TRAFFIC ANALYSIS
FOR
ANCLOTE BLVD SITE
RESIDENTIAL DEVELOPMENT REZONING
PINELLAS COUNTY, FL

PREPARED FOR:
LYVWELL COMMUNITIES, LLC

PREPARED BY:
GULF COAST CONSULTING, INC.
NOVEMBER 2021
PROJECT # 21-085

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Fla. Reg. # 42505

11/5/24

I. INTRODUCTION

The applicant is seeking rezoning approval to R-4 in order to develop sixty six (66) single-family homes on a 16.58 acre site. The site is located on the south side of Anclote Blvd west of Blue Marlin Blvd. and also has frontage on Anclote Road in unincorporated Pinellas County. (See Figure 1) Access to both Anclote Blvd and Anclote Road is regulated by Pinellas County and access to each roadway is proposed to comply with Pinellas County standards. This traffic analysis was prepared to evaluate levels of service on adjacent roadways and access considerations for a Pinellas County ROW Use permit. This 66 unit subdivision is expected to generate 622 daily trips, 46 AM peak hour trips and 62 PM peak hour trips.

II. EXISTING CONDITIONS

The adjacent segment of the Anclote Blvd is a 2-lane undivided collector roadway with a posted speed of 45 MPH. This segment is relatively free-flow and is controlled by a traffic signal at Pinellas Avenue (Alternate US 19) which is 1.75 miles east of the site. Anclote Road is a 2-lane undivided roadway with a 35 MPH posted speed that serves several local neighborhoods on the north side of the Anclote River. To establish existing conditions, AM peak period (7-9 AM) and PM peak period (4-6 PM) intersection turning movement counts were conducted at the following locations in November 2021.

Anclote Blvd / Blue Marlin Blvd
Anclote Road / Meyers Cove Rd

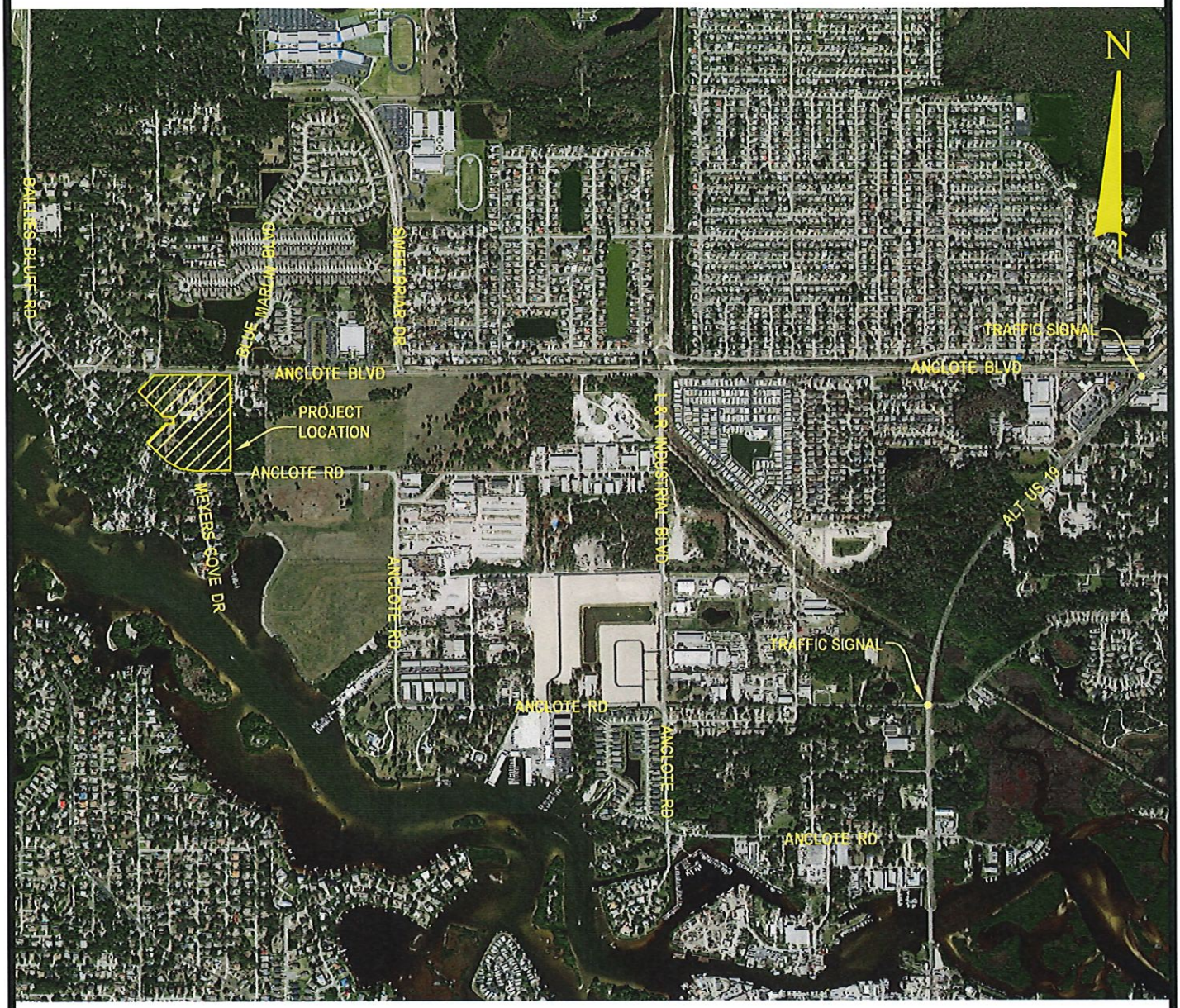
Raw traffic counts were adjusted to peak season equivalents using FDOT seasonal adjustment factors. The peak hour/peak season traffic volumes are shown in Figure 2. The intersections were analyzed using the HCS7 software. The existing operating conditions are shown in Table 1 and the HCS7 printouts are included in Appendix A.

TABLE 1 - EXISTING INTERSECTION CONDITIONS (2021)

INTERSECTION LOCATION	AM LOS	DELAY (SEC/VEH)	PM LOS	DELAY (SEC/VEH)
Anclote Blvd/Blue Marlin Blvd	A/B*	7.7/12.3	A/B*	8.0/11.7
Anclote Road/Meyers Cove Dr	A/A*	7.6/9.2	A/A*	7.4/NA

* LOS for major street left turn / minor street approach

According to the Forward Pinellas 2020 Level of Service Report the adjacent segments of both Anclote Blvd and Anclote Road operate at LOS C. Based on the adjusted traffic counts, the segment of Anclote Blvd east of Blue Marlin Blvd of carries 423 vehicles during the AM peak hour and 479 vehicles during the PM peak hour, which represents LOS C conditions on a 2-lane road. Anclote Road east of Meyers Cove Drive carries 170 vehicles during the AM peak hour and 281 vehicles during the PM peak hour which is also LOS C conditions. The recently conducted adjusted traffic counts confirm the LOS C operations reported by Forward Pinellas.



PROJECT LOCATION – ANCLOTE BLVD SITE

PROJECT NO: 21–085

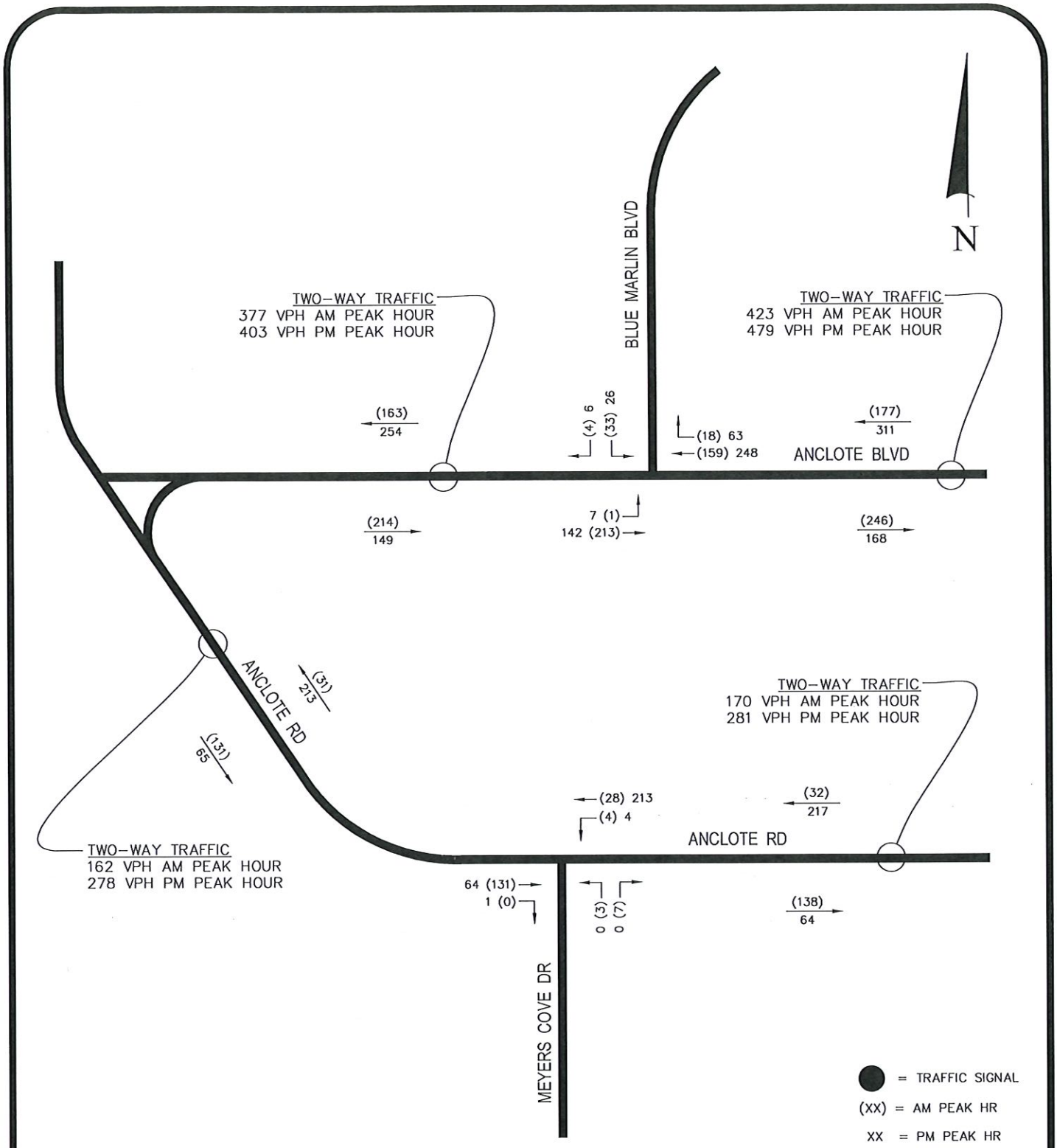
Gulf Coast Consulting, Inc.
Land Development Consulting

DATE: 11/2021

DRAWN BY: GJS

FIGURE: 1

Y:\PINELLAS\Anclote Blvd Site (21-085)\Drawings\21-085 Traffic Counts.dwg, 11/5/2021 6:21:15 PM



EXISTING PEAK HOUR/PEAK SEASON TRAFFIC (2021)

PROJECT NO: 21-085

Gulf Coast Consulting, Inc.
Land Development Consulting
ENGINEERING TRANSPORTATION PLANNING PERMITTING
13825 ICOT BLVD., SUITE 605
Clearwater, Florida 33760
Phone: (727) 524-1818 Fax: (727) 524-6090
www.gulfcoastconsultinginc.com

DATE: 11/2021

DRAWN BY: GJS

FIGURE: 2

III. FUTURE CONDITIONS WITH DEVELOPMENT

Trip generation estimates for the proposed expansion were made using ITE Trip Generation, 11th Edition rates for Land Use Code 210 (Single-Family Detached Housing). The trip generation is shown below in Table 2.

TABLE 2 – TRIP GENERATION ESTIMATES

LAND USE	ITE LUC	DAILY TRIPS	AM PEAK HOUR TRIPS (IN/OUT)	PM PEAK HOUR TRIPS (IN/OUT)
66 single-family homes	210	622	46 (12/34)	62 (39/23)

The proposed 66 home subdivision is expected to generate 622 daily trips of which 46 would occur during the AM peak hour (12 entering/ 34 exiting) and 62 would occur during the PM peak hour (39 entering/23 exiting). The project is proposed to have full access to Anclote Blvd (Drive A) approximately 400 feet west of Blue Marlin Blvd. The project is proposed to have full access to Anclote Road (Drive B) to align with Meyers Cove Drive. Project traffic was distributed to the surrounding roadway system based on the following percentages.

10% west on Anclote Blvd (+4 AM trips, +7 PM trips)
45% east on Anclote Blvd (+21 AM trips, + 28 PM trips)
5% west on Anclote Road (+2 AM trips, +3 PM trips)
40% east on Anclote Road (+19 AM trips, + 24 PM trips

The intersections and both project driveways were analyzed to consider future operations with the 66 home subdivision in-place. Expected future traffic is shown in Figure 3, intersection conditions are shown in Table 3 and the HCS7 printouts are included in Appendix B.

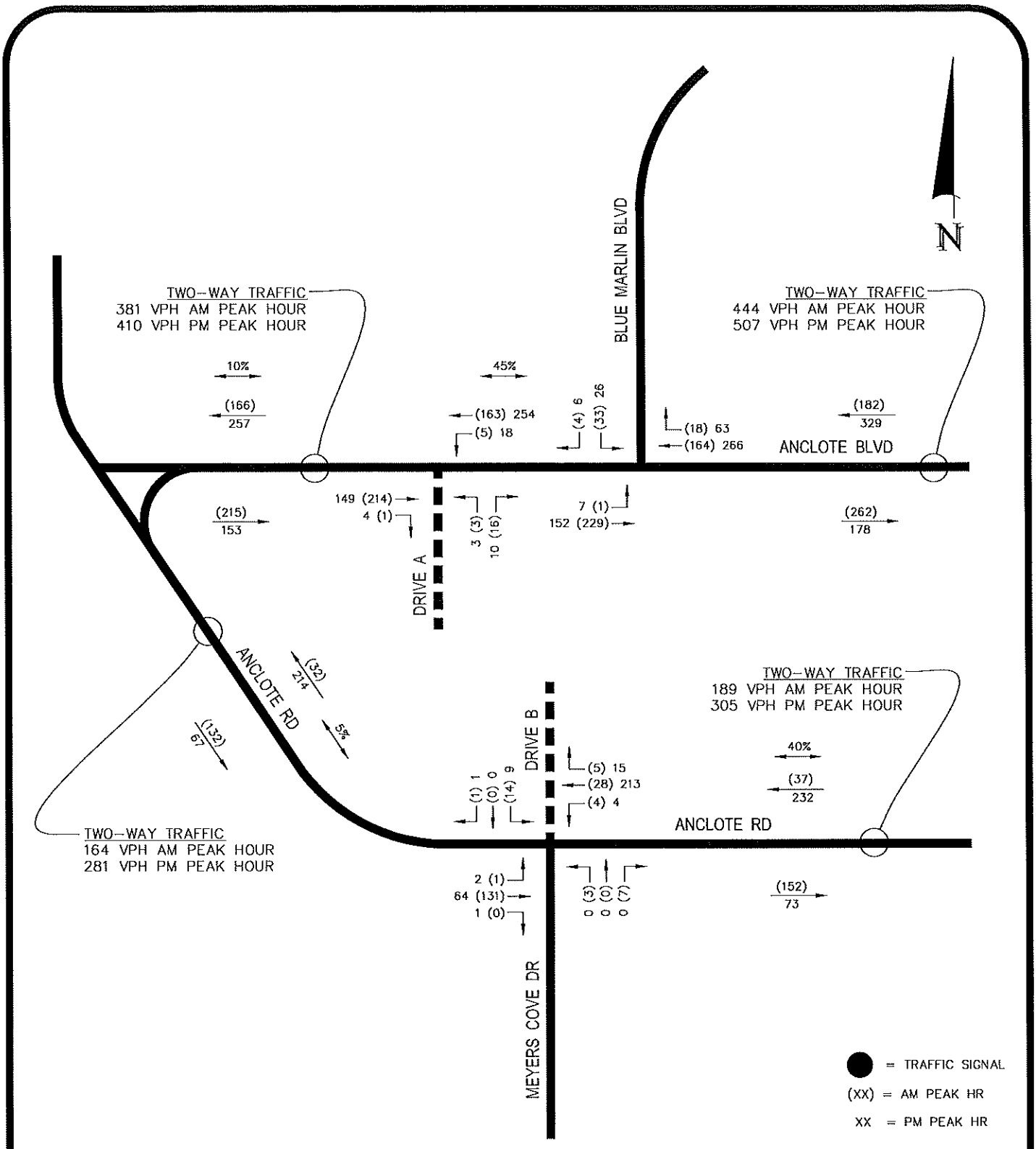
TABLE 3 - FUTURE INTERSECTION CONDITIONS WITH PROJECT

INTERSECTION LOCATION	AM LOS	DELAY (SEC/VEH)	PM LOS	DELAY (SEC/VEH)
Anclote Blvd/Blue Marlin Blvd	A/B*	7.7/12.6	A/B*	8.0/12.0
Anclote Blvd/Drive A	A/B*	7.9/10.3	A/B*	7.7/10.2
Anclote Road/Drive B/Meyers Cove Drive	A/A*	7.6/9.4	A/B*	7.4/12.2

* LOS for major street left turn / minor street approach

As shown above, traffic impact of the project is minimal and all movements at the nearby intersections and driveways would operate at LOS B or better, which indicates acceptable levels of service with minor delays.

With the project traffic added, the segment of Anclote Blvd east of Blue Marlin Blvd would continue to operate at LOS C with a traffic volume 444 vehicles during the AM peak hour and 507 vehicles during the PM peak hour. Anclote Road east of Meyers Cove Drive would continue to operate at LOS C with a traffic volume of 189 vehicles during the AM peak hour and 305 vehicles during the PM peak hour.



FUTURE PEAK HOUR/PEAK SEASON TRAFFIC

PROJECT NO: 21-085

DATE: 11/2021

FIGURE: 3

DRAWN BY: GJS

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Due to low turning volume into the site, an EB right turn lane or a WB left turn lane is not necessary at the Anclote Blvd/ Drive A intersection per NCHRP Report #279 graphs. Due to low turning volume a WB right turn lane or an EB left turn lane is not necessary at the Anclote Road/Drive B intersection. These graphs are shown in Appendix B.

IV. CONCLUSIONS AND RECOMMENDATIONS

The proposed 66 unit subdivision would generate 622 daily trips with 46 trips occurring in the AM peak hour and 62 trips during the PM peak hour. This is minimal impact to both Anclote Blvd and Anclote Road. At the proposed driveways to Anclote Blvd and Anclote Road, all movements would operate at LOS B or better with minimal delays and turn lanes are not warranted at the driveways. The adjacent segments of both Anclote Blvd and Anclote Road would continue to operate at LOS C with the project traffic impacts.

APPENDIX A

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 1500 PINELLAS COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.90 PSCF
* 1	01/01/2020 - 01/04/2020	1.02	1.13
* 2	01/05/2020 - 01/11/2020	0.94	1.04
* 3	01/12/2020 - 01/18/2020	0.85	0.94
* 4	01/19/2020 - 01/25/2020	0.84	0.93
* 5	01/26/2020 - 02/01/2020	0.82	0.91
* 6	02/02/2020 - 02/08/2020	0.81	0.90
* 7	02/09/2020 - 02/15/2020	0.79	0.88
* 8	02/16/2020 - 02/22/2020	0.83	0.92
* 9	02/23/2020 - 02/29/2020	0.86	0.96
*10	03/01/2020 - 03/07/2020	0.90	1.00
*11	03/08/2020 - 03/14/2020	0.94	1.04
*12	03/15/2020 - 03/21/2020	0.97	1.08
*13	03/22/2020 - 03/28/2020	1.11	1.23
14	03/29/2020 - 04/04/2020	1.25	1.39
15	04/05/2020 - 04/11/2020	1.39	1.54
16	04/12/2020 - 04/18/2020	1.53	1.70
17	04/19/2020 - 04/25/2020	1.42	1.58
18	04/26/2020 - 05/02/2020	1.32	1.47
19	05/03/2020 - 05/09/2020	1.21	1.34
20	05/10/2020 - 05/16/2020	1.10	1.22
21	05/17/2020 - 05/23/2020	1.08	1.20
22	05/24/2020 - 05/30/2020	1.06	1.18
23	05/31/2020 - 06/06/2020	1.04	1.16
24	06/07/2020 - 06/13/2020	1.02	1.13
25	06/14/2020 - 06/20/2020	1.00	1.11
26	06/21/2020 - 06/27/2020	1.01	1.12
27	06/28/2020 - 07/04/2020	1.02	1.13
28	07/05/2020 - 07/11/2020	1.02	1.13
29	07/12/2020 - 07/18/2020	1.03	1.14
30	07/19/2020 - 07/25/2020	1.03	1.14
31	07/26/2020 - 08/01/2020	1.03	1.14
32	08/02/2020 - 08/08/2020	1.02	1.13
33	08/09/2020 - 08/15/2020	1.02	1.13
34	08/16/2020 - 08/22/2020	1.02	1.13
35	08/23/2020 - 08/29/2020	1.02	1.13
36	08/30/2020 - 09/05/2020	1.02	1.13
37	09/06/2020 - 09/12/2020	1.02	1.13
38	09/13/2020 - 09/19/2020	1.02	1.13
39	09/20/2020 - 09/26/2020	1.01	1.12
40	09/27/2020 - 10/03/2020	1.00	1.11
41	10/04/2020 - 10/10/2020	0.99	1.10
42	10/11/2020 - 10/17/2020	0.98	1.09
43	10/18/2020 - 10/24/2020	0.99	1.10
44	10/25/2020 - 10/31/2020	0.99	1.10
45	11/01/2020 - 11/07/2020	1.00	1.11
46	11/08/2020 - 11/14/2020	1.00	1.11
47	11/15/2020 - 11/21/2020	1.01	1.12
48	11/22/2020 - 11/28/2020	1.01	1.12
49	11/29/2020 - 12/05/2020	1.01	1.12
50	12/06/2020 - 12/12/2020	1.02	1.13
51	12/13/2020 - 12/19/2020	1.02	1.13
52	12/20/2020 - 12/26/2020	0.94	1.04
53	12/27/2020 - 12/31/2020	0.85	0.94

Covid Shutdown

TMC's

* PEAK SEASON

27-FEB-2021 10:30:07 830UPD 7_1500_PKSEASON.TXT

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Blue Marlin Blvd -- Anclote Blvd
CITY/STATE: Tarpon Springs, FL

QC JOB #: 15614301
DATE: Tue, Nov 2 2021

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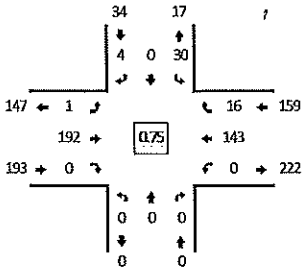
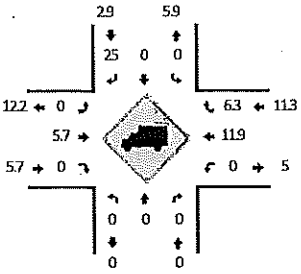
Peak 15-Min: 8:30 AM -- 8:45 AM





Quality Counts
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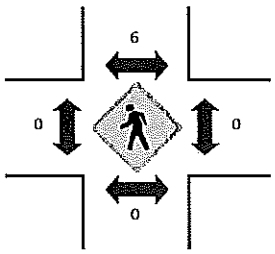
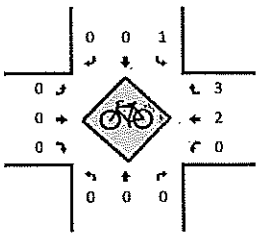
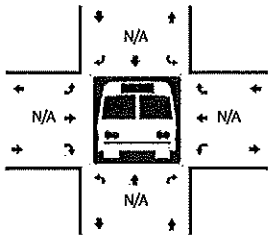
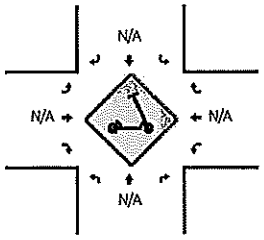








15-Min Count Period Beginning At	Blue Marlin Blvd (Northbound)				Blue Marlin Blvd (Southbound)				Anclote Blvd (Eastbound)				Anclote Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	12	0	1	0	0	19	0	0	0	6	7	0	45	
7:15 AM	0	0	0	0	16	0	0	0	0	31	0	0	0	13	0	0	60	
7:30 AM	0	0	0	0	15	0	0	0	0	28	0	0	0	11	0	0	54	
7:45 AM	0	0	0	0	10	0	1	0	1	37	0	0	0	15	3	0	67	226
8:00 AM	0	0	0	0	9	0	0	0	0	43	0	0	0	20	2	0	74	255
8:15 AM	0	0	0	0	8	0	1	0	1	53	0	0	0	33	6	0	102	297
8:30 AM	0	0	0	0	5	0	0	0	0	71	0	0	0	49	3	0	128	371
8:45 AM	0	0	0	0	8	0	3	0	0	25	0	0	0	41	5	0	82	386

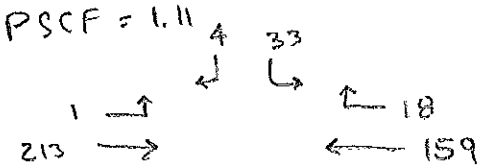
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	20	0	0	0	0	284	0	0	0	196	12	0	512
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	44	0		60
Buses																	
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2021 8:44 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

PSCF = 1.11



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Blue Marlin Blvd -- Anclote Blvd
CITY/STATE: Tarpon Springs, FL

QC JOB #: 15614302
DATE: Tue, Nov 2 2021

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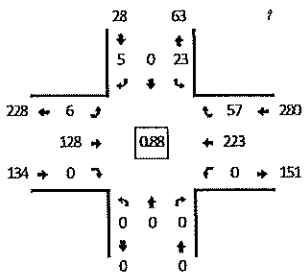
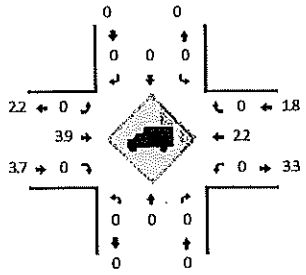
Peak 15-Min: 5:15 PM -- 5:30 PM





Quality Counts
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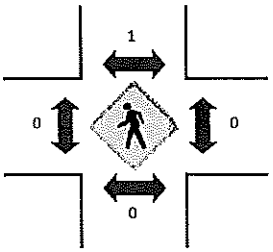
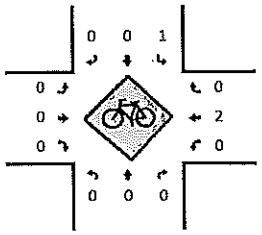
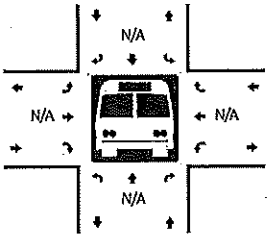
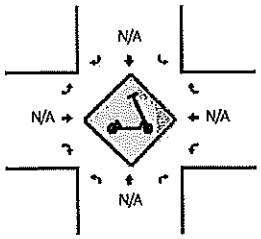








15-Min Count Period Beginning At	Blue Marlin Blvd (Northbound)				Blue Marlin Blvd (Southbound)				Anclote Blvd (Eastbound)				Anclote Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	8	0	0	0	1	34	0	0	0	58	10	0	111	
4:15 PM	0	0	0	0	2	0	0	0	1	33	0	0	0	39	12	0	87	
4:30 PM	0	0	0	0	3	0	2	0	1	35	0	0	0	61	17	0	119	
4:45 PM	0	0	0	0	5	0	2	0	2	20	0	0	0	49	12	0	90	407
5:00 PM	0	0	0	0	8	0	0	0	1	32	0	0	0	54	12	0	107	403
5:15 PM	0	0	0	0	7	0	1	0	2	41	0	0	0	59	16	0	126	442
5:30 PM	0	0	0	0	13	0	0	0	0	28	0	0	0	57	8	0	106	429
5:45 PM	0	0	0	0	6	0	1	0	0	23	0	0	0	49	13	0	92	431

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	28	0	4	0	8	164	0	0	0	236	64	0	504
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4
Buses																	
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

Comments:

Report generated on 11/5/2021 8:44 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

PSCF = 1.11

6 26

63

7

2.48

142

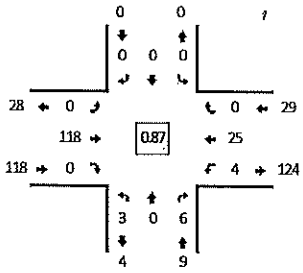
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Meyers Cove Dr -- Anclote Rd
CITY/STATE: Tarpon Springs, FL

QC JOB #: 15614303
DATE: Tue, Nov 2 2021

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



Quality Counts
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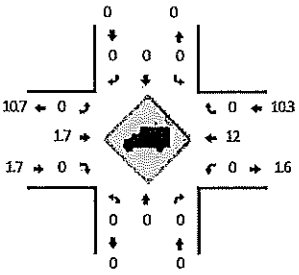
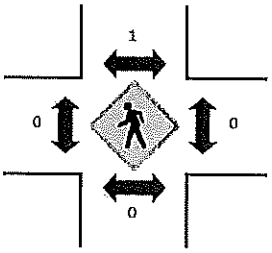
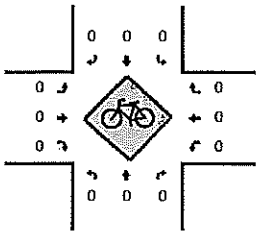
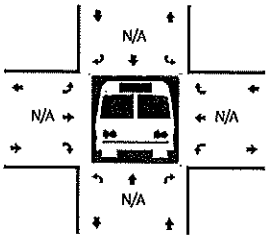
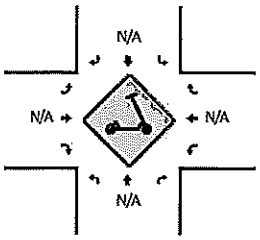










15-Min Count Period Beginning At	Meyers Cove Dr (Northbound)				Meyers Cove Dr (Southbound)				Anclote Rd (Eastbound)				Anclote Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	0	0	0	0	13	0	0	0	1	0	0	15	
7:15 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	6	0	0	28	
7:30 AM	0	0	0	0	0	0	0	0	0	39	0	0	1	2	0	0	42	
7:45 AM	1	0	4	0	0	0	0	0	0	29	0	0	3	8	0	0	45	130
8:00 AM	2	0	1	0	0	0	0	0	0	25	0	0	0	8	0	0	36	151
8:15 AM	0	0	1	0	0	0	0	0	0	25	0	0	0	7	0	0	33	156
8:30 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	8	0	0	24	138
8:45 AM	0	0	0	0	0	0	0	0	0	15	3	0	0	5	0	0	23	116

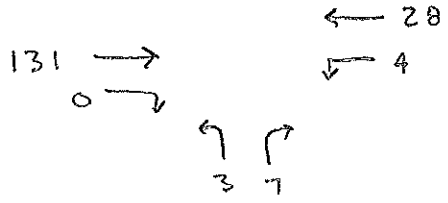
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	16	0	0	0	0	0	0	116	0	0	12	32	0	0	180
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2021 8:44 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

PSCF = 1.11



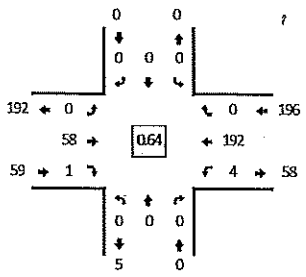
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

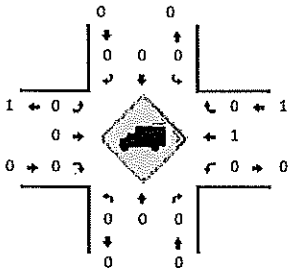
LOCATION: Meyers Cove Dr -- Anclote Rd
CITY/STATE: Tarpon Springs, FL

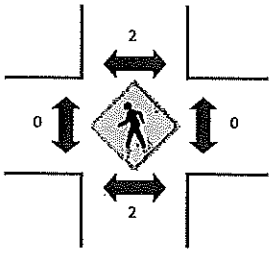
QC JOB #: 15614304
DATE: Tue, Nov 2 2021

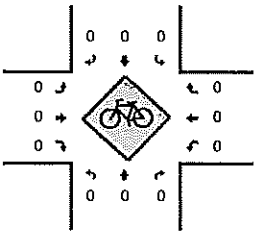
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

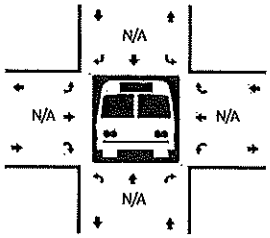


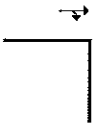
Quality Counts
DATA THAT DRIVES COMMUNITIES

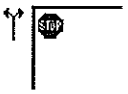


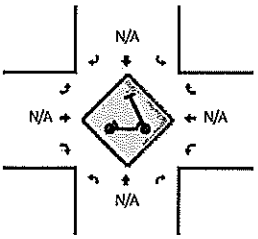












15-Min Count Period Beginning At	Meyers Cove Dr (Northbound)				Meyers Cove Dr (Southbound)				Anclote Rd (Eastbound)				Anclote Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	3	0	0	0	0	0	0	10	0	0	0	31	0	0	44	
4:15 PM	0	0	0	0	0	0	0	0	0	20	0	0	0	35	0	0	55	
4:30 PM	0	0	0	0	0	0	0	0	0	14	0	0	2	32	0	0	48	
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	1	44	0	0	52	199
5:00 PM	0	0	0	0	0	0	0	0	0	17	1	0	1	81	0	0	100	255
5:15 PM	0	0	2	0	0	0	0	0	0	9	2	0	0	26	0	0	39	239
5:30 PM	0	0	0	0	0	0	0	0	0	16	0	0	0	32	0	0	48	239
5:45 PM	0	0	0	0	0	0	0	0	0	9	0	0	1	25	0	0	35	222

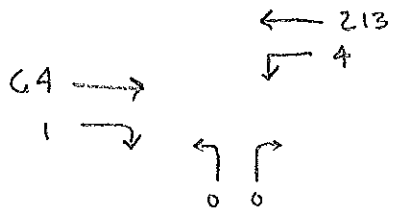
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	0	0	0	68	4	0	4	324	0	0	400
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2021 8:44 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

PSCF = 1.11



HCS7 Two-Way Stop-Control Report

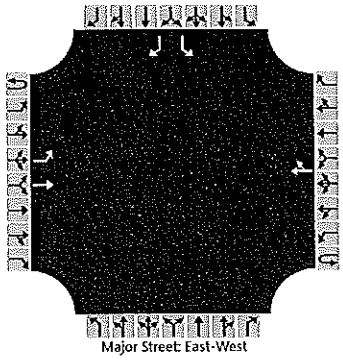
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/8/2021
Analysis Year	2021
Time Analyzed	AM PEAK HOUR
Intersection Orientation	East-West
Project Description	EXISTING CONDITIONS

Site Information

Intersection	ANCLOTE BLVD/BLUE MARLIN
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	BLUE MARLIN BLVD
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		1	213				159	18						33		4
Percent Heavy Vehicles (%)		0												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1												44		5
Capacity, c (veh/h)		1343												513		813
v/c Ratio		0.00												0.09		0.01
95% Queue Length, Q_{95} (veh)		0.0												0.3		0.0
Control Delay (s/veh)		7.7												12.7		9.5
Level of Service (LOS)		A												B		A
Approach Delay (s/veh)	0.0												12.3			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

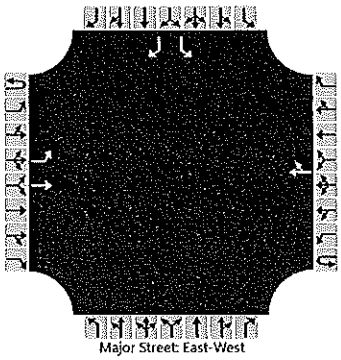
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/8/2021
Analysis Year	2021
Time Analyzed	PM PEAK HOUR
Intersection Orientation	East-West
Project Description	EXISTING CONDITIONS

Site Information

Intersection	ANCLOTE BLVD/BLUE MARLIN
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	BLUE MARLIN BLVD
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		7	142				248	63						26		6
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		8												30		7
Capacity, c (veh/h)		1217												533		728
v/c Ratio		0.01												0.06		0.01
95% Queue Length, Q_{95} (veh)		0.0												0.2		0.0
Control Delay (s/veh)		8.0												12.2		10.0
Level of Service (LOS)		A												B		A
Approach Delay (s/veh)	0.4												11.7			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

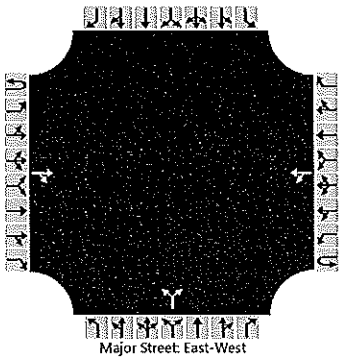
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/8/2021
Analysis Year	2021
Time Analyzed	AM PEAK HOUR
Intersection Orientation	East-West
Project Description	EXISTING CONDITIONS

Site Information

Intersection	ANCLOTE RD / MEYERS COVE
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE RD
North/South Street	MEYERS COVE DR
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			131	0		4	28			3		7				
Percent Heavy Vehicles (%)						10				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.20				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.29				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5					11					
Capacity, c (veh/h)						1383					867					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.6					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.0				9.2							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

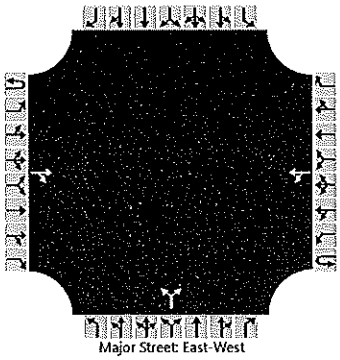
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/8/2021
Analysis Year	2021
Time Analyzed	PM PEAK HOUR
Intersection Orientation	East-West
Project Description	EXISTING CONDITIONS

Site Information

Intersection	ANCLOTE RD / MEYERS COVE
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE RD
North/South Street	MEYERS COVE DR
Peak Hour Factor	0.64
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			64	1		4	213			0		0				
Percent Heavy Vehicles (%)						1				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.11				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.21				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						6					0					
Capacity, c (veh/h)						1497										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.4										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.2											
Approach LOS									NB							

NA

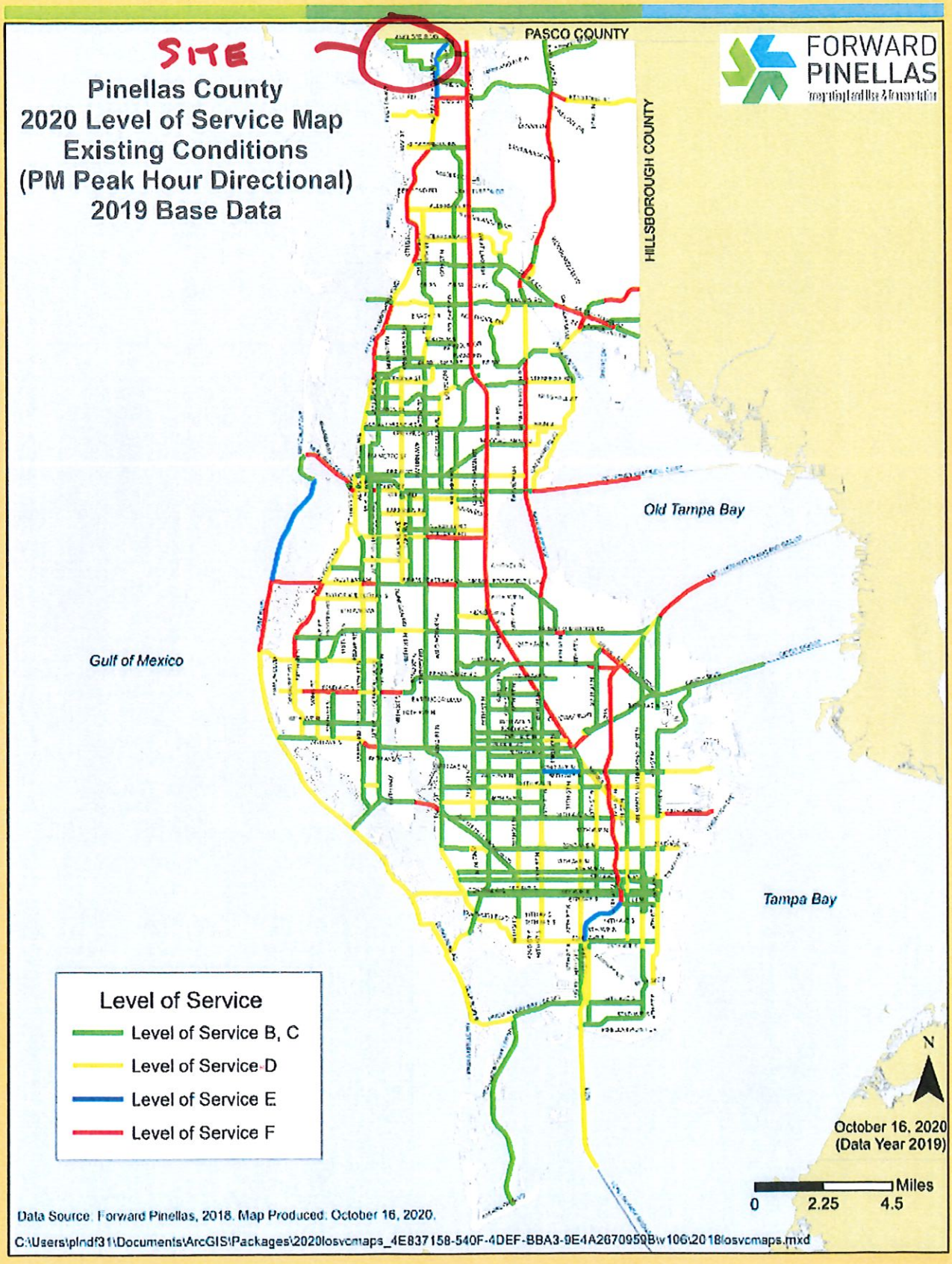

SITE
Pinellas County
2020 Level of Service Map
Existing Conditions
(PM Peak Hour Directional)
2019 Base Data
PASCO COUNTY
HILLSBOROUGH COUNTY
FORWARD PINELLAS
Old Tampa Bay
Gulf of Mexico
Tampa Bay
Level of Service
Level of Service B, C
Level of Service D
Level of Service E
Level of Service F
N
October 16, 2020
(Data Year 2019)
Miles
0
2.25
4.5
Data Source: Forward Pinellas, 2018. Map Produced: October 16, 2020.
C:\Users\plndf31\Documents\ArcGIS\Packages\2020losvcmaps_4E837158-540F-4DEF-BBA3-9E4A2670959B\v106\2018losvcmaps.mxd

TABLE 4

Generalized Peak Hour Two-Way Volumes for Florida's Urbanized Areas[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**
Arterial Rd	2LU	90%	1360	1,440	

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130
Arterial Rd	2LU	90%	600	1200	

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways -10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
—	—	—	Yes	+5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle

Lane Coverage	B	C	D	E
0-49%	*	260	680	1,770
50-84%	190	600	1,770	>1,770
85-100%	830	1,770	>1,770	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,420
85-100%	340	960	1,560	>1,770

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	>5	≥4	≥3	≥2
85-100%	>4	≥3	≥2	≥1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,120	5,540	6,700	7,190
6	6,130	8,370	10,060	11,100
8	8,230	11,100	13,390	15,010
10	10,330	14,040	16,840	18,930
12	14,450	18,880	22,030	22,860

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+1,800	+5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	770	1,530	2,170	2,990
4	Divided	3,300	4,660	5,900	6,530
6	Divided	4,950	6,990	8,840	9,790

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

APPENDIX B

Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

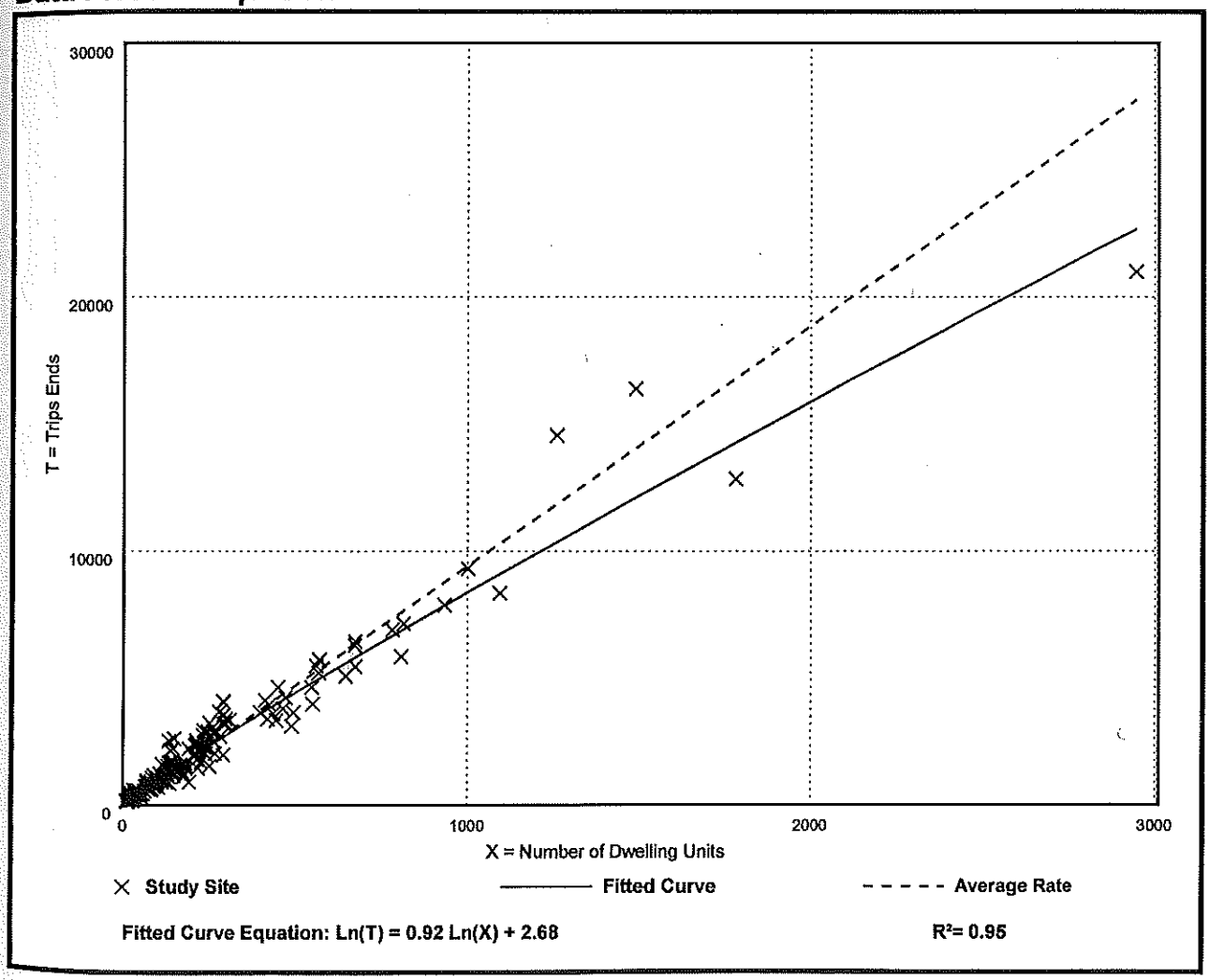
Setting/Location: General Urban/Suburban
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

66 x 9.43 = 622

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.92 Ln(X) + 2.68

R^2= 0.95

Single-Family Detached Housing
(210)

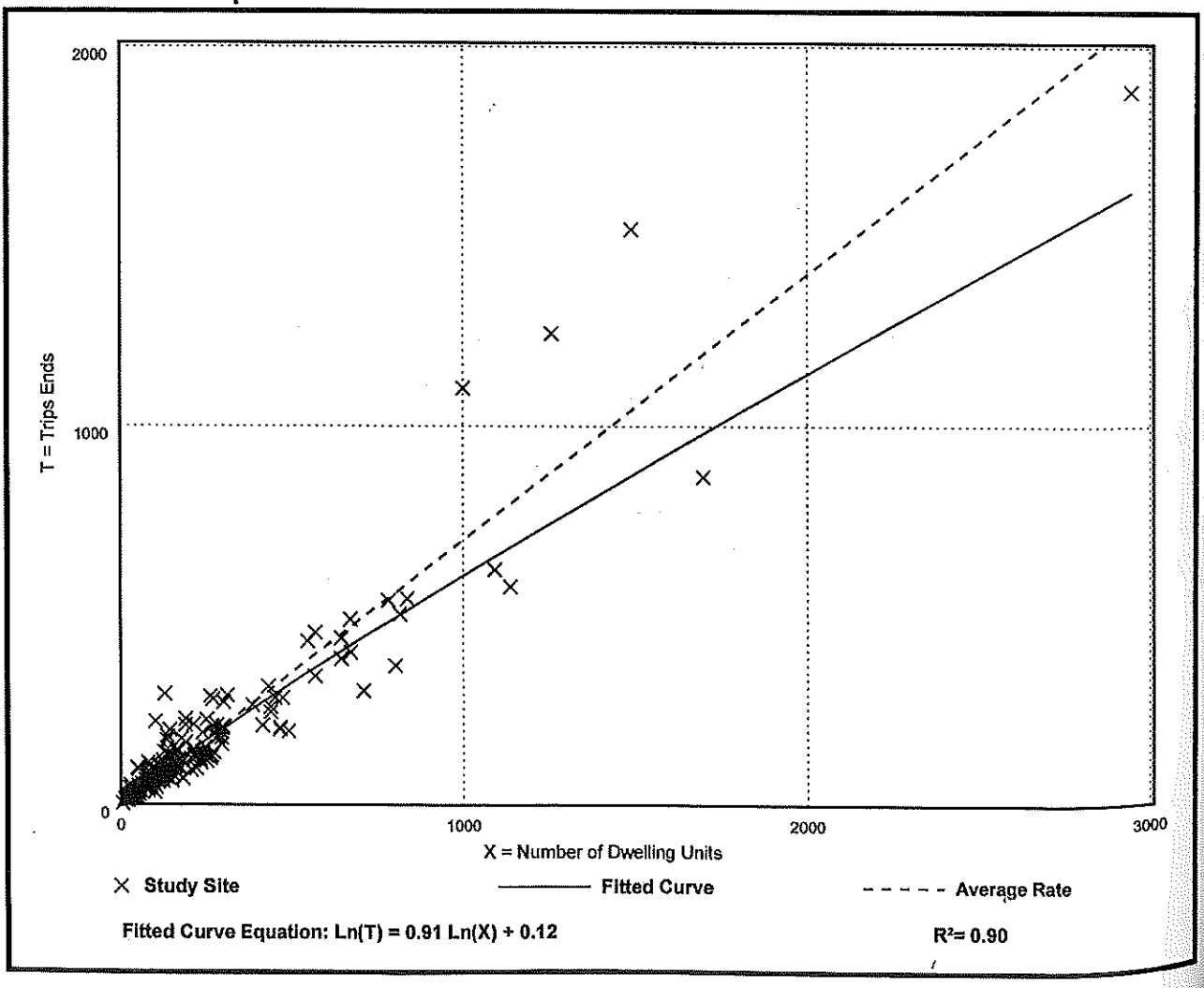
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

66 × .70 = 46 AM trips (12/34)

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.91 Ln(X) + 0.12

R^2= 0.90

Single-Family Detached Housing
(210)

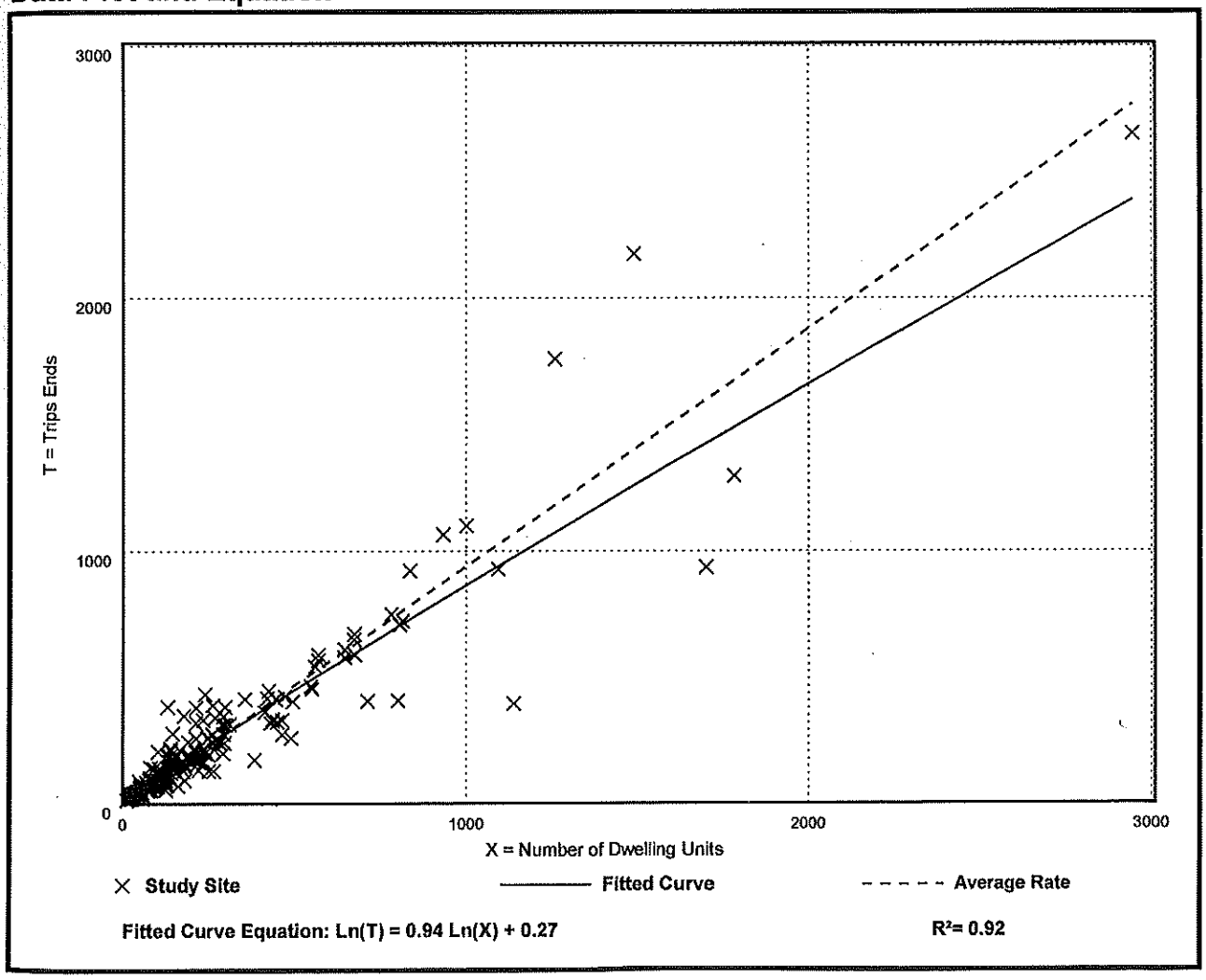
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation

(66 * .94 = 62 PM (39/23)



Fitted Curve Equation: Ln(T) = 0.94 Ln(X) + 0.27

R^2= 0.92

HCS7 Two-Way Stop-Control Report

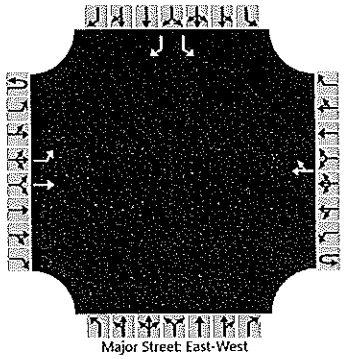
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/2021
Analysis Year	2024
Time Analyzed	AM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROECT

Site Information

Intersection	ANCLOTE BLVD/BLUE MARLIN
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	BLUE MARLIN BLVD
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		1	229				164	18						33		4
Percent Heavy Vehicles (%)		0												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1												44		5
Capacity, c (veh/h)		1336												495		806
v/c Ratio		0.00												0.09		0.01
95% Queue Length, Q_{95} (veh)		0.0												0.3		0.0
Control Delay (s/veh)		7.7												13.0		9.5
Level of Service (LOS)		A												B		A
Approach Delay (s/veh)	0.0												12.6			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

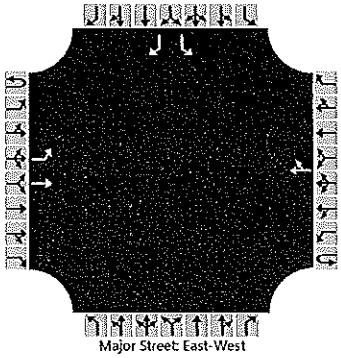
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/2021
Analysis Year	2024
Time Analyzed	PM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROJECT

Site Information

Intersection	ANCLOTE BLVD/BLUE MARLIN
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	BLUE MARLIN BLVD
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		7	152				266	63						26		6
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		8												30		7
Capacity, c (veh/h)		1196												511		709
v/c Ratio		0.01												0.06		0.01
95% Queue Length, Q_{95} (veh)		0.0												0.2		0.0
Control Delay (s/veh)		8.0												12.5		10.1
Level of Service (LOS)		A												B		B
Approach Delay (s/veh)	0.4												12.0			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

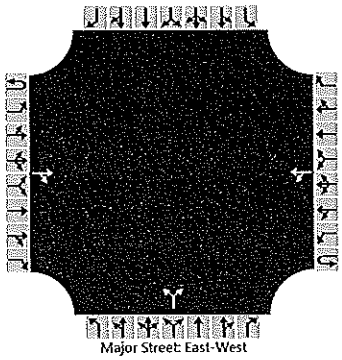
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/2021
Analysis Year	2024
Time Analyzed	AM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROJECT

Site Information

Intersection	ANCLOTE BLVD/ DRIVE A
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	DRIVE A
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			214	1		5	163			3		16				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						7					25					
Capacity, c (veh/h)						1270					700					
v/c Ratio						0.01					0.04					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.9					10.3					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.3					10.3						
Approach LOS										B						

WB LT

NB LTR

HCS7 Two-Way Stop-Control Report

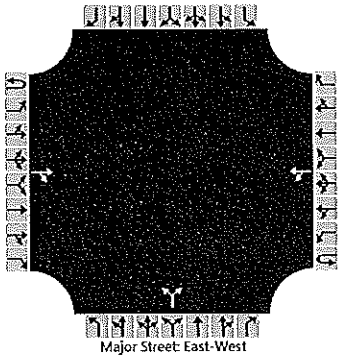
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/2021
Analysis Year	2024
Time Analyzed	PM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROJECT

Site Information

Intersection	ANCLOTE BLVD/ DRIVE A
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE BLVD
North/South Street	DRIVE A
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			149	4		18	254			3		10				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						24					17					
Capacity, c (veh/h)						1362					705					
v/c Ratio						0.02					0.02					
95% Queue Length, Q_{95} (veh)						0.1					0.1					
Control Delay (s/veh)						7.7					10.2					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)						0.7				10.2						
Approach LOS										B						

WB LT

NB LT

HCS7 Two-Way Stop-Control Report

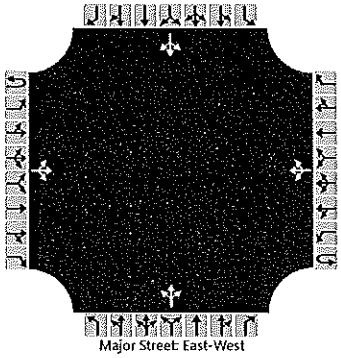
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/21
Analysis Year	2024
Time Analyzed	AM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROJECT

Site Information

Intersection	ANCLOTE RD / MEYERS COVE
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE RD
North/South Street	MEYERS COVE DR / DRIVE B
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	131	0		4	28	5		3	0	7		14	0	9
Percent Heavy Vehicles (%)		3				10				0	3	0		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.20				7.10	6.53	6.20		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.29				3.50	4.03	3.30		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				5					11				26	
Capacity, c (veh/h)		1566				1383					849				836	
v/c Ratio		0.00				0.00					0.01				0.03	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		7.3		0.0		7.6		0.0			9.3				9.4	
Level of Service (LOS)		A		A		A		A			A				A	
Approach Delay (s/veh)	0.1				0.8				9.3				9.4			
Approach LOS									A				A			

HCS7 Two-Way Stop-Control Report

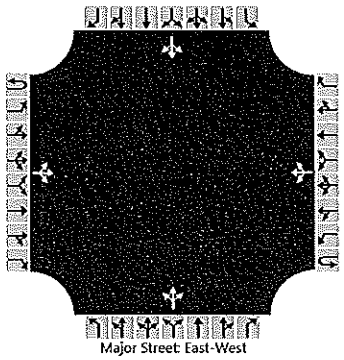
General Information

Analyst	RP
Agency/Co.	GCC
Date Performed	11/9/2021
Analysis Year	2024
Time Analyzed	PM PEAK HOUR
Intersection Orientation	East-West
Project Description	FUTURE CONDITIONS WITH PROJECT

Site Information

Intersection	ANCLOTE RD / MEYERS COVE
Jurisdiction	PINELLAS COUNTY
East/West Street	ANCLOTE RD
North/South Street	MEYERS COVE DR / DRIVE B
Peak Hour Factor	0.64
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

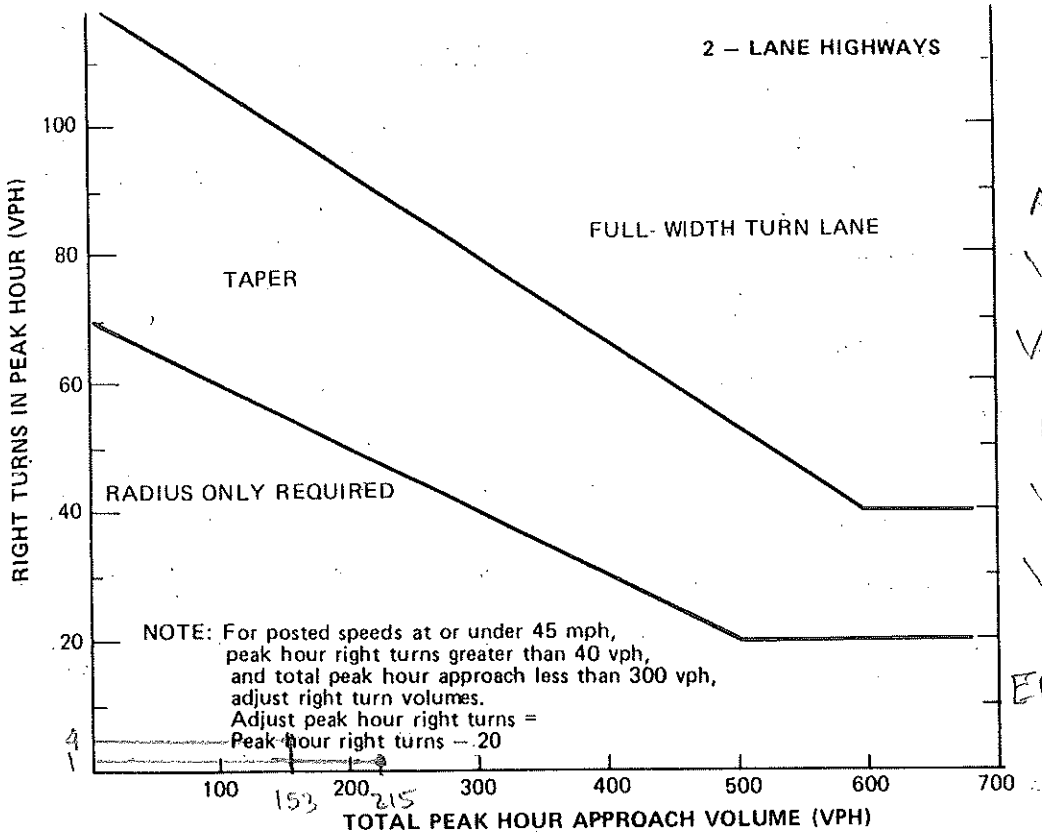
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	64	1		4	213	15		0	0	0		9	0	1
Percent Heavy Vehicles (%)		3				1				0	3	0		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.11				7.10	6.53	6.20		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.21				3.50	4.03	3.30		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				6					0				16	
Capacity, c (veh/h)		1197				1497									515	
v/c Ratio		0.00				0.00									0.03	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.1	
Control Delay (s/veh)		8.0		0.0		7.4		0.0							12.2	
Level of Service (LOS)		A		A		A		A							B	
Approach Delay (s/veh)	0.3				0.2								12.2			
Approach LOS													B			



ANCLOTE ROAD / DRIVE A

AM PEAK

V_{RT} = 1 vph

V_A = 215 vph

PM PEAK

V_{RT} = 4 vph

V_A = 153 vph

EBRT LANE NOT WARRANTED

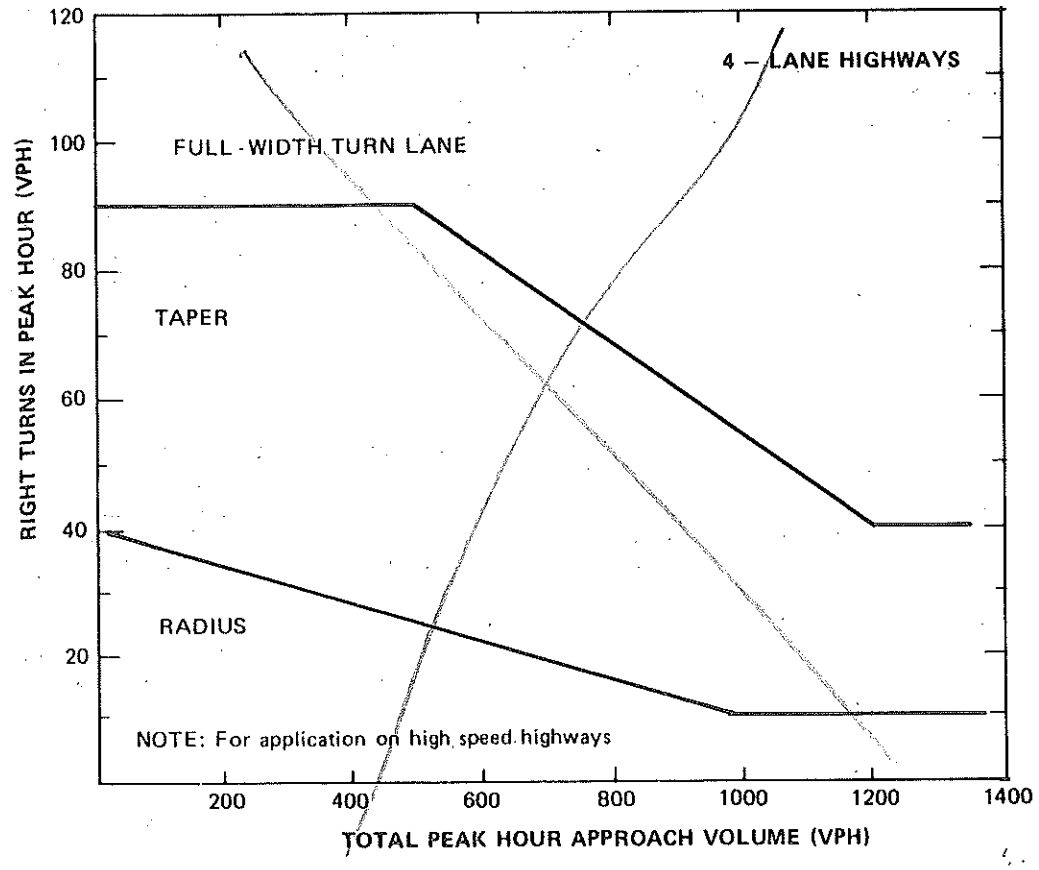


Figure 4-23. Traffic volume guidelines for design of right-turn lanes. (Source: Ref. *4-11*)

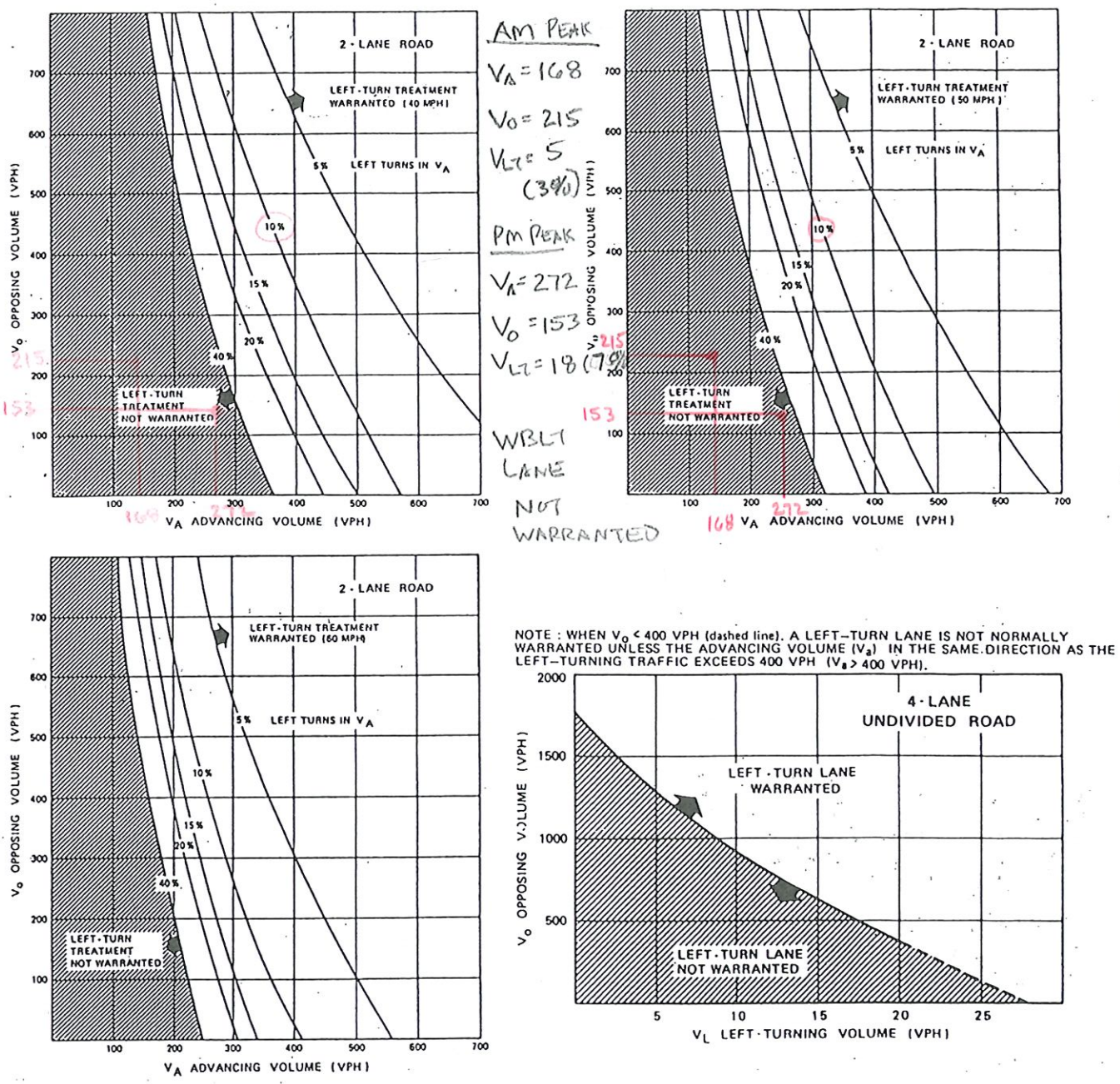


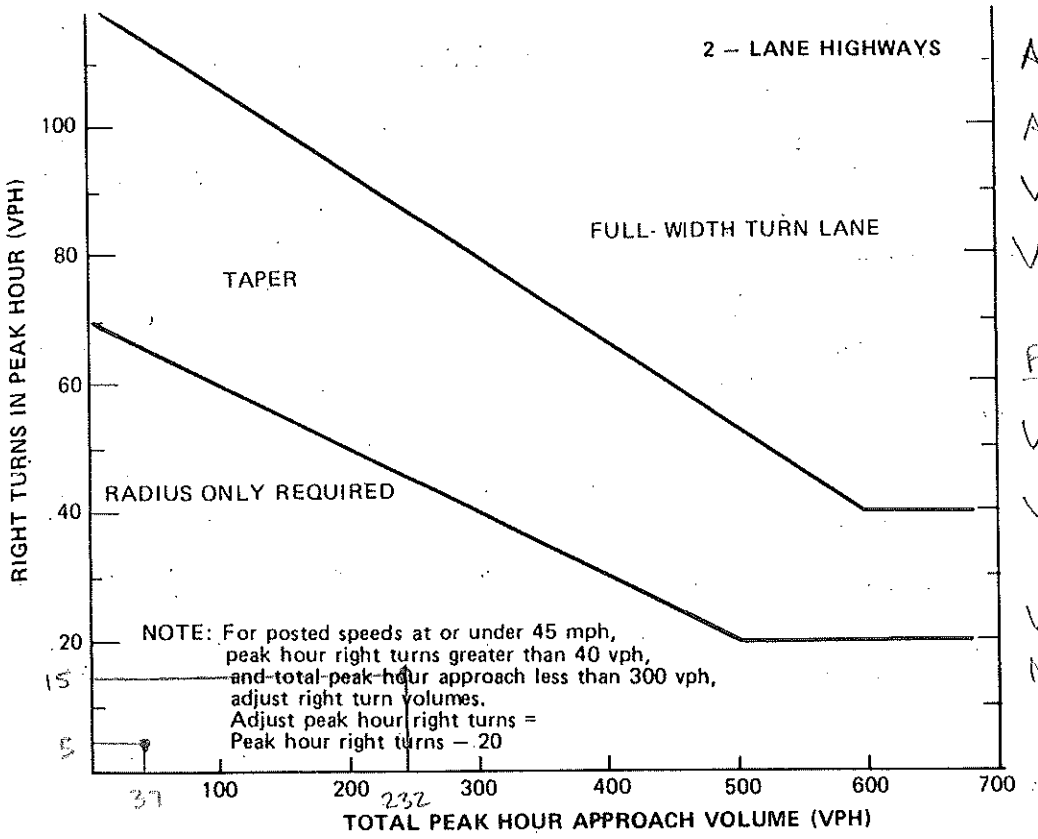
Figure 4-12. Volume warrants for left-turn lanes at unsignalized intersections. (Source: Ref. *4-7*)

a partially shadowed left-turn lane, as illustrated in Figure 4-14. With partially shadowed left-turn lanes, the offset created by the approach taper does not entirely protect or "shadow" the turn lane.

Length of Lane

The left-turn lane length is among the most important design element of left-turn lanes. Its design is directly tied to the particular function of the lane, which is based on prevailing speeds, traffic volumes, and traffic control. The design basis for length can be deceleration, storage, or a combination of both.

Left-turn lanes on high-speed highways should be designed to accommodate vehicle deceleration and braking. The channelization principle of removing slow or decelerating vehicles from through traffic applies at such locations. Figure 4-15 illustrates the functional basis for design of deceleration-based left-turn lanes according to AASHTO. The assumed "reasonable" driver behavior includes deceleration in gear for 3 sec., followed by comfortable braking completely within the turning lane. Where constraints exist and speeds are moderate, an al-



ANCLOTE RD/DRIVE B

AM PEAK

V_{RT} = 5 vph

V_A = 37 vph

PM PEAK

V_{RT} = 15 vph

V_A = 232 vph

WBRT LANE NOT WARRANTED

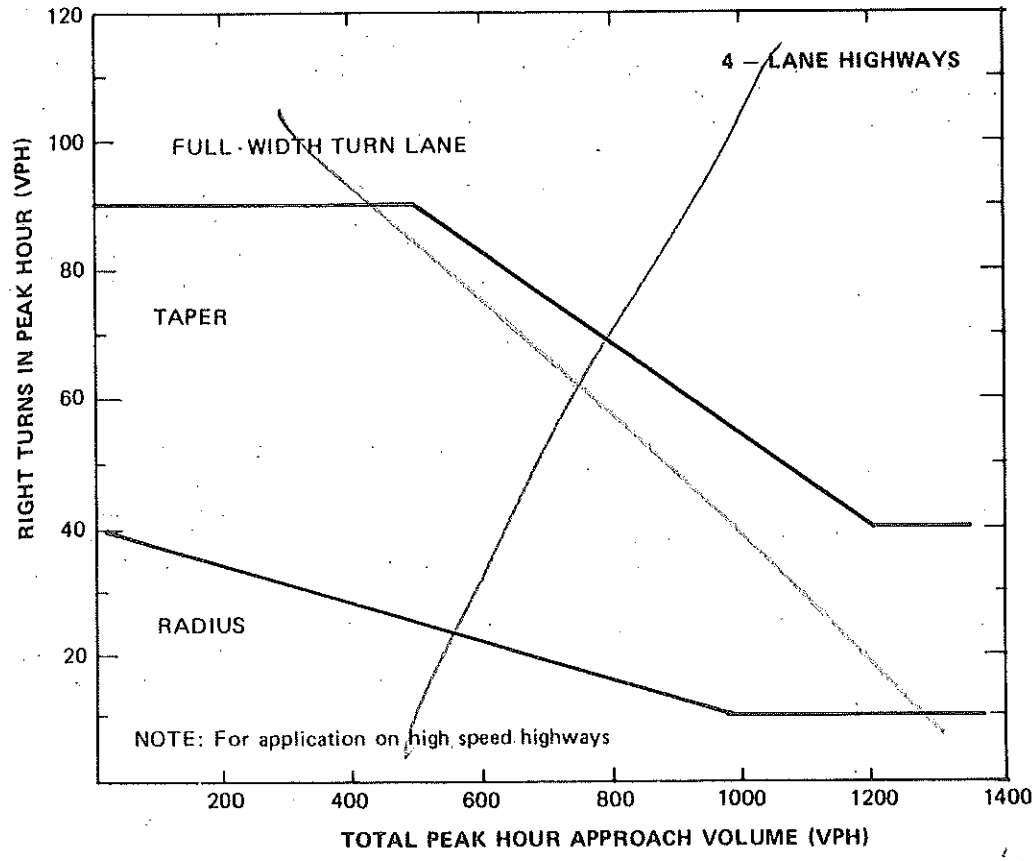


Figure 4-23. Traffic volume guidelines for design of right-turn lanes. (Source: Ref. *4-11*)

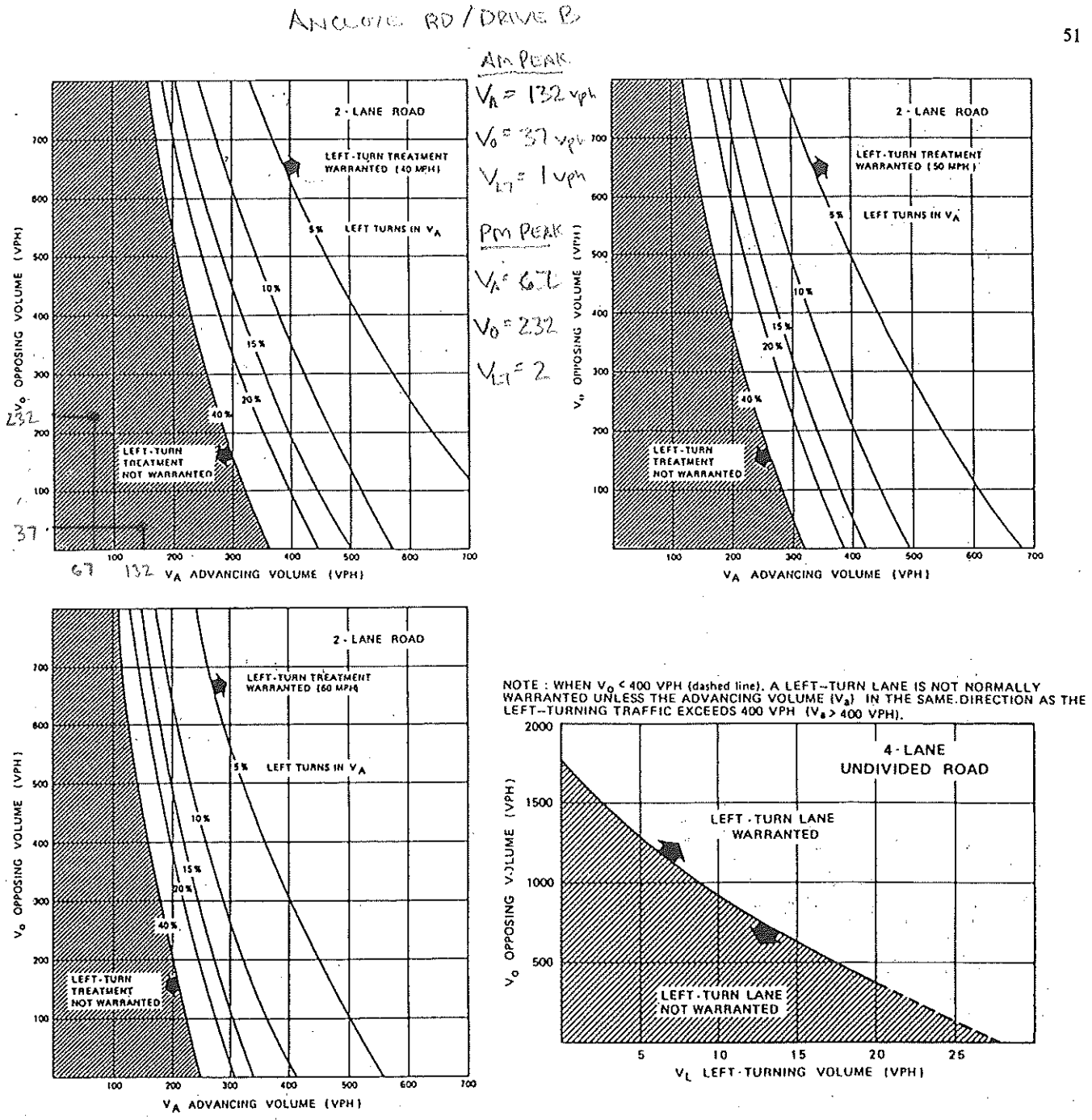


Figure 4-12. Volume warrants for left-turn lanes at unsignalized intersections. (Source: Ref. *4-7*)

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