



January 6, 2023

Eric Czerniejewski, P.E., ENV SP
Traffic Engineering Division Manager
The Corradino Group
5200 NW 33rd Ave, Suite 203
Ft. Lauderdale, FL

RE: **Paramount Palm Beach
Traffic Impact Evaluation
Palm Beach, Florida
Kimley-Horn #241020000**

Dear Eric:

Kimley-Horn and Associates, Inc. has been retained to perform a traffic impact evaluation for the proposed redevelopment of the site located at 139 North County Road in Palm Beach, Florida (see **Figure 1**). The Parcel Control Number (PCN) for the project site is 50-43-43-15-09-000-0140. Included in this evaluation are analyses that were previously prepared to determine compliance with the Traffic Performance Standards (TPS) of Palm Beach County, as defined in Article 12 of the County's Unified Land Development Code (ULDC). Further analysis has been included to address the following additional evaluations requested by the Town of Palm Beach:

- Intersection operational analyses
- Driveway analyses
- A buildout date of 2027 has been assumed for the purposes of this evaluation.

The site currently contains 9,683 square feet of general retail space, 14,745 square feet of general office space, and a 2,205 square foot place of worship. The proposed plan of redevelopment includes renovating existing buildings on site and adding below-grade parking with four residential units on top on the portion of the site that currently includes surface parking. The redevelopment will result in a final program of 5,500 square feet of general retail space, 4 single family dwelling units, a 225 member private club, and a 250 seat banquet facility. The private club was assumed to generate traffic similar to that of a fine dining restaurant, and the banquet facility is only expected to generate traffic when it has been rented out for events or dinners. Both of these uses are expected to operate as private facilities and will not be open to the general public.

TRIP GENERATION DETERMINATION

A trip generation determination was prepared to determine the potential impacts of the proposed redevelopment. Trip generation rates and equations published by the Palm Beach County Traffic Division were used for the daily, AM peak hour, and PM peak hour trip generation calculations for the existing and proposed site. The proposed banquet hall does not specifically fit within the land uses provided in the Palm Beach County Trip Generation Rates table; therefore, the trip generation rates applied to this use were determined based upon discussions with Palm Beach County Traffic Division staff.

Table 1 summarizes the trip generation calculations for the proposed redevelopment. As shown in

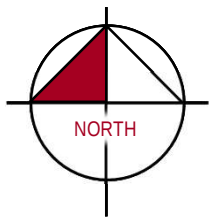
Table 1, the proposed redevelopment of the site results in 376 net new external daily trips, a decrease of 19 net new external AM peak hour trips (-17 in, -2 out), and an increase of 22 net new external PM peak hour trips (+28 in, -6 out).

Table 1: Trip Generation Calculations

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Existing Scenario >5 Years								
Strip Retail Plaza (<40k)	9.683 KSF	527	23	14	9	64	32	32
General Office (10k-250k)	14.745 KSF	160	22	19	3	21	4	17
Church/Synagogue	2.205 KSF	17	1	1	0	1	0	1
	Subtotal	704	46	34	12	86	36	50
Pass-By Capture								
Strip Retail Plaza (<40k)	63.0%	332	14	9	5	40	20	20
General Office (10k-250k)	10.0%	16	2	2	0	2	0	2
Church/Synagogue	5.0%	1	0	0	0	0	0	0
	Subtotal	349	16	11	5	42	20	22
Driveway Volumes		638	46	34	12	86	36	50
Net New External Trips		289	30	23	7	44	16	28
Proposed Scenario								
Strip Retail Plaza (<40k)	5.500 KSF	299	13	8	5	36	18	18
Single Family Detached	4 DU	40	3	1	2	4	3	1
Fine Dining Restaurant*	225 Seats	585	5	3	2	63	42	21
Banquet Hall**	250 Seats	650	0	0	0	25	17	8
	Subtotal	1,574	21	12	9	128	80	48
Pass-By Capture								
Strip Retail Plaza (<40k)	63.0%	188	8	5	3	23	11	12
Single Family Detached	0.0%	0	0	0	0	0	0	0
Fine Dining Restaurant*	44.0%	257	2	1	1	28	18	10
Banquet Hall **	44.0%	286	0	0	0	11	7	4
	Subtotal	731	10	6	4	62	36	26
Driveway Volumes		1,396	21	12	9	128	80	48
Net New External Trips		665	11	6	5	66	44	22
Proposed Net External Trips-Existing Net New External Trips		376	-19	-17	-2	22	28	-6
Radius of Development Influence:		0.5 miles						
Land Use	Daily	AM Peak Hour			PM Peak Hour		Pass By	
Strip Retail Plaza (<40k)	54.45 trips/1,000 sf	2.36 trips/1,000 sf (60% in, 40% out)			6.59 trips/1,000 sf (50% in, 50% out)		63.0%	
General Office (10k-250k)	10.84 trips/1,000 sf	1.52 trips/1,000 sf (88% in, 12% out)			1.44 trips/1,000 sf (17% in, 83% out)		10.0%	
Church/Synagogue	7.6 trips/1,000 sf	0.33 trips/1,000 sf (62% in, 38% out)			0.49 trips/1,000 sf (47% in, 53% out)		5.0%	
Single Family Detached	10 trips/DU	0.7 trips/DU (26% in, 74% out)			0.94 trips/DU (63% in, 37% out)		0.0%	
Fine Dining Restaurant	2.6 trips/seat	0.02 trips/seat (50% in, 50% out)			.28 trips/seat (67% in, 33% out)		44.0%	
Banquet Hall**	2.6 trips/seat	0.0 trips/seat (50% in, 50% out)			.1 trips/seat (67% in, 33% out)		44.0%	

*Trip generation rates based on seats per ITE Land Use 931.

**Trip generation rates based on discussions with Palm Beach County Traffic Engineering Division.



LEGEND



Site Location



Project Traffic %

FIGURE 1

Paramount Palm Beach
KH #241020000
Site Location

Kimley»Horn

SIGNIFICANCE ANALYSIS

Based on the traffic generation for this site, it was determined that the radius of developmental influence (RDI) for this project is one half-mile. The project traffic was distributed across the links within the RDI based on the distribution illustrated in Figure 1 to determine if the addition of project traffic will significantly impact the roadway links, based on Palm Beach County TPS methodology.

Table 2 and Table 3 summarize the AM peak hour and PM peak hour significance analyses, respectively.

Table 2: Test 1 AM Peak Hour Significance Analysis

ROADWAY	FROM	TO	EXISTING NUMBER OF LANES	LOS D GENERAL SVC. VOLUME	PROJECT % ASSIGNMENT	NB/EB IN/OUT?	PROJECT TRIPS					
							AM PEAK HOUR					
							TRIPS		% IMPACT			
							NB/EB	SB/WB	NB/EB	Sig?	SB/WB	Sig?
Royal Poinciana Way	Flagler Drive	N County Road	4L	1,680	30%	i	-5	-1	-0.30%	No	-0.06%	No
N County Road	Barton Avenue	Royal Poinciana Way	4L	1,860	20%	i	-3	0	-0.16%	No	0.00%	No
N County Road	Royal Poinciana Way	Sunset Avenue	4L	1,860	50%	i	-9	-1	-0.48%	No	-0.05%	No
N County Road	Sunset Avenue	Sunrise Avenue	4L	1,860	30%	i	-5	-1	-0.27%	No	-0.05%	No
N County Road	Sunrise Avenue	Country Club Road	4L	1,860	30%	o	-1	-5	-0.05%	No	-0.27%	No
Cocoanut Row	Barton Avenue	Royal Poinciana Way	2L	810	5%	i	-1	0	-0.12%	No	0.00%	No
Cocoanut Row	Royal Poinciana Way	Sunset Avenue	2L	810	5%	i	-1	0	-0.12%	No	0.00%	No
Cocoanut Row	Sunset Avenue	Sunrise Avenue	2L	810	5%	i	-1	0	-0.12%	No	0.00%	No
Cocoanut Row	Sunrise Avenue	Country Club Road	2L	810	5%	o	0	-1	0.00%	No	-0.12%	No

Table 3: Test 1 PM Peak Hour Significance Analysis

ROADWAY	FROM	TO	EXISTING NUMBER OF LANES	LOS D GENERAL SVC. VOLUME	PROJECT % ASSIGNMENT	NB/EB IN/OUT?	PROJECT TRIPS					
							PM PEAK HOUR					
							TRIPS		% IMPACT			
							NB/EB	SB/WB	NB/EB	Sig?	SB/WB	Sig?
Royal Poinciana Way	Flagler Drive	N County Road	4L	1,680	30%	i	8	-2	0.48%	No	-0.12%	No
N County Road	Barton Avenue	Royal Poinciana Way	4L	1,860	20%	i	6	-1	0.32%	No	-0.05%	No
N County Road	Royal Poinciana Way	Sunset Avenue	4L	1,860	50%	i	14	-3	0.75%	No	-0.16%	No
N County Road	Sunset Avenue	Sunrise Avenue	4L	1,860	30%	i	8	-2	0.43%	No	-0.11%	No
N County Road	Sunrise Avenue	Country Club Road	4L	1,860	30%	o	-2	8	-0.11%	No	0.43%	No
Cocoanut Row	Barton Avenue	Royal Poinciana Way	2L	810	5%	i	1	0	0.12%	No	0.00%	No
Cocoanut Row	Royal Poinciana Way	Sunset Avenue	2L	810	5%	i	1	0	0.12%	No	0.00%	No
Cocoanut Row	Sunset Avenue	Sunrise Avenue	2L	810	5%	i	1	0	0.12%	No	0.00%	No
Cocoanut Row	Sunrise Avenue	Country Club Road	2L	810	5%	o	0	1	0.00%	No	0.12%	No

As shown in the tables above, none of the analyzed links are expected to be significantly impacted by the addition of project traffic. Therefore, no further link analysis is required.

INTERSECTION OPERATIONAL ANALYSIS

As requested by the Town of Palm Beach, the surrounding intersections to the site have been analyzed to determine the impacts of the proposed development on the surrounding road network. The intersection analysis includes LOS and delay analyses for the following intersections:

1. Sunrise Avenue & County Road
2. Sunset Avenue & County Road
3. Royal Poinciana Way & County Road

The three study intersections were analyzed for the following three scenarios: Existing Year (2022), Background Year (2027), and Future Total (2027).

Additionally, the site is proposed to have access on Sunrise Avenue and Sunset Avenue. Therefore, the Future Total (2027) analysis scenario also includes an evaluation of these driveways at proposed buildout of the project

Existing count data was collected on Tuesday November 29, 2022 during the AM and PM peak hours to determine a baseline for traffic operations within the vicinity of the site. The existing data collected was assumed to be collected during peak season and therefore no peak season correction factor was applied. Existing count data is included in the Appendix, for reference.

Existing traffic count data was grown of a five year period using a compounding annual growth rate of 1% to develop Background Year (2027) traffic volumes. Furthermore, project traffic data was added to the Background Year (2027) traffic volumes to develop Future Total (2027) traffic volumes. Credit was not taken for the traffic generated by the existing site in the intersection analysis to provide a conservative approach.

EXISTING YEAR (2022) ANALYSIS

Table 4 summarizes the results of the existing year *Synchro* analysis. HCM 2000 methodology was used to develop LOS and delay at each of the study intersections due to the presence of shared turn lanes. As illustrated in this table the intersections currently operate at LOS C or better during the AM and PM peak hours, with the exception of Lakeview Avenue & Quadrille Boulevard and Lakeview Avenue & Dixie Highway during the AM peak hour.

Table 4: Existing Year (2022) *Synchro* Summary

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	Sunset Avenue & County Road	Signalized	EB	30.8	C	29.0	C
			WB	19.7	B	17.7	B
			NB	14.0	B	13.3	B
			SB	8.2	A	18.8	B
			Overall	14.5	B	18.1	B
2	Sunrise Avenue & County Road	Signalized	EB	33.4	C	30.7	C
			WB	33.1	C	30.6	C
			NB	3.0	A	3.5	A
			SB	2.2	A	3.7	A
			Overall	5.1	A	6.7	A
3	Royal Poinciana Way & County Road	Signalized	EB	27.4	C	32.1	C
			WB	36.6	D	36.6	D
			NB	10.0	B	12.8	B
			SB	20.5	C	26.8	C
			Overall	18.8	B	24.5	C

BACKGROUND YEAR (2027) ANALYSIS

The Background Year (2027) scenario was analyzed to develop future baseline operations for the surrounding area based on existing count data, and the addition of ambient background growth. Volume development sheets are included in the Appendix, for reference.

Table 5 summarizes the results of the background year *Synchro* analysis. HCM 2000 methodology was used to develop LOS and delay at each of the study intersections due to the presence of shared turn lanes. As illustrated in this table the intersections are expected operate at LOS C or better during the AM and PM peak hours.

Table 5: Background Year (2027) Synchro Summary

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	Sunset Avenue & County Road	Signalized	EB	30.9	C	29.2	C
			WB	19.5	B	17.7	B
			NB	15.3	B	14.9	B
			SB	8.5	A	20.5	C
			Overall	15.4	B	19.4	B
2	Sunrise Avenue & County Road	Signalized	EB	31.9	C	30.4	C
			WB	31.6	C	30.4	C
			NB	4.0	A	3.6	A
			SB	2.9	A	3.8	A
			Overall	5.9	A	6.7	A
3	Royal Poinciana Way & County Road	Signalized	EB	28.2	C	33.2	C
			WB	37.6	D	38.1	D
			NB	10.2	B	13.2	B
			SB	20.5	C	27.2	C
			Overall	19.1	B	25.1	C

FUTURE YEAR (2027) ANALYSIS

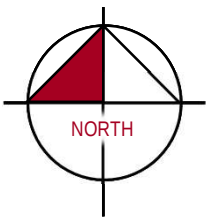
The Future Year (2027) scenario was analyzed to develop future operations for the surrounding area and project driveways based on existing count data, and the addition of ambient background growth. Volume development sheets are included in the Appendix, for reference.

Table 6 summarizes the results of the background year *Synchro* analysis. HCM 2000 methodology was used to develop LOS and delay at each of the study intersections due to the presence of shared turn lanes. As illustrated in this table the intersections are expected operate at LOS C or better during the AM and PM peak hours.

Table 6: Future Year (2027) *Synchro* Summary

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	Sunset Avenue & County Road	Signalized	EB	31.0	C	29.4	C
			WB	19.5	B	17.7	B
			NB	15.3	B	16.0	B
			SB	8.5	A	20.9	C
			Overall	15.5	B	19.9	B
2	Sunrise Avenue & County Road	Signalized	EB	31.6	C	29.6	C
			WB	31.6	C	30.6	C
			NB	4.0	A	3.8	A
			SB	2.9	A	4.0	A
			Overall	6.1	A	7.5	A
3	Royal Poinciana Way & County Road	Signalized	EB	28.2	C	33.7	C
			WB	37.7	D	38.6	D
			NB	10.2	B	13.5	B
			SB	20.5	C	27.5	C
			Overall	19.2	B	25.5	C
4	Sunrise Avenue & North Driveway	Free-Flow (Inbound Only)	EB	-	-	-	-
			WB	-	-	-	-
			NB	-	-	-	-
			SB	-	-	-	-
			Overall	-	-	-	-
5	Sunset Avenue & South Driveway	Minor Street Stop-Control	EB	-	-	-	-
			WB	-	-	-	-
			NB	-	-	-	-
			SB	8.5	A	8.9	A
			Overall	-	-	-	-

As noted, the proposed project driveways were analyzed to determine the LOS and delay at the proposed access locations. Access to the site for most users is proposed to be maintained via two driveway connections; one outbound driveway on Sunset Avenue and one right-in/left-in only driveway on Sunrise Avenue. The residential users are also proposed to have a separate inbound driveway access on Sunset Avenue; however, this will carry minimal traffic volumes and also would be ingress-only; therefore, no LOS analysis was performed for this driveway. Figure 2 illustrates the expected project traffic driveway volumes for the site driveway after full buildout. The analysis indicated that both driveways would operate acceptably and that the expected queues at the driveways would not exceed 1 vehicle during the AM or PM peak hours and therefore not impede on traffic flow on the surrounding road network.



LEGEND

-  Site Location
- XX (XX) AM (PM) Peak Hour Trips
-  /  Inbound / Outbound

FIGURE 2

Paramount Palm Beach
KH #241020000
Driveway Volumes

VALET OPERATIONAL ANALYSIS

The redeveloped site is proposed to include valet operations for the private club for the proposed event space. Following is a review of the proposed valet routing, anticipated queuing and pick-up/drop-off operations for each component.

Private Club Valet Operations

The valet stand for the private club is located in the motor court area that is one level below grade. Vehicular access and circulation is illustrated in Figure 3 and is described below.

Patron arrival: Patron vehicles will arrive via the Sunrise Avenue driveway on the north side of the site and then proceed along the east side of the property to reach the motor court below grade. At the valet stand on the motor court level, the patron will exit the vehicle and the valet operator will proceed down the ramp to a lower parking level to park the vehicle. (see route outlined in red in Figure 3).

Patron departure: The valet operator will retrieve the patron vehicle from the lower level parking and drive through the motor court to return the vehicle to the valet stand. The patron will then retrieve the vehicle and exit the motor court level up the ramp on the east side of the property to exit onto Sunset Avenue (see route outlined in blue in Figure 3).

Queue length calculation: The anticipated queue length at the valet stand was calculated using the following assumptions and data:

Peak hour vehicles (from trip generation calculations): PM peak hour (63 vph, inbound: 42 vph, outbound: 21 vph)

Percent valet: 100%

Assumed average vehicle dwell time for passenger loading/unloading: 60 seconds / vehicle

Number of valet attendants available: 2 attendants

Calculations are provided in the attached Table A -1. As noted in that table, the 95th percentile valet queue calculations are the following:

Inbound: 1.854 vehicles

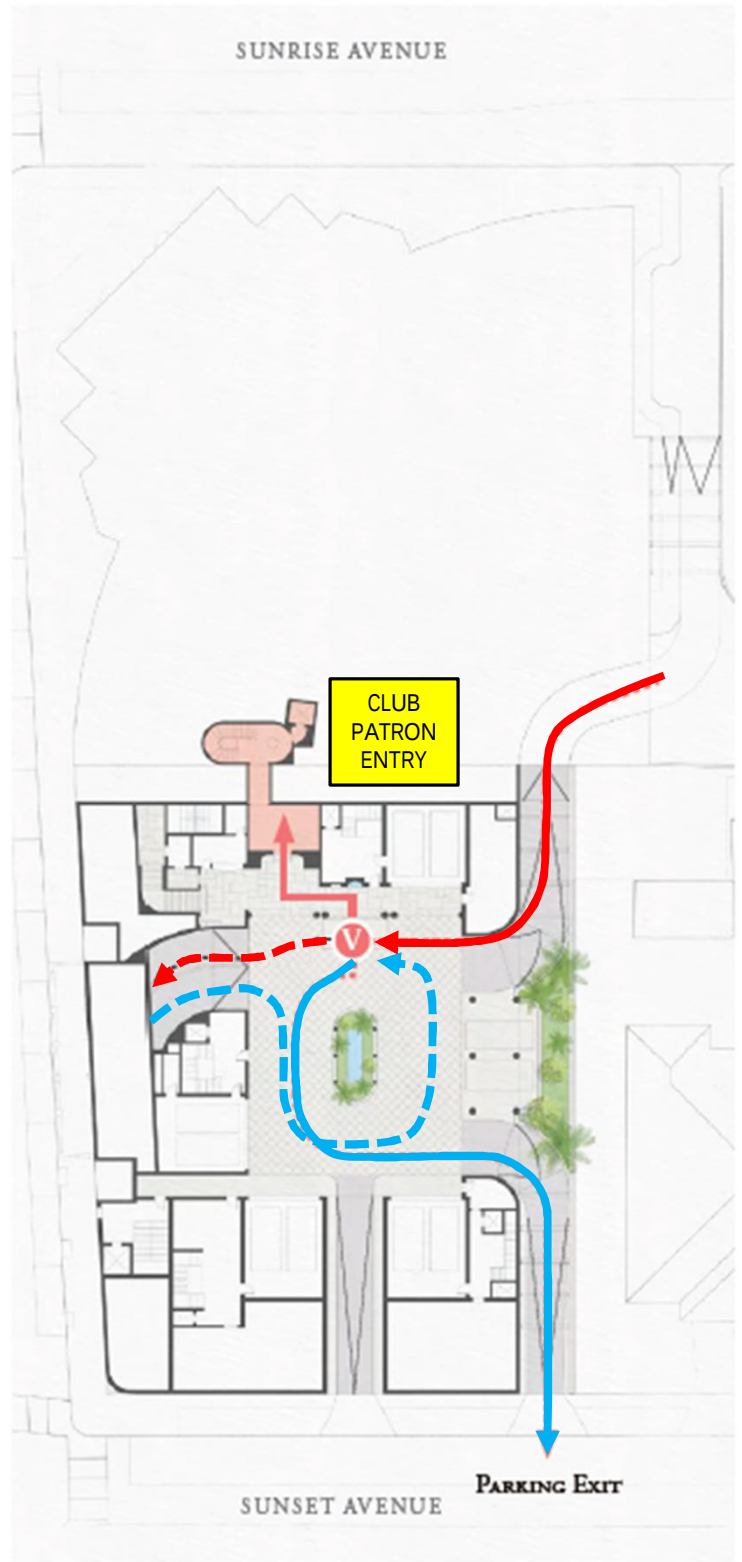
Outbound: 0.747 vehicles

Total: 2.601 vehicles

Therefore, the 95th percentile queue of vehicles staged in the club pick-up/drop-off area is anticipated to be three vehicles. The queuing area provided can accommodate 3 vehicles in within the area adjacent to the valet stand; therefore, the 95th percentile queue for the private club valet operations is anticipated to be contained.

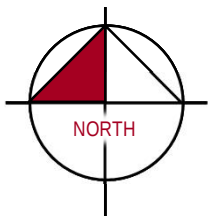


GROUND FLOOR (+12')



MOTOR COURT (+1')

Image source: RAMSA / Stantec



LEGEND

- Patron Inbound Route
- - - → Valet Route to Parking
- - - → Valet Route from Parking
- Patron Outbound Route

FIGURE 3

Paramount Palm Beach
KH #241020000
Private Club – Valet Operations

Event Valet Operations

The valet stand for the event space for vehicle drop-off (arrival) is proposed to be provided in the northwest corner of the site, accessed via a curb cut proposed to be provided. Upon departure, the stand is proposed to be located on North County Road. Vehicular access and circulation is illustrated in Figure 4 and is described below.

Patron arrival: Patron vehicles will arrive via the North County Road traveling in the northbound direction. Queuing will begin along the curbside in spaces marked for parallel parking. Parallel parking is proposed to be prohibited after 5 PM. These vehicles will proceed to the valet stand located in front of the building in the new curb cut proposed to be created. At the valet stand, the patron will exit the vehicle and the valet operator will proceed out of the curb cut on Sunrise Avenue, enter the eastern site driveway on Sunrise Avenue, then proceed to the motor court level and down the ramp to a lower parking level to park the vehicle. (see route outlined in orange in Figure 3).

Patron departure: The valet operator will retrieve the patron vehicle from the lower level parking and drive through the motor court and exit onto Sunset Avenue. The valet operator will then proceed with the vehicle to return it to patrons at a return valet stand along Sunset Avenue. The patron will then retrieve the vehicle and exit in the northbound direction by re-entering the traffic stream on North County Road (see route outlined in purple in Figure 3).

Queue length calculation: The anticipated queue length at the valet stand was calculated using the following assumptions and data:

Highest peak hour: Post-event (250 attendees; assumed vehicle occupancy: 2.5 persons/vehicle, outbound: 100 vph)

Assumed percent valet vs. self-parking: 100%

Peak hour valet volumes: Outbound: 100 vph

Assumed average vehicle dwell time for passenger loading/unloading: 75 seconds / vehicle

Number of valet attendants available: 3 attendants in the valet pick-up area during peak

Calculations are provided in the attached Table A -4. As noted in that table, the 95th percentile valet queue calculations are the following:

Outbound: 7.073 vehicles

Total: 7.073 vehicles

The queuing area along North County Road could accommodate up to 10 vehicles. Currently, up to 14 parallel parking spaces can be available, but the stand is proposed to be located further to the south than the northernmost parking space in order to provide separation from the intersection of North county Road & Sunrise Avenue.

Therefore, the 95th percentile queue of vehicles staged in the valet pick-up area is anticipated to be accommodated within the curb area provided.

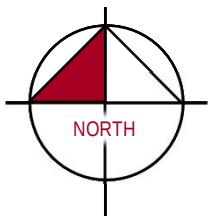


GROUND FLOOR (+12')



MOTOR COURT (+1')

Image source: RAMSA / Stantec



LEGEND

- Patron Inbound Route
- - - → Valet Route to Parking
- - - → Valet Route from Parking
- Patron Outbound Route

FIGURE 4
Paramount Palm Beach
KH #241020000
Event Space – Valet Operations

CONCLUSION

Kimley-Horn and Associates, Inc. has prepared a traffic study to evaluate the potential impact of redevelopment for the project site located at 139 North County Road in Palm Beach, Florida (see Figure 1). The site currently contains 9,683 square feet of general retail space, 14,745 square feet of general office space, and a 2,205 square foot place of worship. The proposed plan of redevelopment includes renovating the existing uses on site and will result in a final development program of 5,500 square feet of general retail space, 4 single family dwelling units, a 225 member private club, and a 250 seat banquet facility.

As shown in the analysis, the site meets the TPS requirements defined in Article 12 of the Palm Beach County Unified Land Development Code, and the intersections meet the Town's LOS standards.

In addition, a valet operations evaluation was conducted for both the club space and the even space. The queuing area provided is anticipated to accommodate the demand both for the club and before and after events.

Please contact me via telephone at (561) 840-0248 or via e-mail at chris.heggen@kimley-horn.com should you have any questions regarding this evaluation.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

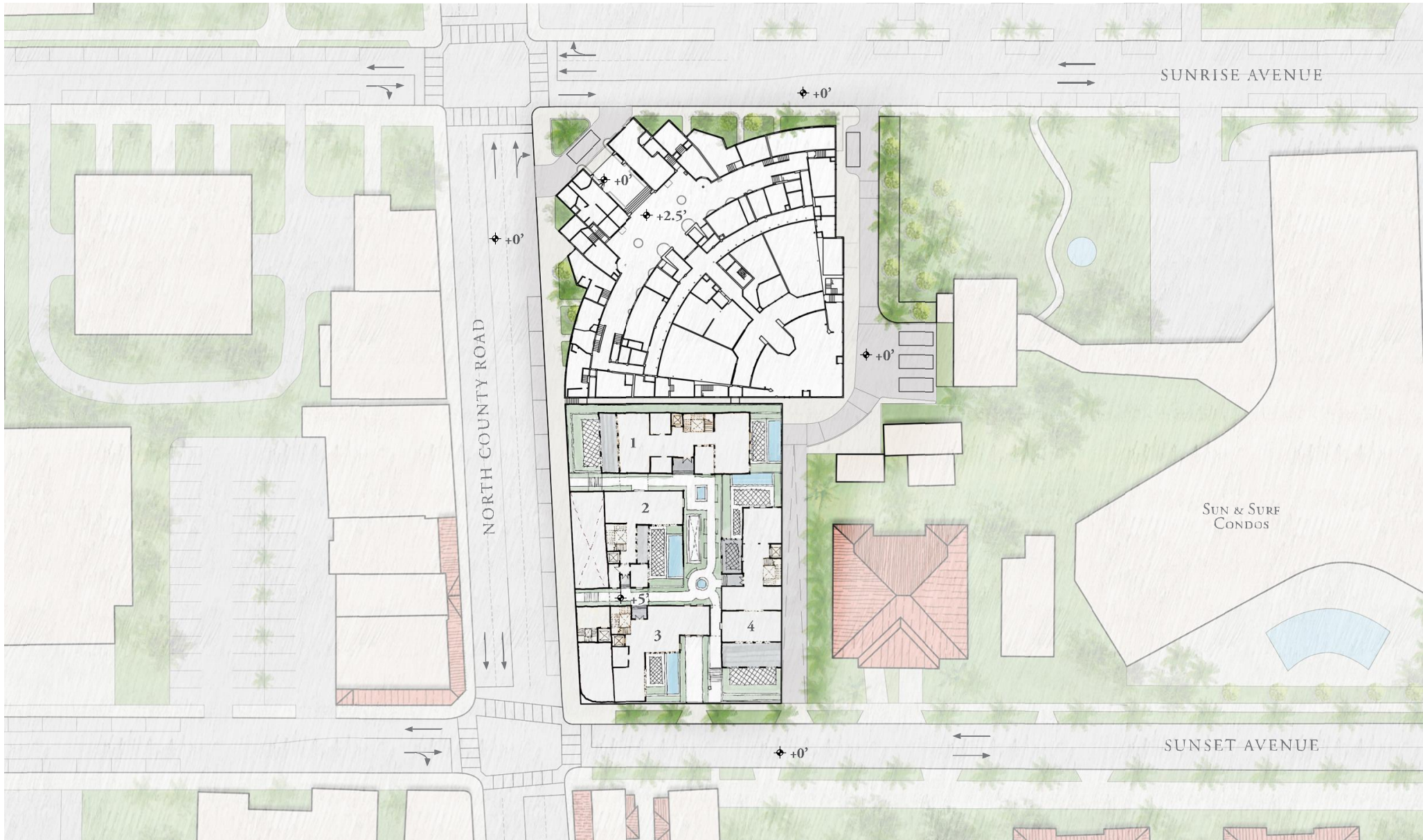
Christopher W. Heggen, P.E.
Transportation Engineer

Florida Registration
Number 58636
Registry No. 35106

Attachments

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APPENDIX



GROUND LEVEL PLAN

Property Detail

Parcel Control Number: 50-43-43-15-09-000-0140 Location Address: 139 N COUNTY RD
 Owners: WEG PARAMOUNT LLC
 Mailing Address: 1801 CENTREPARK DR E STE 125, WEST PALM BEACH FL 33401 7428
 Last Sale: MAR-2021 Book/Page#: 32305 / 677 Price: \$14,000,000
 Property Use Code: 1200 - STORE/OFFICE/RESIDENTIAL Zoning: C-TS - COMMERCIAL TOWN SERVING (50-PALM BEACH)
 Legal Description: SUNRISE AVE ADD LTS 14 & 15 & LT 16 (LESS NLY 107.78 FT OF ELY 83.84 FT & SLY 58.49 FT OF ELY 50.62 FT) FLORAL PARK PB2P6 LTS 164 TO 172 INC (LESS W 15 FT PALM BCH AVE R/W) Total SF: 35992 Acres 1.3324

2022 Values (Preliminary)

Improvement Value \$5,924,214
 Land Value \$6,649,946
 Total Market Value \$12,574,160
 Assessed Value \$12,574,160
 Exemption Amount \$0
 Taxable Value \$12,574,160

All values are as of January 1st each year.

2022 Taxes (Preliminary)

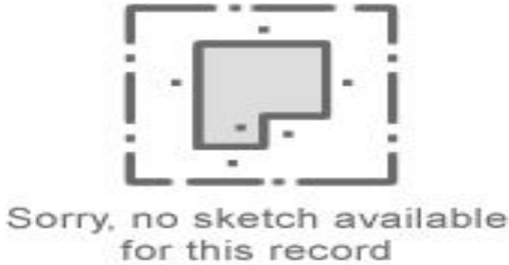
Ad Valorem \$197,395
 Non Ad Valorem \$16,558
 Total Tax \$213,953

2023 Qualified Exemptions

No Details Found

Applicants

No Details Found

Building Footprint (Building 1)**Subarea and Square Footage (Building 1)**

Description	Area Sq. Footage
RESTAURANT	1216
MULTIPLE TENANT RETAIL SAL	4078
MULTIPLE TENANT RETAIL SAL	13752
MULTIPLE TENANT RETAIL SAL	13244
MULTIPLE TENANT RETAIL SAL	2432
MULTIPLE TENANT RETAIL SAL	1270
Total Square Footage :	35992

Extra Features

Description	Year Built	Unit
Paving- Asphalt	1985	18516
Patio	1985	6500

Unit may represent the perimeter, square footage, linear footage, total number or other measurement.

Structural Details (Building 1)

Description	
1. Year Built	1926
2. RETAIL MULTI OCCUP	35992

MAP

Land Use: 931

Fine Dining Restaurant

Description

A fine dining restaurant is a full-service eating establishment with a typical duration of stay of at least 1 hour. A fine dining restaurant generally does not serve breakfast; some do not serve lunch; all serve dinner. This type of restaurant often requests and sometimes requires a reservation and is generally not part of a chain. A patron commonly waits to be seated, is served by wait staff, orders from a menu and pays after the meal. Some of the study sites have lounge or bar facilities (serving alcoholic beverages), but meal service is the primary draw to the restaurant. Fast casual restaurant (Land Use 930) and high-turnover (sit-down) restaurant (Land Use 932) are related uses.

Additional Data

If the fine dining restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The sites were surveyed in the 1980s, the 1990s, and the 2010s in Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, New Jersey, and Utah.

Source Numbers

126, 260, 291, 301, 338, 339, 368, 437, 440, 976, 1053

Fine Dining Restaurant (931)

Vehicle Trip Ends vs: Seats
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 6

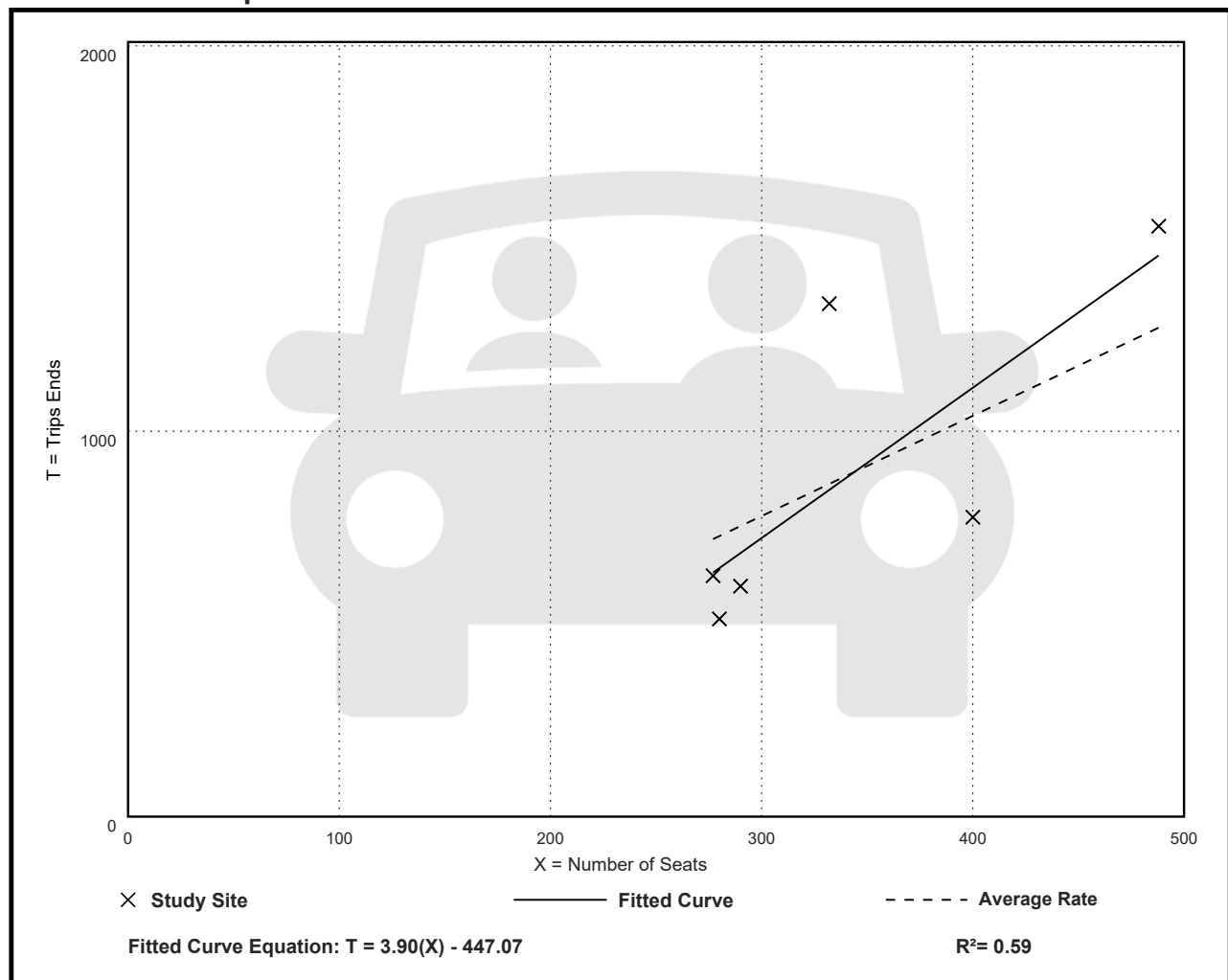
Avg. Num. of Seats: 345

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
2.60	1.83 - 4.01	0.85

Data Plot and Equation



Fine Dining Restaurant (931)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 5

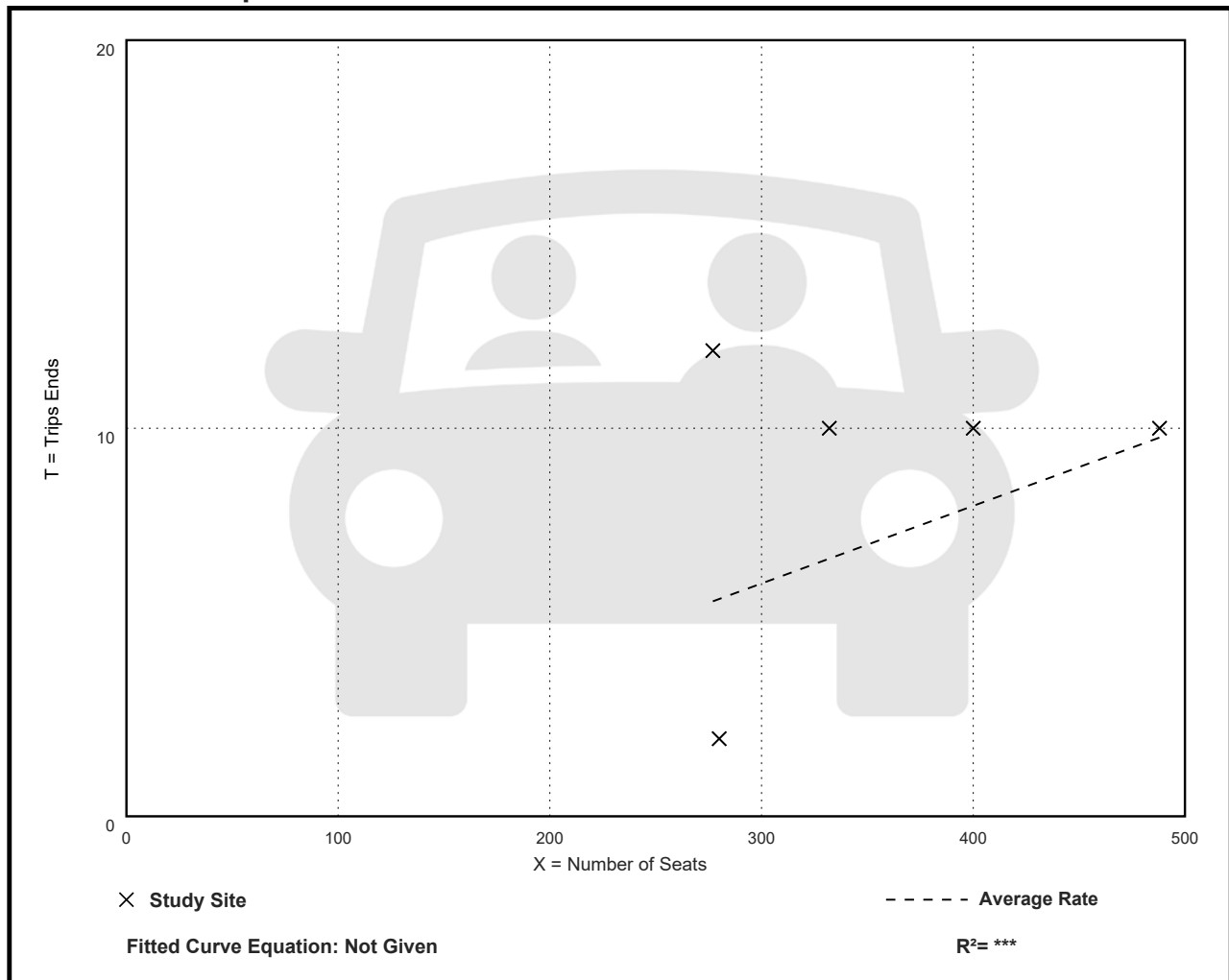
Avg. Num. of Seats: 355

Directional Distribution: Not Available

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.02	0.01 - 0.04	0.01

Data Plot and Equation



Fine Dining Restaurant (931)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 11

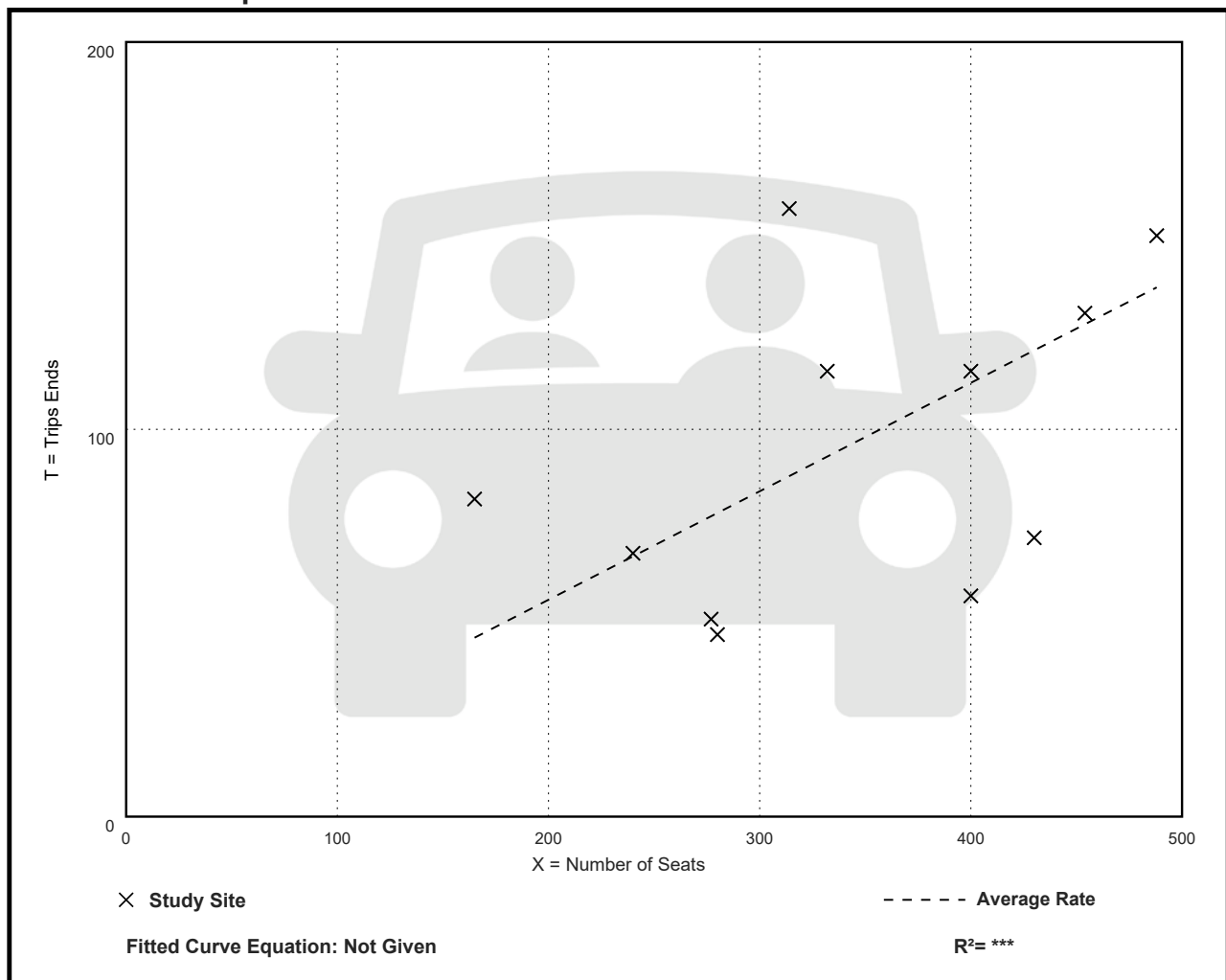
Avg. Num. of Seats: 344

Directional Distribution: 67% entering, 33% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.28	0.14 - 0.50	0.11

Data Plot and Equation



**VOLUME DEVELOPMENT SHEET
PARAMOUNT PALM BEACH
SUNRISE AVE & COUNTY ROAD
EXISTING GEOMETRY**

Growth Rate = 1.00%
Peak Season = 1
Buildout Year = 2027
Years = 5

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	35	634	83	9	198	28	47	18	29	46	19	7
Peak Season Volume	35	634	83	9	198	28	47	18	29	46	19	7
Traffic Volume Growth Committed Development	2	32	4	0	10	1	2	1	1	2	1	0
1.0% Traffic Volume Growth	2	32	4	0	10	1	2	1	1	2	1	0
Committed + 1.0% Growth	2	32	4	0	10	1	2	1	1	2	1	0
Max (Committed + 1.0% or Historic Growth)	2	32	4	0	10	1	2	1	1	2	1	0
Background Traffic Volumes	37	666	87	9	208	29	49	19	30	48	20	7
Project Traffic												
Inbound Traffic Assignment			20.0%	15.0%	15.0%			5.0%				
Inbound Traffic Volumes			2	2	2			1				
Outbound Traffic Assignment	5.0%	30.0%	10.0%									
Outbound Traffic Volumes		3	1									
Project Traffic	0	3	3	2	2	0	0	1	0	0	0	0
Total Traffic w/o RTOR	37	669	90	11	210	29	49	20	30	48	20	7
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	37	669	30	11	210	0	49	20	0	48	20	0

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	49	260	77	12	590	60	36	22	75	70	54	10
Peak Season Volume	49	260	77	12	590	60	36	22	75	70	54	10
Traffic Volume Growth Committed Development	2	13	4	1	30	3	2	1	4	4	3	1
1.0% Traffic Volume Growth	2	13	4	1	30	3	2	1	4	4	3	1
Committed + 1.0% Growth	2	13	4	1	30	3	2	1	4	4	3	1
Max (Committed + 1.0% or Historic Growth)	2	13	4	1	30	3	2	1	4	4	3	1
Background Traffic Volumes	51	273	81	13	620	63	38	23	79	74	57	11
Project Traffic												
Inbound Traffic Assignment			20.0%	15.0%	15.0%			5.0%				
Inbound Traffic Volumes			16	12	12			4				
Outbound Traffic Assignment	5.0%	30.0%	10.0%									
Outbound Traffic Volumes	2	14	5									
Project Traffic	2	14	21	12	12	0	0	4	0	0	0	0
Total Traffic w/o RTOR	53	287	102	25	632	63	38	27	79	74	57	11
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	53	287	42	25	632	3	38	27	19	74	57	0

**VOLUME DEVELOPMENT SHEET
PARAMOUNT PALM BEACH
SUNSET AVE & COUNTY ROAD
EXISTING GEOMETRY**

Growth Rate = 1.00%
Peak Season = 1
Buildout Year = 2027
Years = 5

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	52	721	25	2	258	14	28	5	42	8	5	4
Peak Season Volume	52	721	25	2	258	14	28	5	42	8	5	4
Traffic Volume Growth Committed Development	3	37	1	0	13	1	1	0	2	0	0	0
1.0% Traffic Volume Growth	3	37	1	0	13	1	1	0	2	0	0	0
Committed + 1.0% Growth	3	37	1	0	13	1	1	0	2	0	0	0
Max (Committed + 1.0% or Historic Growth)	3	37	1	0	13	1	1	0	2	0	0	0
Background Traffic Volumes	55	758	26	2	271	15	29	5	44	8	5	4
Project Traffic												
Inbound Traffic Assignment		20.0%	30.0%	15.0%				5.0%				
Inbound Traffic Volumes		2	4	2				1				
Outbound Traffic Assignment										50.0%	5.0%	45.0%
Outbound Traffic Volumes										5		4
Project Traffic	0	2	4	2	0	0	0	1	0	5	0	4
Total Traffic w/o RTOR	55	760	30	4	271	15	29	6	44	13	5	8
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	55	760	0	4	271	0	29	6	0	13	5	0

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	78	359	8	2	716	22	22	4	101	5	12	6
Peak Season Volume	78	359	8	2	716	22	22	4	101	5	12	6
Traffic Volume Growth Committed Development	4	18	0	0	37	1	1	0	5	0	1	0
1.0% Traffic Volume Growth	4	18	0	0	37	1	1	0	5	0	1	0
Committed + 1.0% Growth	4	18	0	0	37	1	1	0	5	0	1	0
Max (Committed + 1.0% or Historic Growth)	4	18	0	0	37	1	1	0	5	0	1	0
Background Traffic Volumes	82	377	8	2	753	23	23	4	106	5	13	6
Project Traffic												
Inbound Traffic Assignment		20.0%	30.0%	15.0%				5.0%				
Inbound Traffic Volumes		16	24	12				4				
Outbound Traffic Assignment										50.0%	5.0%	45.0%
Outbound Traffic Volumes										24	2	22
Project Traffic	0	16	24	12	0	0	0	4	0	24	2	22
Total Traffic w/o RTOR	82	393	32	14	753	23	23	8	106	29	15	28
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	82	393	0	14	753	0	23	8	46	29	15	0

**VOLUME DEVELOPMENT SHEET
PARAMOUNT PALM BEACH
ROYAL POINCIANA WAY & COUNTY ROAD
EXISTING GEOMETRY**

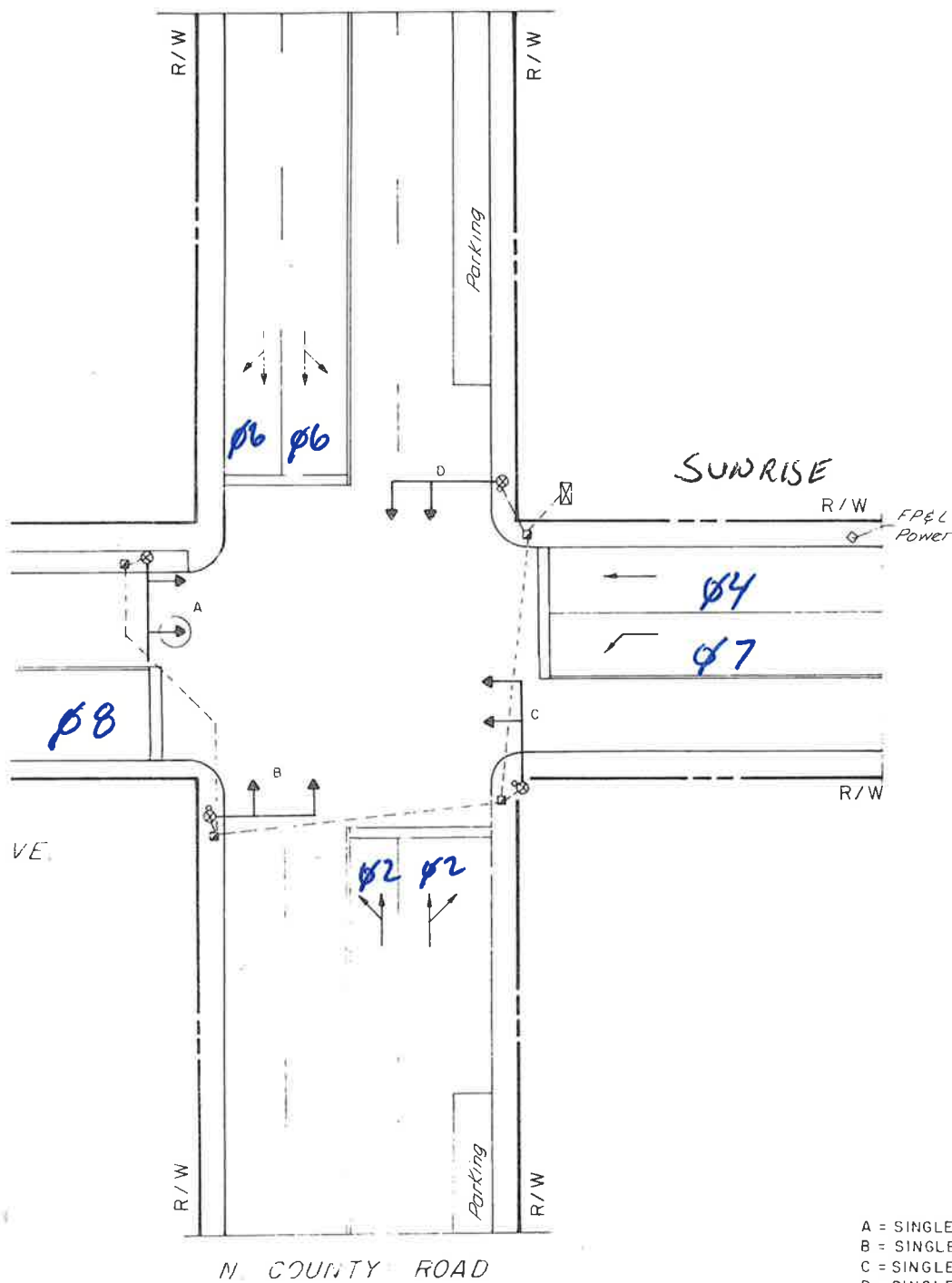
Growth Rate = 1.00%
Peak Season = 1
Buildout Year = 2027
Years = 5

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	101	517	54	0	186	109	289	49	189	5	36	8
Peak Season Volume	101	517	54	0	186	109	289	49	189	5	36	8
Traffic Volume Growth Committed Development	5	26	3	0	9	6	15	2	10	0	2	0
1.0% Traffic Volume Growth	5	26	3	0	9	6	15	2	10	0	2	0
Committed + 1.0% Growth	5	26	3	0	9	6	15	2	10	0	2	0
Max (Committed + 1.0% or Historic Growth)	5	26	3	0	9	6	15	2	10	0	2	0
Background Traffic Volumes	106	543	57	0	195	115	304	51	199	5	38	8
Project Traffic												
Inbound Traffic Assignment		20.0%					30.0%					
Inbound Traffic Volumes		2					4					
Outbound Traffic Assignment				20.0%	30.0%							
Outbound Traffic Volumes				2	3							
Project Traffic	0	2	0	0	2	3	4	0	0	0	0	0
Total Traffic w/o RTOR	106	545	57	0	197	118	308	51	199	5	38	8
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	106	545	0	0	197	58	308	51	139	5	38	0

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 11/29/2022	180	306	27	0	444	377	125	44	141	45	76	21
Peak Season Volume	180	306	27	0	444	377	125	44	141	45	76	21
Traffic Volume Growth Committed Development	9	16	1	0	23	19	6	2	7	2	4	1
1.0% Traffic Volume Growth	9	16	1	0	23	19	6	2	7	2	4	1
Committed + 1.0% Growth	9	16	1	0	23	19	6	2	7	2	4	1
Max (Committed + 1.0% or Historic Growth)	9	16	1	0	23	19	6	2	7	2	4	1
Background Traffic Volumes	189	322	28	0	467	396	131	46	148	47	80	22
Project Traffic												
Inbound Traffic Assignment		20.0%					30.0%					
Inbound Traffic Volumes		16					24					
Outbound Traffic Assignment				20.0%	30.0%							
Outbound Traffic Volumes				10	14							
Project Traffic	0	16	0	0	10	14	24	0	0	0	0	0
Total Traffic w/o RTOR	189	338	28	0	477	410	155	46	148	47	80	22
RTOR Reduction			(60)			(60)			(60)			(60)
TOTAL TRAFFIC	189	338	0	0	477	350	155	46	88	47	80	0



1" = 20'

- A = SINGLE MAST ARM 20'
- B = SINGLE MAST ARM 20'
- C = SINGLE MAST ARM 20'
- D = SINGLE MAST ARM 20'

LEGEND

CONTROLLER CABINET

Royal Poinciana - North County & Sunrise

Controller Timing Plan (MM)2-1

Plan 1

[illegible]

W ↑

SUNSET/
COUNTY

φ2
↓ ↓

φ4

φ8

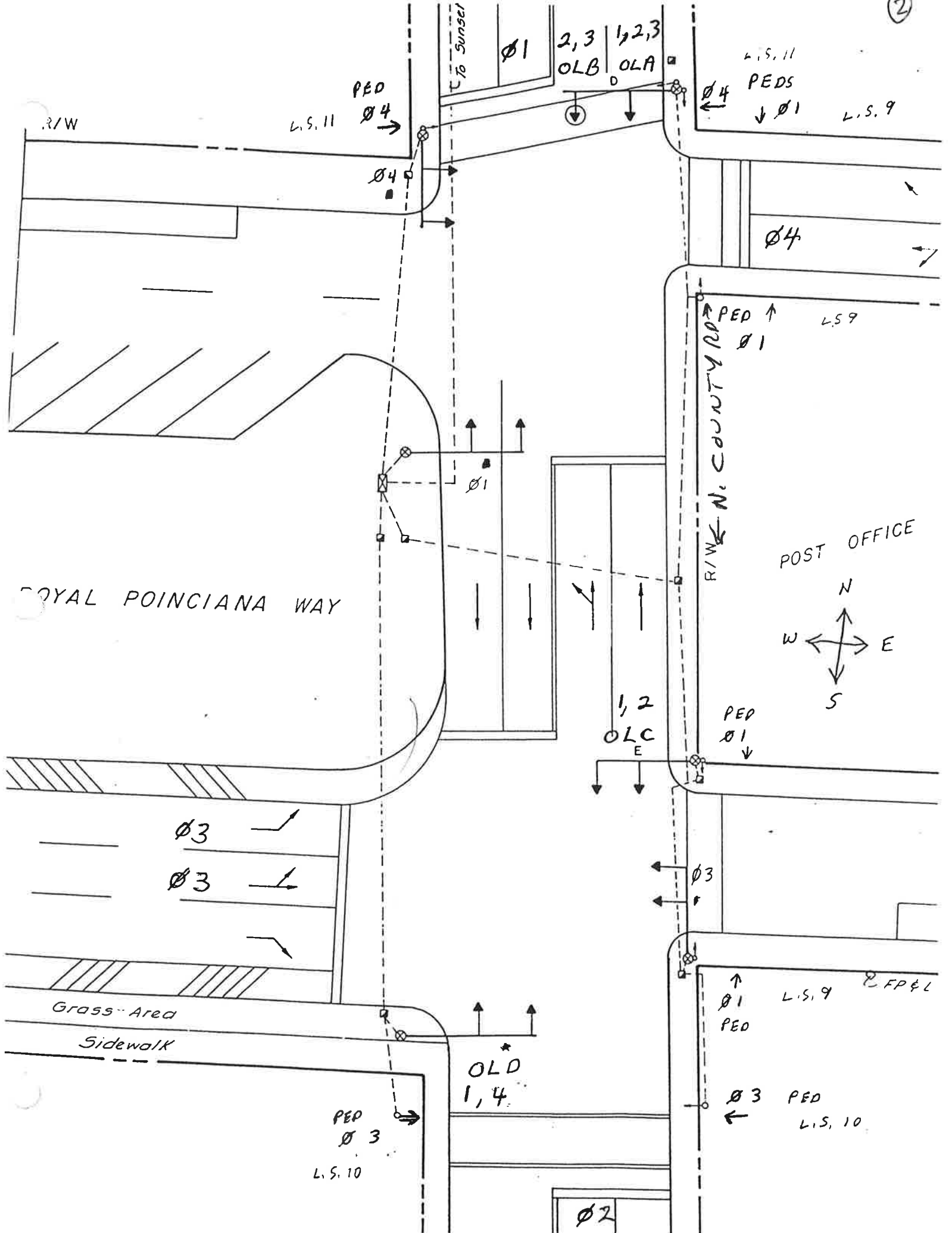
φ6
↑ ↓

Royal Poinciana - County & Sunset

Controller Timing Plan (MM)2-1

Plan 1

[illegible]



R/W

PED Ø4
L.S. 11

To Sunset

Ø1

2, 3
OLB

1, 2, 3
OLA

L.S. 11
PEDS
↓ Ø1

L.S. 9

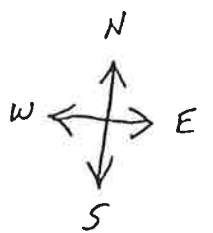
Ø4

PED Ø1
↑

L.S. 9

R/W N. COUNTY RD

POST OFFICE



PED Ø1
↓

1, 2
OLC
E

Ø3

Ø3

Ø3

Grass Area

Sidewalk

PED Ø3

L.S. 10

OLD
1, 4

Ø1
PED

L.S. 9

FP & L

Ø3
←

PED

L.S. 10

Ø2

S.O. 1819-72-002
D-73553

PHASE	1	2	3	4	5	6	7	8	A	B	C	D
SIG#	1	TIMING	3	4	N/U	N/U	N/U	N/U	A	B	C	D
OVLP									1,2,3	2,3	1,2	1,4
GRN	1G-B		3G-B	4G-B					9G-B	10G-B	11G-B	12G-B
YEL	1Y-B		3Y-B	4Y-B					9Y-B	10Y-B	11Y-B	12Y-B
RED	1R-B		3R-B	4R-B					9R-B	10R-B	11R-B	12R-B
GRN ARROW												
YEL ARROW												
RED ARROW												
WALK	13G-B		15G-B	16G-B								
D-WALK	13R-B		15R-B	16R-B								
PED DET	PIP- 17A		PIP- 19A	PIP- 20A								

SR. A-1-A (N.CO. ROAD) AND ROYAL POINCIANA WAY
PALM BEACH, FLORIDA

Royal Poinciana - County & Poinciana

Controller Timing Plan (MM)2-1 Plan 1

[illegible]

Timings

1: County Road & Sunrise Avenue

EX AM
12/20/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	47	18	46	19	35	634	83	9	198
Future Volume (vph)	47	18	46	19	35	634	83	9	198
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		10.6	17.9	18.6		41.0	41.0	41.0	41.0
Actuated g/C Ratio		0.16	0.27	0.28		0.62	0.62	0.62	0.62
v/c Ratio		0.38	0.13	0.05		0.63	0.09	0.03	0.21
Control Delay		26.1	16.7	12.6		17.2	2.1	11.0	10.1
Queue Delay		0.0	0.0	0.0		0.6	0.0	0.0	0.0
Total Delay		26.1	16.7	12.6		17.8	2.1	11.0	10.1
LOS		C	B	B		B	A	B	B
Approach Delay		26.1		15.3		16.1			10.1
Approach LOS		C		B		B			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 66.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 15.6

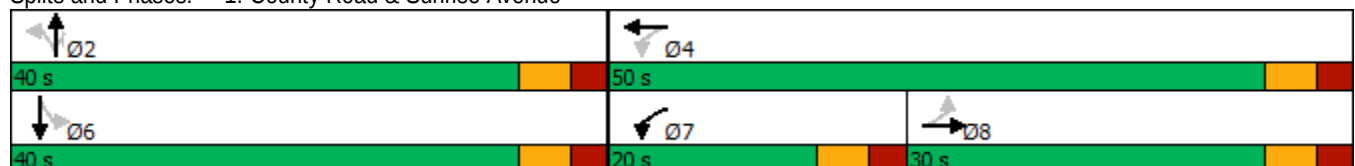
Intersection LOS: B

Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue





Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	99	48	27	704	87	9	237
v/c Ratio	0.38	0.13	0.05	0.63	0.09	0.03	0.21
Control Delay	26.1	16.7	12.6	17.2	2.1	11.0	10.1
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Total Delay	26.1	16.7	12.6	17.8	2.1	11.0	10.1
Queue Length 50th (ft)	29	14	6	233	0	2	53
Queue Length 95th (ft)	73	34	21	#478	16	10	108
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	556	485	1201	1120	1018	297	1132
Starvation Cap Reductn	0	0	0	149	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.10	0.02	0.73	0.09	0.03	0.21

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

EX AM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	18	29	46	19	7	35	634	83	9	198	28
Future Volume (vph)	47	18	29	46	19	7	35	634	83	9	198	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.96			1.00	0.85	1.00	0.98	
Flt Protected		0.98		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741		1770	1790			1858	1583	1770	1829	
Flt Permitted		0.83		0.62	1.00			0.97	1.00	0.26	1.00	
Satd. Flow (perm)		1480		1149	1790			1816	1583	482	1829	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	19	31	48	20	7	37	667	87	9	208	29
RTOR Reduction (vph)	0	22	0	0	5	0	0	0	38	0	4	0
Lane Group Flow (vph)	0	77	0	48	22	0	0	704	49	9	233	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		8.2		18.8	18.8			39.5	39.5	39.5	39.5	
Effective Green, g (s)		8.2		18.8	18.8			39.5	39.5	39.5	39.5	
Actuated g/C Ratio		0.12		0.27	0.27			0.56	0.56	0.56	0.56	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		172		347	478			1020	889	270	1027	
v/s Ratio Prot				c0.01	0.01						0.13	
v/s Ratio Perm		c0.05		0.03				c0.39	0.03	0.02		
v/c Ratio		0.45		0.14	0.05			0.69	0.05	0.03	0.23	
Uniform Delay, d1		28.9		19.8	19.1			11.0	7.0	6.9	7.7	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.8		0.2	0.0			3.8	0.1	0.2	0.5	
Delay (s)		30.8		19.9	19.1			14.8	7.1	7.1	8.2	
Level of Service		C		B	B			B	A	A	A	
Approach Delay (s)		30.8			19.7			14.0			8.2	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			14.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			70.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			79.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Timings 2: County Road & Sunset Avenue

EX AM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	28	5	42	8	5	52	721	2	258
Future Volume (vph)	28	5	42	8	5	52	721	2	258
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.1	15.1		15.1		65.9		65.9
Actuated g/C Ratio		0.19	0.19		0.19		0.83		0.83
v/c Ratio		0.13	0.13		0.06		0.32		0.10
Control Delay		29.2	10.1		24.2		3.7		2.9
Queue Delay		0.0	0.0		0.0		0.3		0.0
Total Delay		29.2	10.1		24.2		4.0		2.9
LOS		C	B		C		A		A
Approach Delay		18.4			24.2		4.0		2.9
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 79.8									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.32									
Intersection Signal Delay: 5.0					Intersection LOS: A				
Intersection Capacity Utilization 54.3%					ICU Level of Service A				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue

				
Ø2			Ø4	
60 s			25 s	
				
Ø6			Ø8	
60 s			25 s	

Queues
2: County Road & Sunset Avenue

EX AM
12/20/2022

					
Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	34	44	17	840	289
v/c Ratio	0.13	0.13	0.06	0.32	0.10
Control Delay	29.2	10.1	24.2	3.7	2.9
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	29.2	10.1	24.2	4.0	2.9
Queue Length 50th (ft)	17	0	6	74	20
Queue Length 95th (ft)	39	26	22	101	31
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	358	441	408	2654	2762
Starvation Cap Reductn	0	0	0	1115	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.04	0.55	0.10
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

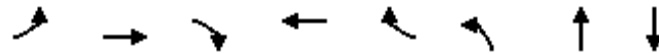
2: County Road & Sunset Avenue

EX AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	5	42	8	5	4	52	721	25	2	258	14
Future Volume (vph)	28	5	42	8	5	4	52	721	25	2	258	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.97			1.00			0.99	
Flt Protected		0.96	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		1787	1583		1762			3511			3510	
Flt Permitted		0.75	1.00		0.87			0.91			0.95	
Satd. Flow (perm)		1389	1583		1571			3212			3345	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	5	44	8	5	4	55	759	26	2	272	15
RTOR Reduction (vph)	0	0	39	0	4	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	34	5	0	13	0	0	838	0	0	286	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		8.7	8.7		8.7			64.0			64.0	
Effective Green, g (s)		8.7	8.7		8.7			64.0			64.0	
Actuated g/C Ratio		0.11	0.11		0.11			0.78			0.78	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		147	168		167			2516			2620	
v/s Ratio Prot												
v/s Ratio Perm		c0.02	0.00		0.01			c0.26			0.09	
v/c Ratio		0.23	0.03		0.08			0.33			0.11	
Uniform Delay, d1		33.4	32.7		32.9			2.6			2.1	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.8	0.1		0.2			0.4			0.1	
Delay (s)		34.2	32.8		33.1			3.0			2.2	
Level of Service		C	C		C			A			A	
Approach Delay (s)		33.4			33.1			3.0			2.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.1									
HCM 2000 Level of Service											A	
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			81.7								9.0	
Intersection Capacity Utilization			54.3%								A	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

EX AM
12/20/2022



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	289	49	189	36	8	101	517	186
Future Volume (vph)	289	49	189	36	8	101	517	186
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	17.0	17.0	17.0	10.3	10.3		45.2	24.6
Actuated g/C Ratio	0.22	0.22	0.22	0.13	0.13		0.58	0.32
v/c Ratio	0.48	0.48	0.40	0.18	0.03		0.41	0.27
Control Delay	34.4	34.4	7.5	37.5	0.1		11.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	34.4	34.4	7.5	37.5	0.1		11.0	13.8
LOS	C	C	A	D	A		B	B
Approach Delay		24.7		31.6			11.0	13.8
Approach LOS		C		C			B	B

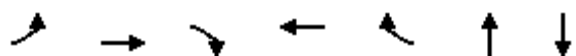
Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 78
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 16.9
 Intersection Capacity Utilization 61.6%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Royal Poinciana Way N & County Road





Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	176	180	199	43	8	707	311
v/c Ratio	0.48	0.48	0.40	0.18	0.03	0.41	0.27
Control Delay	34.4	34.4	7.5	37.5	0.1	11.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	34.4	7.5	37.5	0.1	11.0	13.8
Queue Length 50th (ft)	84	86	0	19	0	103	38
Queue Length 95th (ft)	170	173	56	58	0	167	75
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	466	473	582	391	408	1694	1650
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.34	0.11	0.02	0.42	0.19
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

EX AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	289	49	189	5	36	8	101	517	54	0	186	109
Future Volume (vph)	289	49	189	5	36	8	101	517	54	0	186	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.94	
Flt Protected	0.95	0.97	1.00		0.99	1.00		0.99			1.00	
Satd. Flow (prot)	1681	1709	1583		1852	1583		3470			3343	
Flt Permitted	0.95	0.97	1.00		0.99	1.00		0.84			1.00	
Satd. Flow (perm)	1681	1709	1583		1852	1583		2934			3343	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	304	52	199	5	38	8	106	544	57	0	196	115
RTOR Reduction (vph)	0	0	156	0	0	7	0	6	0	0	79	0
Lane Group Flow (vph)	176	180	43	0	43	1	0	701	0	0	232	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	17.0	17.0	17.0		5.4	5.4		45.1			24.6	
Effective Green, g (s)	17.0	17.0	17.0		5.4	5.4		45.1			24.6	
Actuated g/C Ratio	0.21	0.21	0.21		0.07	0.07		0.57			0.31	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	359	365	338		125	107		1664			1034	
v/s Ratio Prot	0.10	c0.11	0.03		c0.02	0.00					0.07	
v/s Ratio Perm								c0.24				
v/c Ratio	0.49	0.49	0.13		0.34	0.01		0.42			0.22	
Uniform Delay, d1	27.4	27.5	25.2		35.4	34.5		9.8			20.4	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	1.1	0.2		1.7	0.0		0.2			0.1	
Delay (s)	28.5	28.5	25.4		37.0	34.6		10.0			20.5	
Level of Service	C	C	C		D	C		A			C	
Approach Delay (s)		27.4			36.6			10.0			20.5	
Approach LOS		C			D			A			C	
Intersection Summary												
HCM 2000 Control Delay			18.8				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			79.5				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			61.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Timings 1: County Road & Sunrise Avenue

EX PM
12/20/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	36	22	70	54	49	260	77	12	590
Future Volume (vph)	36	22	70	54	49	260	77	12	590
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		10.7	22.6	22.6		37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.15	0.32	0.32		0.52	0.52	0.52	0.52
v/c Ratio		0.49	0.19	0.12		0.49	0.09	0.03	0.72
Control Delay		21.3	16.5	13.7		16.3	1.9	11.3	21.0
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay		21.3	16.5	13.7		16.3	1.9	11.3	21.0
LOS		C	B	B		B	A	B	C
Approach Delay		21.3		15.2		13.4			20.8
Approach LOS		C		B		B			C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.7

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.1

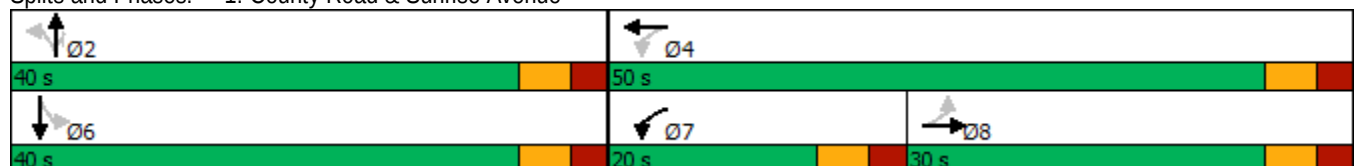
Intersection LOS: B

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue



1: County Road & Sunrise Avenue

12/20/2022



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	140	74	68	326	81	13	684
v/c Ratio	0.49	0.19	0.12	0.49	0.09	0.03	0.72
Control Delay	21.3	16.5	13.7	16.3	1.9	11.3	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	16.5	13.7	16.3	1.9	11.3	21.0
Queue Length 50th (ft)	27	21	16	91	0	3	225
Queue Length 95th (ft)	80	47	40	192	15	13	#477
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	557	466	1121	669	871	514	953
Starvation Cap Reductn	0	0	0	8	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.16	0.06	0.49	0.09	0.03	0.72

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

EX PM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	22	75	70	54	10	49	260	77	12	590	60
Future Volume (vph)	36	22	75	70	54	10	49	260	77	12	590	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.92		1.00	0.98			1.00	0.85	1.00	0.99	
Flt Protected		0.99		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)		1698		1770	1818			1848	1583	1770	1837	
Flt Permitted		0.88		0.49	1.00			0.70	1.00	0.53	1.00	
Satd. Flow (perm)		1523		920	1818			1295	1583	995	1837	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	23	79	74	57	11	52	274	81	13	621	63
RTOR Reduction (vph)	0	61	0	0	7	0	0	0	40	0	3	0
Lane Group Flow (vph)	0	79	0	74	61	0	0	326	41	13	681	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		10.7		23.8	23.8			37.1	37.1	37.1	37.1	
Effective Green, g (s)		10.7		23.8	23.8			37.1	37.1	37.1	37.1	
Actuated g/C Ratio		0.15		0.33	0.33			0.51	0.51	0.51	0.51	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		223		383	593			659	805	506	934	
v/s Ratio Prot				c0.02	0.03						c0.37	
v/s Ratio Perm		c0.05		0.04				0.25	0.03	0.01		
v/c Ratio		0.36		0.19	0.10			0.49	0.05	0.03	0.73	
Uniform Delay, d1		28.0		17.9	17.1			11.7	9.0	8.9	14.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		0.2	0.1			2.6	0.1	0.1	5.0	
Delay (s)		29.0		18.1	17.2			14.4	9.1	9.0	18.9	
Level of Service		C		B	B			B	A	A	B	
Approach Delay (s)		29.0			17.7			13.3			18.8	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.1		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			72.9		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			79.9%		ICU Level of Service					D		
Analysis Period (min)			15									
c Critical Lane Group												

Timings 2: County Road & Sunset Avenue

EX PM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	22	4	101	5	12	78	359	2	716
Future Volume (vph)	22	4	101	5	12	78	359	2	716
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.1	15.1		15.1		62.4		62.4
Actuated g/C Ratio		0.19	0.19		0.19		0.77		0.77
v/c Ratio		0.10	0.28		0.07		0.23		0.30
Control Delay		28.3	8.3		22.8		4.2		4.3
Queue Delay		0.0	0.0		0.0		0.0		0.2
Total Delay		28.3	8.3		22.8		4.2		4.6
LOS		C	A		C		A		A
Approach Delay		12.4			22.8		4.2		4.6
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 81.3									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.30									
Intersection Signal Delay: 5.5					Intersection LOS: A				
Intersection Capacity Utilization 56.8%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue



Queues
2: County Road & Sunset Avenue

EX PM
12/20/2022

					
Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	27	106	24	468	779
v/c Ratio	0.10	0.28	0.07	0.23	0.30
Control Delay	28.3	8.3	22.8	4.2	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	28.3	8.3	22.8	4.2	4.6
Queue Length 50th (ft)	11	0	7	37	65
Queue Length 95th (ft)	33	40	27	55	90
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	372	480	439	1999	2581
Starvation Cap Reductn	0	0	0	0	940
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.22	0.05	0.23	0.47
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

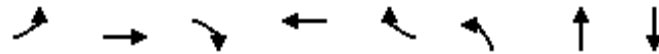
2: County Road & Sunset Avenue

EX PM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	4	101	5	12	6	78	359	8	2	716	22
Future Volume (vph)	22	4	101	5	12	6	78	359	8	2	716	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.97			1.00			1.00	
Flt Protected		0.96	1.00		0.99			0.99			1.00	
Satd. Flow (prot)		1787	1583		1781			3499			3523	
Flt Permitted		0.79	1.00		0.95			0.74			0.95	
Satd. Flow (perm)		1468	1583		1717			2607			3363	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	4	106	5	13	6	82	378	8	2	754	23
RTOR Reduction (vph)	0	0	91	0	5	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	27	15	0	19	0	0	467	0	0	777	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		11.8	11.8		11.8			61.4			61.4	
Effective Green, g (s)		11.8	11.8		11.8			61.4			61.4	
Actuated g/C Ratio		0.14	0.14		0.14			0.75			0.75	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		210	227		246			1947			2512	
v/s Ratio Prot												
v/s Ratio Perm		c0.02	0.01		0.01			0.18			c0.23	
v/c Ratio		0.13	0.07		0.08			0.24			0.31	
Uniform Delay, d1		30.7	30.4		30.5			3.2			3.4	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.3	0.1		0.1			0.3			0.3	
Delay (s)		31.0	30.6		30.6			3.5			3.7	
Level of Service		C	C		C			A			A	
Approach Delay (s)		30.7			30.6			3.5			3.7	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.7									
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			82.2									
Intersection Capacity Utilization			56.8%									
Analysis Period (min)			15									
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

EX PM
12/20/2022



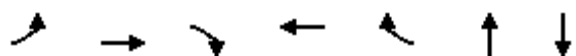
Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	125	44	141	76	21	180	306	444
Future Volume (vph)	125	44	141	76	21	180	306	444
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	15.2	15.2	15.2	12.2	12.2		49.7	29.5
Actuated g/C Ratio	0.17	0.17	0.17	0.14	0.14		0.56	0.33
v/c Ratio	0.31	0.31	0.38	0.51	0.07		0.52	0.70
Control Delay	38.6	38.5	9.6	44.7	0.5		14.4	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	1.0
Total Delay	38.6	38.5	9.6	44.7	0.5		14.4	23.0
LOS	D	D	A	D	A		B	C
Approach Delay		25.4		38.2			14.4	23.0
Approach LOS		C		D			B	C

Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 89.2
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 64.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Royal Poinciana Way N & County Road





Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	88	90	148	127	22	539	864
v/c Ratio	0.31	0.31	0.38	0.51	0.07	0.52	0.70
Control Delay	38.6	38.5	9.6	44.7	0.5	14.4	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Total Delay	38.6	38.5	9.6	44.7	0.5	14.4	23.0
Queue Length 50th (ft)	47	48	0	69	0	89	161
Queue Length 95th (ft)	103	105	54	131	0	149	243
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	399	410	488	331	363	1029	1473
Starvation Cap Reductn	0	0	0	0	0	0	335
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.22	0.30	0.38	0.06	0.52	0.76
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

EX PM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	44	141	45	76	21	180	306	27	0	444	377
Future Volume (vph)	125	44	141	45	76	21	180	306	27	0	444	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.93	
Flt Protected	0.95	0.98	1.00		0.98	1.00		0.98			1.00	
Satd. Flow (prot)	1681	1727	1583		1829	1583		3451			3295	
Flt Permitted	0.95	0.98	1.00		0.98	1.00		0.52			1.00	
Satd. Flow (perm)	1681	1727	1583		1829	1583		1842			3295	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	132	46	148	47	80	22	189	322	28	0	467	397
RTOR Reduction (vph)	0	0	123	0	0	19	0	4	0	0	149	0
Lane Group Flow (vph)	88	90	25	0	127	3	0	535	0	0	715	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	15.2	15.2	15.2		12.2	12.2		49.6			29.5	
Effective Green, g (s)	15.2	15.2	15.2		12.2	12.2		49.6			29.5	
Actuated g/C Ratio	0.17	0.17	0.17		0.14	0.14		0.56			0.33	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	287	294	270		250	216		1026			1092	
v/s Ratio Prot	c0.05	0.05	0.02		c0.07	0.00					c0.22	
v/s Ratio Perm								c0.29				
v/c Ratio	0.31	0.31	0.09		0.51	0.01		0.52			0.65	
Uniform Delay, d1	32.3	32.3	31.1		35.6	33.2		12.3			25.4	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.6	0.6	0.2		1.6	0.0		0.5			1.4	
Delay (s)	32.9	32.9	31.2		37.2	33.2		12.8			26.8	
Level of Service	C	C	C		D	C		B			C	
Approach Delay (s)		32.1			36.6			12.8			26.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			89.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			64.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

1: County Road & Sunrise Avenue

BY AM
12/20/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	49	19	48	20	37	666	87	9	208
Future Volume (vph)	49	19	48	20	37	666	87	9	208
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		10.8	18.1	18.8		40.7	40.7	40.7	40.7
Actuated g/C Ratio		0.16	0.27	0.28		0.61	0.61	0.61	0.61
v/c Ratio		0.40	0.13	0.05		0.67	0.09	0.03	0.22
Control Delay		26.9	16.6	12.5		18.7	2.3	11.3	10.4
Queue Delay		0.0	0.0	0.0		0.8	0.0	0.0	0.0
Total Delay		26.9	16.6	12.5		19.5	2.3	11.3	10.4
LOS		C	B	B		B	A	B	B
Approach Delay		26.9		15.2		17.6			10.4
Approach LOS		C		B		B			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 66.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 16.7

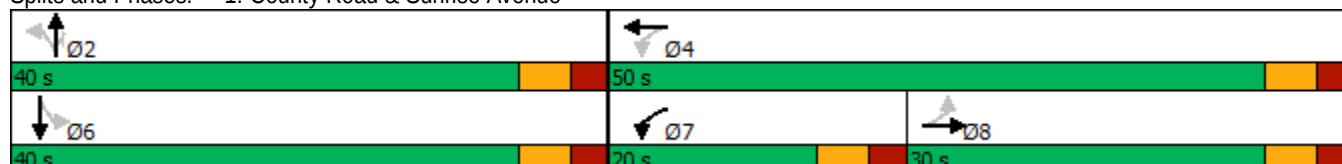
Intersection LOS: B

Intersection Capacity Utilization 81.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue





Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	104	51	28	740	92	9	250
v/c Ratio	0.40	0.13	0.05	0.67	0.09	0.03	0.22
Control Delay	26.9	16.6	12.5	18.7	2.3	11.3	10.4
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	26.9	16.6	12.5	19.5	2.3	11.3	10.4
Queue Length 50th (ft)	31	15	6	256	0	2	57
Queue Length 95th (ft)	77	36	21	#526	18	10	116
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	555	489	1204	1111	1013	263	1124
Starvation Cap Reductn	0	0	0	143	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.10	0.02	0.76	0.09	0.03	0.22

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

BY AM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	19	30	48	20	7	37	666	87	9	208	29
Future Volume (vph)	49	19	30	48	20	7	37	666	87	9	208	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.96			1.00	0.85	1.00	0.98	
Flt Protected		0.98		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1742		1770	1793			1858	1583	1770	1828	
Flt Permitted		0.83		0.61	1.00			0.97	1.00	0.23	1.00	
Satd. Flow (perm)		1477		1142	1793			1813	1583	430	1828	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	20	32	51	21	7	39	701	92	9	219	31
RTOR Reduction (vph)	0	21	0	0	5	0	0	0	41	0	4	0
Lane Group Flow (vph)	0	83	0	51	23	0	0	740	51	9	246	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		8.4		19.1	19.1			39.3	39.3	39.3	39.3	
Effective Green, g (s)		8.4		19.1	19.1			39.3	39.3	39.3	39.3	
Actuated g/C Ratio		0.12		0.27	0.27			0.56	0.56	0.56	0.56	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		176		351	486			1012	883	240	1020	
v/s Ratio Prot				c0.01	0.01						0.13	
v/s Ratio Perm		c0.06		0.03				c0.41	0.03	0.02		
v/c Ratio		0.47		0.15	0.05			0.73	0.06	0.04	0.24	
Uniform Delay, d1		28.9		19.6	18.9			11.6	7.1	7.0	7.9	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.0		0.2	0.0			4.7	0.1	0.3	0.6	
Delay (s)		30.9		19.8	19.0			16.3	7.2	7.3	8.5	
Level of Service		C		B	B			B	A	A	A	
Approach Delay (s)		30.9			19.5			15.3			8.5	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			15.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			81.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

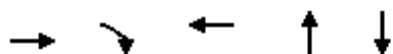
Timings 2: County Road & Sunset Avenue

BY AM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	29	5	44	8	5	55	758	2	271
Future Volume (vph)	29	5	44	8	5	55	758	2	271
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.1	15.1		15.1		64.6		64.6
Actuated g/C Ratio		0.18	0.18		0.18		0.77		0.77
v/c Ratio		0.14	0.14		0.06		0.36		0.12
Control Delay		29.9	10.1		23.7		4.6		3.4
Queue Delay		0.0	0.0		0.0		0.5		0.0
Total Delay		29.9	10.1		23.7		5.1		3.4
LOS		C	B		C		A		A
Approach Delay		18.8			23.7		5.1		3.4
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 83.4									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.36									
Intersection Signal Delay: 5.8					Intersection LOS: A				
Intersection Capacity Utilization 55.5%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	36	46	17	883	303
v/c Ratio	0.14	0.14	0.06	0.36	0.12
Control Delay	29.9	10.1	23.7	4.6	3.4
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	29.9	10.1	23.7	5.1	3.4
Queue Length 50th (ft)	17	0	6	79	21
Queue Length 95th (ft)	40	27	22	107	32
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	356	426	400	2477	2590
Starvation Cap Reductn	0	0	0	1076	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11	0.04	0.63	0.12
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

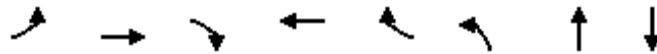
2: County Road & Sunset Avenue

BY AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	5	44	8	5	4	55	758	26	2	271	15
Future Volume (vph)	29	5	44	8	5	4	55	758	26	2	271	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.97			1.00			0.99	
Flt Protected		0.96	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		1786	1583		1762			3511			3510	
Flt Permitted		0.77	1.00		0.89			0.91			0.95	
Satd. Flow (perm)		1439	1583		1609			3200			3344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	5	46	8	5	4	58	798	27	2	285	16
RTOR Reduction (vph)	0	0	40	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	36	6	0	14	0	0	881	0	0	300	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		11.8	11.8		11.8			63.6			63.6	
Effective Green, g (s)		11.8	11.8		11.8			63.6			63.6	
Actuated g/C Ratio		0.14	0.14		0.14			0.75			0.75	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		201	221		224			2411			2519	
v/s Ratio Prot												
v/s Ratio Perm		c0.03	0.00		0.01			c0.28			0.09	
v/c Ratio		0.18	0.03		0.06			0.37			0.12	
Uniform Delay, d1		32.0	31.4		31.5			3.5			2.8	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.4	0.1		0.1			0.4			0.1	
Delay (s)		32.5	31.4		31.6			4.0			2.9	
Level of Service		C	C		C			A			A	
Approach Delay (s)		31.9			31.6			4.0			2.9	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.9									
HCM 2000 Level of Service											A	
HCM 2000 Volume to Capacity ratio			0.34									
Actuated Cycle Length (s)			84.4								9.0	
Intersection Capacity Utilization			55.5%								B	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

BY AM
12/20/2022



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	304	51	199	38	8	106	543	195
Future Volume (vph)	304	51	199	38	8	106	543	195
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	17.3	17.3	17.3	10.4	10.4		46.4	25.7
Actuated g/C Ratio	0.22	0.22	0.22	0.13	0.13		0.58	0.32
v/c Ratio	0.51	0.51	0.41	0.19	0.03		0.44	0.28
Control Delay	35.8	35.7	7.6	38.8	0.1		11.2	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	35.8	35.7	7.6	38.8	0.1		11.2	13.7
LOS	D	D	A	D	A		B	B
Approach Delay		25.7		33.0			11.2	13.7
Approach LOS		C		C			B	B

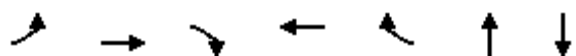
Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 79.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 17.3
 Intersection Capacity Utilization 63.0%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Royal Poinciana Way N & County Road





Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	186	188	209	45	8	744	326
v/c Ratio	0.51	0.51	0.41	0.19	0.03	0.44	0.28
Control Delay	35.8	35.7	7.6	38.8	0.1	11.2	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	35.7	7.6	38.8	0.1	11.2	13.7
Queue Length 50th (ft)	91	92	0	21	0	112	41
Queue Length 95th (ft)	185	186	58	61	0	178	78
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	459	467	584	385	404	1705	1630
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.40	0.36	0.12	0.02	0.44	0.20
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

BY AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	304	51	199	5	38	8	106	543	57	0	195	115
Future Volume (vph)	304	51	199	5	38	8	106	543	57	0	195	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.94	
Flt Protected	0.95	0.97	1.00		0.99	1.00		0.99			1.00	
Satd. Flow (prot)	1681	1709	1583		1852	1583		3470			3342	
Flt Permitted	0.95	0.97	1.00		0.99	1.00		0.83			1.00	
Satd. Flow (perm)	1681	1709	1583		1852	1583		2911			3342	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	320	54	209	5	40	8	112	572	60	0	205	121
RTOR Reduction (vph)	0	0	164	0	0	7	0	6	0	0	83	0
Lane Group Flow (vph)	186	188	45	0	45	1	0	738	0	0	243	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	17.3	17.3	17.3		5.4	5.4		46.3			25.7	
Effective Green, g (s)	17.3	17.3	17.3		5.4	5.4		46.3			25.7	
Actuated g/C Ratio	0.21	0.21	0.21		0.07	0.07		0.57			0.32	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	359	365	338		123	105		1663			1060	
v/s Ratio Prot	c0.11	0.11	0.03		c0.02	0.00					0.07	
v/s Ratio Perm								c0.25				
v/c Ratio	0.52	0.52	0.13		0.37	0.01		0.44			0.23	
Uniform Delay, d1	28.2	28.1	25.8		36.2	35.3		10.0			20.4	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.3	1.2	0.2		1.8	0.0		0.2			0.1	
Delay (s)	29.4	29.4	26.0		38.0	35.3		10.2			20.5	
Level of Service	C	C	C		D	D		B			C	
Approach Delay (s)		28.2			37.6			10.2			20.5	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.1				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			81.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			63.0%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

1: County Road & Sunrise Avenue

BY PM
12/20/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	38	23	74	57	51	273	81	13	620
Future Volume (vph)	38	23	74	57	51	273	81	13	620
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		10.9	23.0	23.0		37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.15	0.32	0.32		0.51	0.51	0.51	0.51
v/c Ratio		0.51	0.20	0.12		0.56	0.10	0.03	0.76
Control Delay		22.3	16.5	13.6		18.5	2.2	11.7	23.0
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay		22.3	16.5	13.6		18.5	2.2	11.7	23.0
LOS		C	B	B		B	A	B	C
Approach Delay		22.3		15.1		15.3			22.8
Approach LOS		C		B		B			C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 72.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 19.8

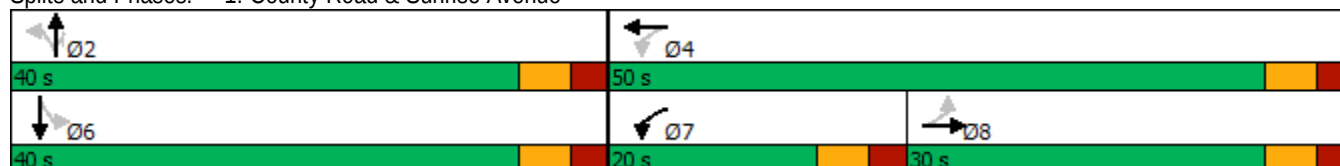
Intersection LOS: B

Intersection Capacity Utilization 82.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue





Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	147	78	72	341	85	14	719
v/c Ratio	0.51	0.20	0.12	0.56	0.10	0.03	0.76
Control Delay	22.3	16.5	13.6	18.5	2.2	11.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	16.5	13.6	18.5	2.2	11.7	23.0
Queue Length 50th (ft)	30	23	17	100	0	3	245
Queue Length 95th (ft)	85	49	42	220	16	14	#526
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	554	466	1115	611	867	497	948
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.17	0.06	0.56	0.10	0.03	0.76

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

BY PM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	23	79	74	57	11	51	273	81	13	620	63
Future Volume (vph)	38	23	79	74	57	11	51	273	81	13	620	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.92		1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected		0.99		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)		1698		1770	1816			1848	1583	1770	1837	
Flt Permitted		0.88		0.48	1.00			0.64	1.00	0.52	1.00	
Satd. Flow (perm)		1520		902	1816			1188	1583	967	1837	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	24	83	78	60	12	54	287	85	14	653	66
RTOR Reduction (vph)	0	60	0	0	8	0	0	0	42	0	3	0
Lane Group Flow (vph)	0	87	0	78	64	0	0	341	43	14	716	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		10.9		24.1	24.1			37.1	37.1	37.1	37.1	
Effective Green, g (s)		10.9		24.1	24.1			37.1	37.1	37.1	37.1	
Actuated g/C Ratio		0.15		0.33	0.33			0.51	0.51	0.51	0.51	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		226		382	597			602	802	490	931	
v/s Ratio Prot				c0.02	0.04						c0.39	
v/s Ratio Perm		c0.06		0.05				0.29	0.03	0.01		
v/c Ratio		0.38		0.20	0.11			0.57	0.05	0.03	0.77	
Uniform Delay, d1		28.1		17.9	17.1			12.5	9.2	9.0	14.6	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.1		0.3	0.1			3.8	0.1	0.1	6.1	
Delay (s)		29.2		18.1	17.1			16.3	9.3	9.1	20.7	
Level of Service		C		B	B			B	A	A	C	
Approach Delay (s)		29.2			17.7			14.9			20.5	
Approach LOS		C			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			73.2			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			82.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

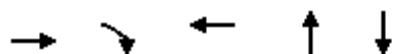
Timings 2: County Road & Sunset Avenue

BY PM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	4	106	5	13	82	377	2	753
Future Volume (vph)	23	4	106	5	13	82	377	2	753
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.1	15.1		15.1		61.9		61.9
Actuated g/C Ratio		0.19	0.19		0.19		0.77		0.77
v/c Ratio		0.10	0.29		0.08		0.25		0.32
Control Delay		28.3	8.2		23.0		4.3		4.5
Queue Delay		0.0	0.0		0.0		0.0		0.2
Total Delay		28.3	8.2		23.0		4.3		4.7
LOS		C	A		C		A		A
Approach Delay		12.2			23.0		4.3		4.7
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 80.8									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.32									
Intersection Signal Delay: 5.6					Intersection LOS: A				
Intersection Capacity Utilization 58.4%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue

					
Ø2			Ø4		
60 s			25 s		
					
Ø6			Ø8		
60 s			25 s		



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	28	112	25	491	819
v/c Ratio	0.10	0.29	0.08	0.25	0.32
Control Delay	28.3	8.2	23.0	4.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	28.3	8.2	23.0	4.3	4.7
Queue Length 50th (ft)	12	0	8	39	70
Queue Length 95th (ft)	34	41	28	58	95
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	371	486	443	1967	2577
Starvation Cap Reductn	0	0	0	0	922
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.23	0.06	0.25	0.49
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

2: County Road & Sunset Avenue

BY PM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	4	106	5	13	6	82	377	8	2	753	23
Future Volume (vph)	23	4	106	5	13	6	82	377	8	2	753	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.97			1.00			1.00	
Flt Protected		0.96	1.00		0.99			0.99			1.00	
Satd. Flow (prot)		1786	1583		1785			3500			3523	
Flt Permitted		0.78	1.00		0.96			0.73			0.95	
Satd. Flow (perm)		1461	1583		1722			2567			3363	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	4	112	5	14	6	86	397	8	2	793	24
RTOR Reduction (vph)	0	0	96	0	5	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	28	16	0	20	0	0	490	0	0	817	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		11.8	11.8		11.8			60.9			60.9	
Effective Green, g (s)		11.8	11.8		11.8			60.9			60.9	
Actuated g/C Ratio		0.14	0.14		0.14			0.75			0.75	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		211	228		248			1913			2506	
v/s Ratio Prot												
v/s Ratio Perm		c0.02	0.01		0.01			0.19			c0.24	
v/c Ratio		0.13	0.07		0.08			0.26			0.33	
Uniform Delay, d1		30.5	30.2		30.3			3.3			3.5	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.3	0.1		0.1			0.3			0.3	
Delay (s)		30.8	30.3		30.4			3.6			3.8	
Level of Service		C	C		C			A			A	
Approach Delay (s)		30.4			30.4			3.6			3.8	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.7									
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			81.7									
Intersection Capacity Utilization			58.4%									
Analysis Period (min)			15									
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

BY PM
12/20/2022

								
Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	131	46	148	80	22	189	322	467
Future Volume (vph)	131	46	148	80	22	189	322	467
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	15.3	15.3	15.3	12.4	12.4		51.3	31.2
Actuated g/C Ratio	0.17	0.17	0.17	0.14	0.14		0.56	0.34
v/c Ratio	0.33	0.33	0.39	0.54	0.08		0.91dl	0.71
Control Delay	39.6	39.4	9.6	46.4	0.5		15.0	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	2.2
Total Delay	39.6	39.4	9.6	46.4	0.5		15.0	25.0
LOS	D	D	A	D	A		B	C
Approach Delay		25.9		39.6			15.0	25.0
Approach LOS		C		D			B	C

Intersection Summary

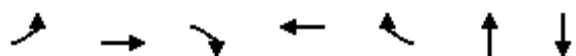
Cycle Length: 105
 Actuated Cycle Length: 91.1
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 23.4
 Intersection LOS: C
 Intersection Capacity Utilization 65.8%
 ICU Level of Service C
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Royal Poinciana Way N & County Road



3: Royal Poinciana Way N & County Road

12/20/2022



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	92	94	156	133	23	567	909
v/c Ratio	0.33	0.33	0.39	0.54	0.08	0.91dl	0.71
Control Delay	39.6	39.4	9.6	46.4	0.5	15.0	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	2.2
Total Delay	39.6	39.4	9.6	46.4	0.5	15.0	25.0
Queue Length 50th (ft)	52	53	0	76	0	98	177
Queue Length 95th (ft)	106	108	55	137	0	163	265
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	390	401	487	324	357	1013	1446
Starvation Cap Reductn	0	0	0	0	0	0	381
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.23	0.32	0.41	0.06	0.56	0.85

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

BY PM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	46	148	47	80	22	189	322	28	0	467	396
Future Volume (vph)	131	46	148	47	80	22	189	322	28	0	467	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.93	
Flt Protected	0.95	0.98	1.00		0.98	1.00		0.98			1.00	
Satd. Flow (prot)	1681	1727	1583		1829	1583		3451			3296	
Flt Permitted	0.95	0.98	1.00		0.98	1.00		0.52			1.00	
Satd. Flow (perm)	1681	1727	1583		1829	1583		1815			3296	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	138	48	156	49	84	23	199	339	29	0	492	417
RTOR Reduction (vph)	0	0	130	0	0	20	0	3	0	0	146	0
Lane Group Flow (vph)	92	94	26	0	133	3	0	564	0	0	763	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	15.3	15.3	15.3		12.4	12.4		51.3			31.2	
Effective Green, g (s)	15.3	15.3	15.3		12.4	12.4		51.3			31.2	
Actuated g/C Ratio	0.17	0.17	0.17		0.14	0.14		0.56			0.34	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	282	290	266		249	215		1023			1130	
v/s Ratio Prot	c0.05	0.05	0.02		c0.07	0.00					c0.23	
v/s Ratio Perm								c0.31				
v/c Ratio	0.33	0.32	0.10		0.53	0.01		0.91dl			0.68	
Uniform Delay, d1	33.3	33.3	32.0		36.6	34.0		12.6			25.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.7	0.7	0.2		2.2	0.0		0.6			1.6	
Delay (s)	34.0	34.0	32.2		38.8	34.0		13.2			27.2	
Level of Service	C	C	C		D	C		B			C	
Approach Delay (s)		33.2			38.1			13.2			27.2	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.1				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			91.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			65.8%				ICU Level of Service			C		
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Timings

1: County Road & Sunrise Avenue

FY AM

12/20/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	49	20	48	20	37	669	90	11	210
Future Volume (vph)	49	20	48	20	37	669	90	11	210
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		10.8	18.1	18.8		40.7	40.7	40.7	40.7
Actuated g/C Ratio		0.16	0.27	0.28		0.61	0.61	0.61	0.61
v/c Ratio		0.40	0.13	0.05		0.67	0.09	0.05	0.22
Control Delay		26.9	16.6	12.5		18.8	2.5	11.5	10.4
Queue Delay		0.0	0.0	0.0		0.8	0.0	0.0	0.0
Total Delay		26.9	16.6	12.5		19.6	2.5	11.5	10.4
LOS		C	B	B		B	A	B	B
Approach Delay		26.9		15.2		17.7			10.4
Approach LOS		C		B		B			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 66.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 16.8

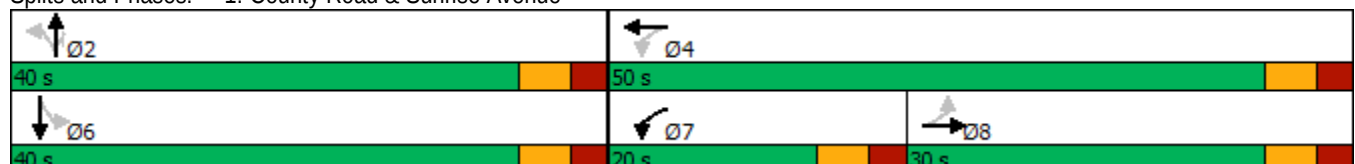
Intersection LOS: B

Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue



Queues

1: County Road & Sunrise Avenue

FY AM

12/20/2022



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	105	51	28	743	95	12	252
v/c Ratio	0.40	0.13	0.05	0.67	0.09	0.05	0.22
Control Delay	26.9	16.6	12.5	18.8	2.5	11.5	10.4
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	26.9	16.6	12.5	19.6	2.5	11.5	10.4
Queue Length 50th (ft)	32	15	6	258	0	3	57
Queue Length 95th (ft)	78	36	21	#530	19	13	117
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	557	489	1205	1110	1012	261	1125
Starvation Cap Reductn	0	0	0	142	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.10	0.02	0.77	0.09	0.05	0.22

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

FY AM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	20	30	48	20	7	37	669	90	11	210	29
Future Volume (vph)	49	20	30	48	20	7	37	669	90	11	210	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.96			1.00	0.85	1.00	0.98	
Flt Protected		0.98		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1743		1770	1793			1858	1583	1770	1828	
Flt Permitted		0.83		0.61	1.00			0.97	1.00	0.23	1.00	
Satd. Flow (perm)		1480		1137	1793			1813	1583	426	1828	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	21	32	51	21	7	39	704	95	12	221	31
RTOR Reduction (vph)	0	21	0	0	5	0	0	0	42	0	4	0
Lane Group Flow (vph)	0	84	0	51	23	0	0	743	53	12	248	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		8.4		19.1	19.1			39.3	39.3	39.3	39.3	
Effective Green, g (s)		8.4		19.1	19.1			39.3	39.3	39.3	39.3	
Actuated g/C Ratio		0.12		0.27	0.27			0.56	0.56	0.56	0.56	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		176		350	486			1012	883	237	1020	
v/s Ratio Prot				c0.01	0.01						0.14	
v/s Ratio Perm		c0.06		0.03				c0.41	0.03	0.03		
v/c Ratio		0.48		0.15	0.05			0.73	0.06	0.05	0.24	
Uniform Delay, d1		28.9		19.7	18.9			11.6	7.1	7.1	7.9	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.0		0.2	0.0			4.7	0.1	0.4	0.6	
Delay (s)		31.0		19.8	19.0			16.4	7.2	7.5	8.5	
Level of Service		C		B	B			B	A	A	A	
Approach Delay (s)		31.0			19.5			15.3			8.5	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			15.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			81.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

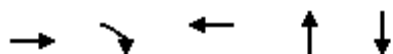
Timings 2: County Road & Sunset Avenue

FY AM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	29	6	44	13	5	55	760	4	271
Future Volume (vph)	29	6	44	13	5	55	760	4	271
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.1	15.1		15.1		64.1		64.1
Actuated g/C Ratio		0.18	0.18		0.18		0.77		0.77
v/c Ratio		0.14	0.14		0.09		0.36		0.12
Control Delay		29.7	10.1		22.5		4.6		3.5
Queue Delay		0.0	0.0		0.0		0.5		0.0
Total Delay		29.7	10.1		22.5		5.1		3.5
LOS		C	B		C		A		A
Approach Delay		18.8			22.5		5.1		3.5
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 82.9									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.36									
Intersection Signal Delay: 6.0					Intersection LOS: A				
Intersection Capacity Utilization 55.6%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	37	46	27	890	305
v/c Ratio	0.14	0.14	0.09	0.36	0.12
Control Delay	29.7	10.1	22.5	4.6	3.5
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	29.7	10.1	22.5	5.1	3.5
Queue Length 50th (ft)	17	0	9	80	21
Queue Length 95th (ft)	41	27	29	108	33
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	357	428	391	2475	2574
Starvation Cap Reductn	0	0	0	1052	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11	0.07	0.63	0.12
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

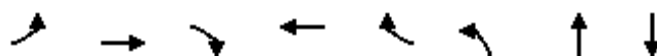
2: County Road & Sunset Avenue

FY AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	6	44	13	5	8	55	760	30	4	271	15
Future Volume (vph)	29	6	44	13	5	8	55	760	30	4	271	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.96			0.99			0.99	
Flt Protected		0.96	1.00		0.97			1.00			1.00	
Satd. Flow (prot)		1788	1583		1743			3509			3509	
Flt Permitted		0.77	1.00		0.87			0.91			0.95	
Satd. Flow (perm)		1437	1583		1551			3198			3328	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	6	46	14	5	8	58	800	32	4	285	16
RTOR Reduction (vph)	0	0	40	0	7	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	37	6	0	20	0	0	888	0	0	302	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		11.8	11.8		11.8			63.1			63.1	
Effective Green, g (s)		11.8	11.8		11.8			63.1			63.1	
Actuated g/C Ratio		0.14	0.14		0.14			0.75			0.75	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		202	222		218			2405			2502	
v/s Ratio Prot												
v/s Ratio Perm		c0.03	0.00		0.01			c0.28			0.09	
v/c Ratio		0.18	0.03		0.09			0.37			0.12	
Uniform Delay, d1		31.8	31.1		31.4			3.6			2.8	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.4	0.1		0.2			0.4			0.1	
Delay (s)		32.2	31.2		31.6			4.0			2.9	
Level of Service		C	C		C			A			A	
Approach Delay (s)		31.6			31.6			4.0			2.9	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		6.1										
HCM 2000 Level of Service											A	
HCM 2000 Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		83.9									9.0	
Intersection Capacity Utilization		55.6%									B	
ICU Level of Service												
Analysis Period (min)		15										
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

FY AM
12/20/2022



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	308	51	199	38	8	106	545	197
Future Volume (vph)	308	51	199	38	8	106	545	197
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	17.4	17.4	17.4	10.4	10.4		46.4	25.7
Actuated g/C Ratio	0.22	0.22	0.22	0.13	0.13		0.58	0.32
v/c Ratio	0.51	0.51	0.41	0.19	0.03		0.44	0.28
Control Delay	36.0	35.8	7.6	38.8	0.1		11.3	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	36.0	35.8	7.6	38.8	0.1		11.3	13.6
LOS	D	D	A	D	A		B	B
Approach Delay		25.8		33.0			11.3	13.6
Approach LOS		C		C			B	B

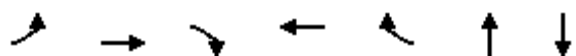
Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 79.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 17.4
 Intersection Capacity Utilization 63.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Royal Poinciana Way N & County Road





Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	188	190	209	45	8	746	331
v/c Ratio	0.51	0.51	0.41	0.19	0.03	0.44	0.28
Control Delay	36.0	35.8	7.6	38.8	0.1	11.3	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	35.8	7.6	38.8	0.1	11.3	13.6
Queue Length 50th (ft)	92	93	0	21	0	113	41
Queue Length 95th (ft)	187	187	58	61	0	179	78
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	459	466	584	385	404	1702	1631
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.41	0.36	0.12	0.02	0.44	0.20
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

FY AM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	51	199	5	38	8	106	545	57	0	197	118
Future Volume (vph)	308	51	199	5	38	8	106	545	57	0	197	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.94	
Flt Protected	0.95	0.97	1.00		0.99	1.00		0.99			1.00	
Satd. Flow (prot)	1681	1708	1583		1852	1583		3470			3340	
Flt Permitted	0.95	0.97	1.00		0.99	1.00		0.83			1.00	
Satd. Flow (perm)	1681	1708	1583		1852	1583		2908			3340	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	324	54	209	5	40	8	112	574	60	0	207	124
RTOR Reduction (vph)	0	0	164	0	0	7	0	6	0	0	85	0
Lane Group Flow (vph)	188	190	45	0	45	1	0	740	0	0	246	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	17.4	17.4	17.4		5.4	5.4		46.3			25.7	
Effective Green, g (s)	17.4	17.4	17.4		5.4	5.4		46.3			25.7	
Actuated g/C Ratio	0.21	0.21	0.21		0.07	0.07		0.57			0.32	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	360	366	339		123	105		1660			1058	
v/s Ratio Prot	c0.11	0.11	0.03		c0.02	0.00					0.07	
v/s Ratio Perm								c0.25				
v/c Ratio	0.52	0.52	0.13		0.37	0.01		0.45			0.23	
Uniform Delay, d1	28.2	28.2	25.7		36.2	35.3		10.0			20.4	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.4	1.2	0.2		1.8	0.0		0.2			0.1	
Delay (s)	29.5	29.4	25.9		38.1	35.4		10.2			20.5	
Level of Service	C	C	C		D	D		B			C	
Approach Delay (s)		28.2			37.7			10.2			20.5	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.2				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			81.1				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			63.2%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

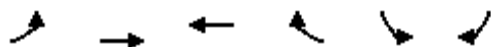
4: N Dwy. & Sunrise Avenue

FY AM
12/20/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱		
Traffic Volume (veh/h)	121	5	1	75	0	0
Future Volume (Veh/h)	121	5	1	75	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	127	5	1	79	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	226					
pX, platoon unblocked						
vC, conflicting volume			132		210	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			132		210	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1453		777	920
Direction, Lane #	EB 1	WB 1				
Volume Total	132	80				
Volume Left	0	1				
Volume Right	5	0				
cSH	1700	1453				
Volume to Capacity	0.08	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.1				
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		10.0%	ICU Level of Service		A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 5: Sunset Avenue & S Dwy.

FY AM
12/20/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩			↩
Traffic Volume (veh/h)	6	40	26	0	0	9
Future Volume (Veh/h)	6	40	26	0	0	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	42	27	0	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		137				
pX, platoon unblocked						
vC, conflicting volume	27				81	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27				81	27
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1587				918	1048
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	48	27	9			
Volume Left	6	0	0			
Volume Right	0	0	9			
cSH	1587	1700	1048			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.9	0.0	8.5			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Timings

1: County Road & Sunrise Avenue

FY PM
12/20/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	38	27	74	57	53	287	102	25	632
Future Volume (vph)	38	27	74	57	53	287	102	25	632
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	Perm	NA
Protected Phases		8	7	4		2			6
Permitted Phases	8		4		2		2	6	
Detector Phase	8	8	7	4	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	7.0	10.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	31.0	31.0	13.0	31.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	20.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	22.2%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
Act Effect Green (s)		11.0	23.1	23.1		37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.15	0.32	0.32		0.51	0.51	0.51	0.51
v/c Ratio		0.52	0.20	0.12		0.61	0.12	0.05	0.77
Control Delay		23.5	16.5	13.5		20.7	3.2	11.9	23.8
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay		23.5	16.5	13.5		20.7	3.2	11.9	23.8
LOS		C	B	B		C	A	B	C
Approach Delay		23.5		15.1		16.6			23.4
Approach LOS		C		B		B			C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 72.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 20.5

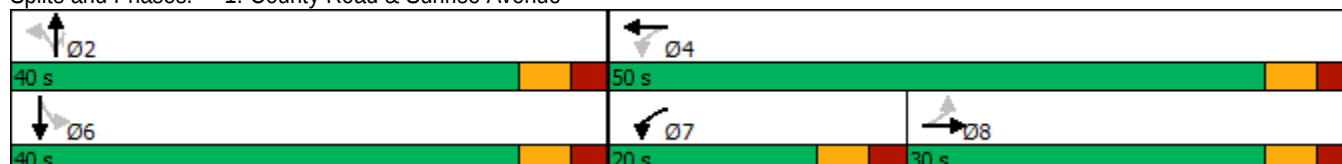
Intersection LOS: C

Intersection Capacity Utilization 85.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: County Road & Sunrise Avenue



Queues

1: County Road & Sunrise Avenue

FY PM

12/20/2022



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	151	78	72	358	107	26	731
v/c Ratio	0.52	0.20	0.12	0.61	0.12	0.05	0.77
Control Delay	23.5	16.5	13.5	20.7	3.2	11.9	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	16.5	13.5	20.7	3.2	11.9	23.8
Queue Length 50th (ft)	33	23	17	110	0	6	253
Queue Length 95th (ft)	89	49	42	#271	26	22	#543
Internal Link Dist (ft)	482		146	316			333
Turn Bay Length (ft)						160	
Base Capacity (vph)	553	464	1113	587	866	481	947
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.17	0.06	0.61	0.12	0.05	0.77

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

1: County Road & Sunrise Avenue

FY PM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	27	79	74	57	11	53	287	102	25	632	63
Future Volume (vph)	38	27	79	74	57	11	53	287	102	25	632	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.93		1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected		0.99		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)		1702		1770	1816			1848	1583	1770	1838	
Flt Permitted		0.89		0.48	1.00			0.61	1.00	0.50	1.00	
Satd. Flow (perm)		1528		887	1816			1142	1583	937	1838	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	28	83	78	60	12	56	302	107	26	665	66
RTOR Reduction (vph)	0	57	0	0	8	0	0	0	53	0	3	0
Lane Group Flow (vph)	0	94	0	78	64	0	0	358	54	26	728	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8		7	4			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)		11.0		24.2	24.2			37.1	37.1	37.1	37.1	
Effective Green, g (s)		11.0		24.2	24.2			37.1	37.1	37.1	37.1	
Actuated g/C Ratio		0.15		0.33	0.33			0.51	0.51	0.51	0.51	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		229		379	599			578	801	474	930	
v/s Ratio Prot				c0.02	0.04						c0.40	
v/s Ratio Perm		c0.06		0.05				0.31	0.03	0.03		
v/c Ratio		0.41		0.21	0.11			0.62	0.07	0.05	0.78	
Uniform Delay, d1		28.2		17.9	17.0			13.0	9.3	9.2	14.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.2		0.3	0.1			4.9	0.2	0.2	6.5	
Delay (s)		29.4		18.2	17.1			17.9	9.4	9.4	21.3	
Level of Service		C		B	B			B	A	A	C	
Approach Delay (s)		29.4			17.7			16.0			20.9	
Approach LOS		C			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			73.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			85.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

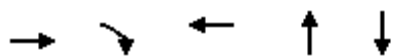
Timings 2: County Road & Sunset Avenue

FY PM
12/20/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	8	106	29	15	82	393	14	753
Future Volume (vph)	23	8	106	29	15	82	393	14	753
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8			4		6		2
Permitted Phases	8		8	4		6		2	
Detector Phase	8	8	8	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	25.5	25.5	25.5	25.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	60.0	60.0	60.0	60.0
Total Split (%)	29.4%	29.4%	29.4%	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5		4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Efect Green (s)		15.0	15.0		15.0		60.1		60.1
Actuated g/C Ratio		0.19	0.19		0.19		0.76		0.76
v/c Ratio		0.12	0.29		0.24		0.27		0.33
Control Delay		28.2	8.2		21.2		4.3		4.6
Queue Delay		0.0	0.0		0.0		0.2		0.2
Total Delay		28.2	8.2		21.2		4.6		4.8
LOS		C	A		C		A		A
Approach Delay		12.6			21.2		4.6		4.8
Approach LOS		B			C		A		A
Intersection Summary									
Cycle Length: 85									
Actuated Cycle Length: 79.1									
Natural Cycle: 60									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 0.33									
Intersection Signal Delay: 6.2					Intersection LOS: A				
Intersection Capacity Utilization 60.0%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 2: County Road & Sunset Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	32	112	76	534	832
v/c Ratio	0.12	0.29	0.24	0.27	0.33
Control Delay	28.2	8.2	21.2	4.3	4.6
Queue Delay	0.0	0.0	0.0	0.2	0.2
Total Delay	28.2	8.2	21.2	4.6	4.8
Queue Length 50th (ft)	13	0	20	42	72
Queue Length 95th (ft)	37	41	56	62	97
Internal Link Dist (ft)	526		57	231	316
Turn Bay Length (ft)					
Base Capacity (vph)	376	493	420	1962	2532
Starvation Cap Reductn	0	0	0	752	896
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.18	0.44	0.51
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

2: County Road & Sunset Avenue

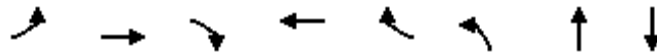
FY PM

12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	8	106	29	15	28	82	393	32	14	753	23
Future Volume (vph)	23	8	106	29	15	28	82	393	32	14	753	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00			0.95			0.95	
Frt		1.00	0.85		0.95			0.99			1.00	
Flt Protected		0.96	1.00		0.98			0.99			1.00	
Satd. Flow (prot)		1795	1583		1731			3477			3521	
Flt Permitted		0.78	1.00		0.87			0.73			0.94	
Satd. Flow (perm)		1451	1583		1539			2576			3326	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	8	112	31	16	29	86	414	34	15	793	24
RTOR Reduction (vph)	0	0	95	0	25	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	32	17	0	51	0	0	530	0	0	830	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		11.8	11.8		11.8			59.2			59.2	
Effective Green, g (s)		11.8	11.8		11.8			59.2			59.2	
Actuated g/C Ratio		0.15	0.15		0.15			0.74			0.74	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		214	233		227			1906			2461	
v/s Ratio Prot												
v/s Ratio Perm		0.02	0.01		c0.03			0.21			c0.25	
v/c Ratio		0.15	0.07		0.23			0.28			0.34	
Uniform Delay, d1		29.7	29.4		30.1			3.4			3.6	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.3	0.1		0.5			0.4			0.4	
Delay (s)		30.1	29.5		30.6			3.8			4.0	
Level of Service		C	C		C			A			A	
Approach Delay (s)		29.6			30.6			3.8			4.0	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.5									
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			80.0									
Intersection Capacity Utilization			60.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Timings 3: Royal Poinciana Way N & County Road

FY PM
12/20/2022



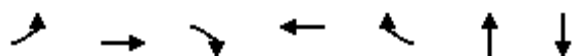
Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	155	46	148	80	22	189	338	477
Future Volume (vph)	155	46	148	80	22	189	338	477
Turn Type	Split	NA	Prot	NA	Prot	custom	NA	NA
Protected Phases	3	3	3	4	4		1 2	1
Permitted Phases						2		
Detector Phase	3	3	3	4	4	2	1 2	1
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	10.0	10.0	5.0		20.0
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	22.5		27.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0		40.0
Total Split (%)	23.8%	23.8%	23.8%	19.0%	19.0%	19.0%		38.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	Max		None
Act Effect Green (s)	15.5	15.5	15.5	12.4	12.4		51.9	31.8
Actuated g/C Ratio	0.17	0.17	0.17	0.13	0.13		0.56	0.35
v/c Ratio	0.37	0.37	0.39	0.54	0.08		0.94dl	0.73
Control Delay	40.3	40.2	9.5	46.9	0.5		15.6	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	3.1
Total Delay	40.3	40.2	9.5	46.9	0.5		15.6	26.3
LOS	D	D	A	D	A		B	C
Approach Delay		27.2		40.1			15.6	26.3
Approach LOS		C		D			B	C

Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 91.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 66.5%
 ICU Level of Service C
 Analysis Period (min) 15
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Royal Poinciana Way N & County Road





Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	104	107	156	133	23	584	934
v/c Ratio	0.37	0.37	0.39	0.54	0.08	0.94dl	0.73
Control Delay	40.3	40.2	9.5	46.9	0.5	15.6	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Total Delay	40.3	40.2	9.5	46.9	0.5	15.6	26.3
Queue Length 50th (ft)	60	62	0	77	0	103	185
Queue Length 95th (ft)	117	120	55	138	0	175	280
Internal Link Dist (ft)		446		441		319	231
Turn Bay Length (ft)							
Base Capacity (vph)	387	396	484	321	355	1024	1437
Starvation Cap Reductn	0	0	0	0	0	0	384
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	0.32	0.41	0.06	0.57	0.89

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

3: Royal Poinciana Way N & County Road

FY PM
12/20/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	46	148	47	80	22	189	338	28	0	477	410
Future Volume (vph)	155	46	148	47	80	22	189	338	28	0	477	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00		0.95			0.95	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			0.93	
Flt Protected	0.95	0.97	1.00		0.98	1.00		0.98			1.00	
Satd. Flow (prot)	1681	1722	1583		1829	1583		3454			3294	
Flt Permitted	0.95	0.97	1.00		0.98	1.00		0.51			1.00	
Satd. Flow (perm)	1681	1722	1583		1829	1583		1805			3294	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	163	48	156	49	84	23	199	356	29	0	502	432
RTOR Reduction (vph)	0	0	130	0	0	20	0	3	0	0	147	0
Lane Group Flow (vph)	104	107	26	0	133	3	0	581	0	0	787	0
Turn Type	Split	NA	Prot	Split	NA	Prot	custom	NA			NA	
Protected Phases	3	3	3	4	4	4		1 2			1	
Permitted Phases							2					
Actuated Green, G (s)	15.5	15.5	15.5		12.4	12.4		51.9			31.8	
Effective Green, g (s)	15.5	15.5	15.5		12.4	12.4		51.9			31.8	
Actuated g/C Ratio	0.17	0.17	0.17		0.14	0.14		0.57			0.35	
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0					4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)	283	290	267		247	213		1020			1141	
v/s Ratio Prot	0.06	c0.06	0.02		c0.07	0.00					c0.24	
v/s Ratio Perm								c0.32				
v/c Ratio	0.37	0.37	0.10		0.54	0.01		0.94dl			0.69	
Uniform Delay, d1	33.8	33.8	32.2		37.0	34.4		12.8			25.8	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.8	0.8	0.2		2.3	0.0		0.7			1.8	
Delay (s)	34.6	34.6	32.4		39.3	34.4		13.5			27.5	
Level of Service	C	C	C		D	C		B			C	
Approach Delay (s)		33.7			38.6			13.5			27.5	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			91.8				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			66.5%				ICU Level of Service			C		
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

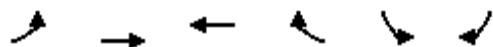
4: N Dwy. & Sunrise Avenue

FY PM
12/20/2022

										
Movement	EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations										
Traffic Volume (veh/h)	154	32	8	142	0	0				
Future Volume (Veh/h)	154	32	8	142	0	0				
Sign Control	Free			Free	Stop					
Grade	0%			0%	0%					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	162	34	8	149	0	0				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type	None		None							
Median storage veh										
Upstream signal (ft)	226									
pX, platoon unblocked										
vC, conflicting volume			196		344	179				
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			196		344	179				
tC, single (s)			4.1		6.4	6.2				
tC, 2 stage (s)										
tF (s)			2.2		3.5	3.3				
p0 queue free %			99		100	100				
cM capacity (veh/h)			1377		649	864				
Direction, Lane #	EB 1	WB 1								
Volume Total	196	157								
Volume Left	0	8								
Volume Right	34	0								
cSH	1700	1377								
Volume to Capacity	0.12	0.01								
Queue Length 95th (ft)	0	0								
Control Delay (s)	0.0	0.4								
Lane LOS		A								
Approach Delay (s)	0.0	0.4								
Approach LOS										
Intersection Summary										
Average Delay			0.2							
Intersection Capacity Utilization			17.3%	ICU Level of Service	A					
Analysis Period (min)			15							

HCM Unsignalized Intersection Capacity Analysis 5: Sunset Avenue & S Dwy.

FY PM
12/20/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰			↰
Traffic Volume (veh/h)	40	54	72	0	0	48
Future Volume (Veh/h)	40	54	72	0	0	48
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	42	57	76	0	0	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		137				
pX, platoon unblocked						
vC, conflicting volume	76				217	76
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	76				217	76
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	95
cM capacity (veh/h)	1523				750	985
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	99	76	51			
Volume Left	42	0	0			
Volume Right	0	0	51			
cSH	1523	1700	985			
Volume to Capacity	0.03	0.04	0.05			
Queue Length 95th (ft)	2	0	4			
Control Delay (s)	3.3	0.0	8.9			
Lane LOS	A		A			
Approach Delay (s)	3.3	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			15.1%		ICU Level of Service	A
Analysis Period (min)			15			

TABLE A-1

Valet Queuing Analysis
Club Valet Lane - Inbound

Assumptions:

Service Rate = 1 minute per vehicle
 Volume = (50%)*(42 PM Peak Hour Inbound Vehicles) = 21 veh/hr
 Probability of the queue occurring 95% of the time

Calculations

$$Q = \frac{60 \text{ min/hr}}{1 \text{ min/veh}} = 60 \text{ veh/hr}$$

$$\rho = \frac{17 \text{ veh/hr}}{60 \text{ veh/hr}} = 0.35$$

$$\text{Queue} = \left[\frac{\text{LN}(0.05) - \text{LN}(0.28)}{\text{LN}(0.28)} \right] = 1.854 \text{ veh}$$

Valet Queuing Analysis
Club Valet Lane - Outbound

Assumptions:

Service Rate = 1 minute per vehicle
 Volume = (50%)*(21 PM Peak Hour Outbound Vehicles) = 10.5 veh/hr
 Probability of the queue occurring 95% of the time

Calculations

$$Q = \frac{60 \text{ min/hr}}{1 \text{ min/veh}} = 60 \text{ veh/hr}$$

$$\rho = \frac{16 \text{ veh/hr}}{60 \text{ veh/hr}} = 0.18$$

$$\text{Queue} = \left[\frac{\text{LN}(0.05) - \text{LN}(0.27)}{\text{LN}(0.27)} \right] = 0.747 \text{ veh}$$

TABLE A-3
Valet Queuing Analysis
Event Valet Lane - Outbound

Assumptions:

Service Rate = 75 seconds per vehicle
 Volume = 100 Peak Hour Outbound Vehicles = (3 attendants) 33 veh/hr
 Probability of the queue occurring 95% of the time

Calculations

$$Q = \frac{60 \text{ min/hr}}{1.25 \text{ min/veh}} = 48 \text{ veh/hr}$$

$$\rho = \frac{33 \text{ veh/hr}}{48 \text{ veh/hr}} = 0.69$$

$$\text{Queue} = \left[\frac{\text{LN}(0.05) - \text{LN}(0.5)}{\text{LN}(0.5)} \right] = 7.073 \text{ veh}$$