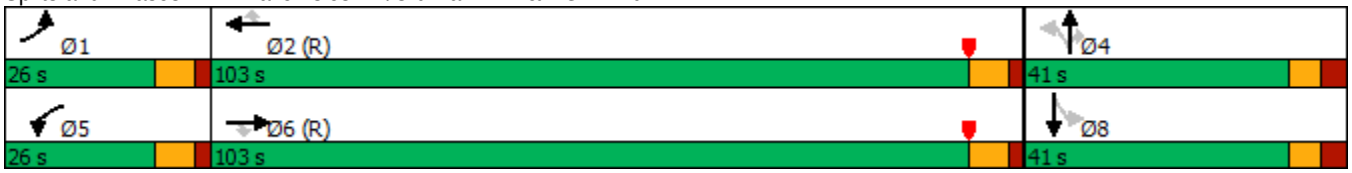
Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

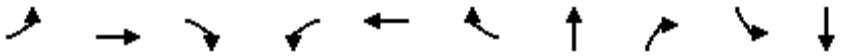
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	36	2899	61	142	2352	72	47	1	68	34	0
Future Volume (vph)	36	2899	61	142	2352	72	47	1	68	34	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	2			4			8
Permitted Phases			6			2	4		4	8	
Detector Phase	1	6	6	5	2	2	4	4	4	8	8
Switch Phase											
Minimum Initial (s)	4.0	15.0	15.0	4.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	40.0	40.0	11.0	35.0	35.0	47.5	47.5	47.5	46.5	46.5
Total Split (s)	26.0	103.0	103.0	26.0	103.0	103.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	15.3%	60.6%	60.6%	15.3%	60.6%	60.6%	24.1%	24.1%	24.1%	24.1%	24.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.5	3.5	3.5	3.5	3.5
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)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	9.1	116.0	116.0	20.5	129.9	129.9		12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.05	0.68	0.68	0.12	0.76	0.76		0.07	0.07	0.07	0.07
v/c Ratio	0.41	0.91	0.06	0.72	0.66	0.06		0.55	0.41	0.39	0.07
Control Delay	89.8	28.5	2.0	53.1	36.5	7.4		97.1	20.7	85.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	89.8	28.5	2.0	53.1	36.5	7.4		97.1	20.7	85.8	0.5
LOS	F	C	A	D	D	A		F	C	F	A
Approach Delay		28.7			36.6			52.2			55.9
Approach LOS		C			D			D			E

Intersection Summary	
Cycle Length: 170	
Actuated Cycle Length: 170	
Offset: 27 (16%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 33.0	Intersection LOS: C
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: BallenIsles Dr./Old Palm Dr. & PGA Blvd.

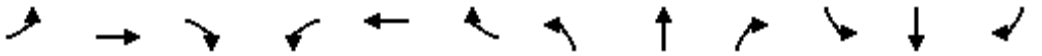




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	39	3151	66	154	2557	78	52	74	37	20
v/c Ratio	0.41	0.91	0.06	0.72	0.66	0.06	0.55	0.41	0.39	0.07
Control Delay	89.8	28.5	2.0	53.1	36.5	7.4	97.1	20.7	85.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	28.5	2.0	53.1	36.5	7.4	97.1	20.7	85.8	0.5
Queue Length 50th (ft)	43	1017	0	177	716	11	57	0	40	0
Queue Length 95th (ft)	85	#1399	17	m105	m297	m5	105	54	81	0
Internal Link Dist (ft)		1128			1260		383			307
Turn Bay Length (ft)	275		110	450		280				
Base Capacity (vph)	197	3469	1103	226	3885	1226	262	371	265	458
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	0.20	0.91	0.06	0.68	0.66	0.06	0.20	0.20	0.14	0.04

Intersection Summary

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	2899	61	142	2352	72	47	1	68	34	0	18
Future Volume (vph)	36	2899	61	142	2352	72	47	1	68	34	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1776	1583	1770	1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.72	1.00	0.72	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1333	1583	1347	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	3151	66	154	2557	78	51	1	74	37	0	20
RTOR Reduction (vph)	0	0	21	0	0	18	0	0	69	0	19	0
Lane Group Flow (vph)	39	3151	45	154	2557	60	0	52	5	37	1	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		4	8		
Actuated Green, G (s)	8.0	116.0	116.0	20.5	128.5	128.5		12.0	12.0	12.0	12.0	
Effective Green, g (s)	8.0	116.0	116.0	20.5	128.5	128.5		12.0	12.0	12.0	12.0	
Actuated g/C Ratio	0.05	0.68	0.68	0.12	0.76	0.76		0.07	0.07	0.07	0.07	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	83	3469	1080	213	3843	1196		94	111	95	111	
v/s Ratio Prot	0.02	c0.62		c0.09	c0.50						0.00	
v/s Ratio Perm			0.03			0.04		c0.04	0.00	0.03		
v/c Ratio	0.47	0.91	0.04	0.72	0.67	0.05		0.55	0.05	0.39	0.01	
Uniform Delay, d1	78.9	22.6	8.8	72.0	10.2	5.3		76.4	73.7	75.5	73.5	
Progression Factor	1.00	1.00	1.00	0.72	3.32	4.56		1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	4.6	0.1	1.1	0.1	0.0		6.9	0.2	2.6	0.0	
Delay (s)	83.1	27.2	8.9	52.8	34.0	24.0		83.3	73.8	78.1	73.5	
Level of Service	F	C	A	D	C	C		F	E	E	E	
Approach Delay (s)		27.5			34.7			77.7			76.5	
Approach LOS		C			C			E			E	

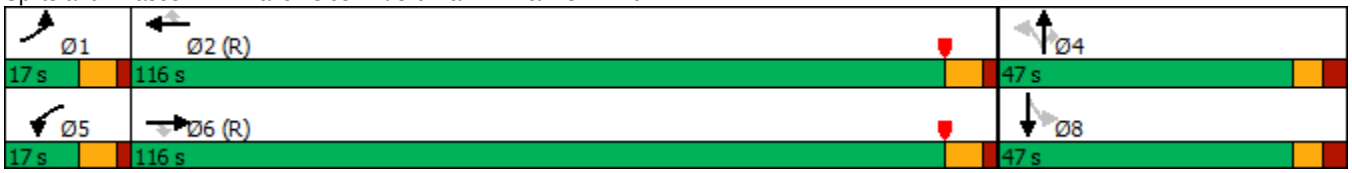
Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

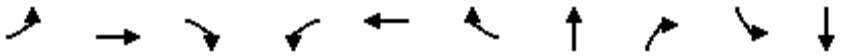
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	34	2487	65	97	2979	16	67	3	150	35	0
Future Volume (vph)	34	2487	65	97	2979	16	67	3	150	35	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	2			4			8
Permitted Phases			6			2	4		4	8	
Detector Phase	1	6	6	5	2	2	4	4	4	8	8
Switch Phase											
Minimum Initial (s)	4.0	15.0	15.0	4.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	40.0	40.0	11.0	35.0	35.0	47.5	47.5	47.5	46.5	46.5
Total Split (s)	17.0	116.0	116.0	17.0	116.0	116.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.4%	64.4%	64.4%	9.4%	64.4%	64.4%	26.1%	26.1%	26.1%	26.1%	26.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.5	3.5	3.5	3.5	3.5
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)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	9.2	122.9	122.9	19.7	136.0	136.0		15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.05	0.68	0.68	0.11	0.76	0.76		0.09	0.09	0.09	0.09
v/c Ratio	0.41	0.78	0.06	0.54	0.84	0.01		0.67	0.72	0.33	0.22
Control Delay	95.4	22.2	2.5	60.6	46.8	0.2		104.9	51.5	82.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0		0.0	0.0	0.0	0.0
Total Delay	95.4	22.2	2.5	60.6	47.0	0.2		104.9	51.5	82.6	2.2
LOS	F	C	A	E	D	A		F	D	F	A
Approach Delay		22.7			47.2			68.4			37.7
Approach LOS		C			D			E			D

Intersection Summary	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 134 (74%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 37.3	Intersection LOS: D
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: BallenIsles Dr./Old Palm Dr. & PGA Blvd.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	2703	71	105	3238	17	76	163	38	48
v/c Ratio	0.41	0.78	0.06	0.54	0.84	0.01	0.67	0.72	0.33	0.22
Control Delay	95.4	22.2	2.5	60.6	46.8	0.2	104.9	51.5	82.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	22.2	2.5	60.6	47.0	0.2	104.9	51.5	82.6	2.2
Queue Length 50th (ft)	43	743	0	129	964	0	89	80	43	0
Queue Length 95th (ft)	87	934	22	m64	m198	m0	147	164	84	0
Internal Link Dist (ft)		1128			1260		383			307
Turn Bay Length (ft)	275		110	450		280				
Base Capacity (vph)	104	3472	1103	193	3841	1212	285	420	289	419
Starvation Cap Reductn	0	0	0	0	148	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	0.36	0.78	0.06	0.54	0.88	0.01	0.27	0.39	0.13	0.11

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2487	65	97	2979	16	67	3	150	35	0	44
Future Volume (vph)	34	2487	65	97	2979	16	67	3	150	35	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1777	1583	1770	1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00	0.71	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1303	1583	1318	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	2703	71	105	3238	17	73	3	163	38	0	48
RTOR Reduction (vph)	0	0	22	0	0	4	0	0	86	0	44	0
Lane Group Flow (vph)	37	2703	49	105	3238	13	0	76	77	38	4	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		4	8		
Actuated Green, G (s)	8.0	122.9	122.9	19.7	134.6	134.6		15.9	15.9	15.9	15.9	
Effective Green, g (s)	8.0	122.9	122.9	19.7	134.6	134.6		15.9	15.9	15.9	15.9	
Actuated g/C Ratio	0.04	0.68	0.68	0.11	0.75	0.75		0.09	0.09	0.09	0.09	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.5	7.5	7.5	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	78	3471	1080	193	3802	1183		115	139	116	139	
v/s Ratio Prot	0.02	0.53		c0.06	c0.64						0.00	
v/s Ratio Perm			0.03			0.01		c0.06	0.05	0.03		
v/c Ratio	0.47	0.78	0.05	0.54	0.85	0.01		0.66	0.56	0.33	0.03	
Uniform Delay, d1	83.9	19.3	9.3	75.9	15.8	5.8		79.4	78.7	77.0	75.0	
Progression Factor	1.00	1.00	1.00	0.78	2.73	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	1.8	0.1	0.3	0.2	0.0		13.4	4.8	1.7	0.1	
Delay (s)	88.4	21.1	9.4	59.7	43.3	5.8		92.8	83.4	78.7	75.1	
Level of Service	F	C	A	E	D	A		F	F	E	E	
Approach Delay (s)		21.7			43.6			86.4			76.7	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group