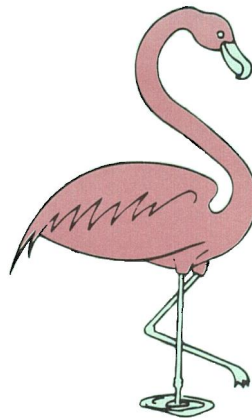


**CHIEFLAND POPEYE'S RESTAURANT
TRAFFIC ACCESS STUDY**

LEVY COUNTY, FLORIDA

October 2020



BUCKHOLZ TRAFFIC



**BUCKHOLZ TRAFFIC
3585 KORI ROAD
JACKSONVILLE, FLORIDA 32257
(904) 886-2171 jwbuckholz@aol.com**

October 22, 2020

Mr. Joseph Schuemann
Blurock Development, LLC
3408 S. Orange Avenue / Suite B
Orlando, Florida 32806

Re: Popeye's Restaurant Traffic Access Study; Chiefland, Florida

Dear Mr. Schuemann:

Attached is the requested Traffic Access Study for this development. If you or FDOT have any questions or comments regarding this study, please contact me.

Sincerely,

Jeffrey W. Buckholz, P.E., PTOE
Principal

This item has been digitally signed and sealed by Jeffrey W. Buckholz, P.E. on 10/22/20. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

INTRODUCTION

This 2146 sf fast-food restaurant with drive-thru window will be located on the west side of US 19 approximately 400 feet north of NW 11th Avenue in Chiefland, Florida. The median on US 19 will be modified and access to the development will be provided from a left-in-right-in-right-out only driveway on US 19 and a full access driveway on NW 11th Avenue. US 19 (North Young Boulevard) is a four lane divided rural principal arterial with left turn lanes accommodated within a raised median. It has a posted speed limit of 45 mph in the vicinity of the site and an access management classification of 5. NW 11th Avenue is a two lane undivided local road with a posted speed limit of 35 mph. Appendix A contains the currently proposed site plan and Figure 1 shows the site location and surrounding road network.

It is expected that the development will be complete and fully operational in 2021. Consequently, 2021 has been chosen as the design year for this study.

The recommended minimum connection spacing of 245 feet along US 19 is not met to either the north or south. However, by replacing the two existing site driveways with one site driveway the access management situation will be improved. The recommended minimum median opening spacing of 1320 feet is generally not met along US 19. However, replacement of the current full median opening with a directional opening will also improve the access management situation along US 19.

EXISTING TRAFFIC VOLUMES

Buckholz Traffic personnel conducted weekday PM peak period manual turning movement counts at the following three intersections during mid-October of 2020: US 19/NW 11th Avenue, US 19/Quality Inn Driveway (and Future Site Drive), and NW 11th Avenue/Laundry Driveway/Boat Services Driveway (and Future Site Drive). The count data, which is provided in Appendix B, was collected at 15-minute intervals and includes a separate tabulation for trucks. The count results for the weekday PM peak hour are summarized in Figure 2 with the counts for the entire weekday PM peak period summarized in Figure 3.

Appendix C contains FDOT traffic data for a count station on US 19 near the site. The current Average Daily Traffic (ADT) along this section of US 19 is about 14,000 vehicles per day. A linear regression analysis of recent FDOT daily traffic counts reveals that traffic growth in the area has been stagnant over the past 5 years. Levy County traffic volume seasonal adjustment factors are included in Appendix C.

A review of the weekday PM peak period traffic on US 19 to the south of NW 11th Avenue reveals that our manual counts conducted during the mid-virus period are actually higher than the FDOT machine counts tabulated during the pre-virus period, suggesting that no virus adjustment is required for the PM peak period.

BUCKHOLZ TRAFFIC

TRIP GENERATION

Trip generation calculations were carried out using the 10th edition of ITE's Trip Generation Manual and referencing land use code 934 (Fast Food Restaurant with Drive-Thru Window). Table 1 contains the daily and PM peak hour trip generation calculations for the proposed development. During an average weekday the development is expected to generate 1010 total trips (505 entering and 505 exiting) with 70 total trips (36 entering and 34 exiting) occurring during the PM peak hour. The restaurant will not be open during the weekday AM peak hour.

Half of the generated trips will be new trips and the other half will be pass-by trips. However, since the primary goal of this study is to analyze the access situation for the planned development, we are interested in total driveway volumes and thus no adjustment has been made for pass-by capture. This results in site traffic volumes at the US 19/NW 11th Avenue intersection that are conservatively high.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Weekday PM peak hour site trips were distributed throughout the surrounding road network using directional percentages derived from our turning movement counts (see Figure 3). 52% of the exiting trips are expected to head north with 43% heading south and the remaining 5% heading west. 52% of the entering trips are expected to come from the south with 44% coming from the north and the remaining 4% coming from the west. The weekday PM peak hour site traffic assignment is contained in Figure 4. The values contained in this figure were obtained by multiplying the weekday PM peak hour trips provided in Table 1 by the trip distribution percentages.

FUTURE TRAFFIC VOLUMES

The expected weekday PM peak hour No Build and Build traffic volumes at intersections of interest are graphically depicted in Figures 5 through 7. No Build traffic volumes were obtained by multiplying the weekday PM peak hour volumes from our turning movement counts by the appropriate seasonal adjustment factor (1.00) and by a 1-year growth factor of 1.01 which reflects a minimum 1% annual growth rate. Year 2021 weekday PM peak hour Build traffic volumes were then obtained by adding the site traffic to the corresponding 2021 peak hour No Build traffic volumes.

BUCKHOLZ TRAFFIC

TURN LANE EVALUATION

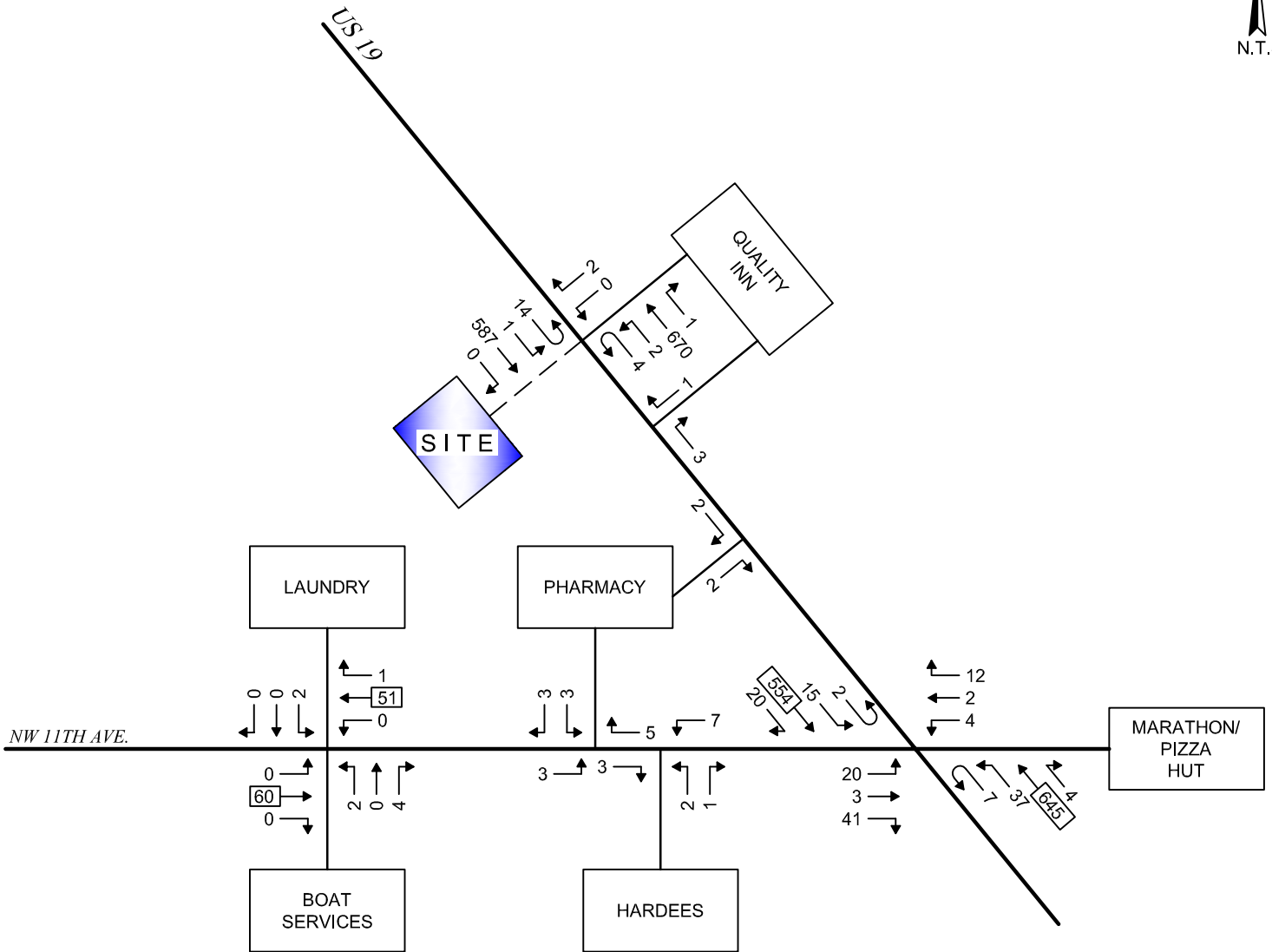
A formal analysis was made to determine if a right turn lane is warranted on US 19 at the Site Drive or on NW 11th Avenue at the Site Drive. The methodology contained in NCHRP Report 279 was used to conduct this analysis. As is indicated in Figures 8 and 9, 2021 Build PM peak hour right turn volumes into the site will not be high enough to warrant an exclusive right turn lane at either location. This result is supported by the methodology contained within NCHRP Report 420.

A formal analysis was also conducted to determine if a left turn lane is warranted on NW 11th Avenue at the Site Drive. The methodology contained in a paper written by M.D. Harmelink entitled: "Volume Warrants for Left Turn Storage Lanes at Unsignalized Grade Intersections" was used to conduct this evaluation. The results indicate that traffic volumes during 2021 Build conditions will not be high enough during the weekday PM peak hour to warrant an exclusive left turn lane at the site drive. The supporting analysis is provided in Figure 10.

INTERSECTION CAPACITY ANALYSIS

The US 19/NW 11th Avenue intersection, the US 19/Quality Inn/Site Drive intersection, and the NW 11th Avenue/Site Drive intersection were analyzed using the two-way stop control methodology contained in Chapter 20 of the Sixth Edition of the Highway Capacity Manual. Table 2 contains the capacity analysis results for 2020 existing conditions with the supporting calculations provided in Appendix D while Table 3 summarizes the results under 2021 Build conditions with these calculations provided in Appendix E. Under 2021 Build conditions, all minor movements are expected to operate at an acceptable level of service C or better during the weekday PM peak hour with minimal queuing and delay.

3:30-4:30 PM



XXX = CALCULATED VALUE

FIGURE 2

TRAFFIC COUNTS

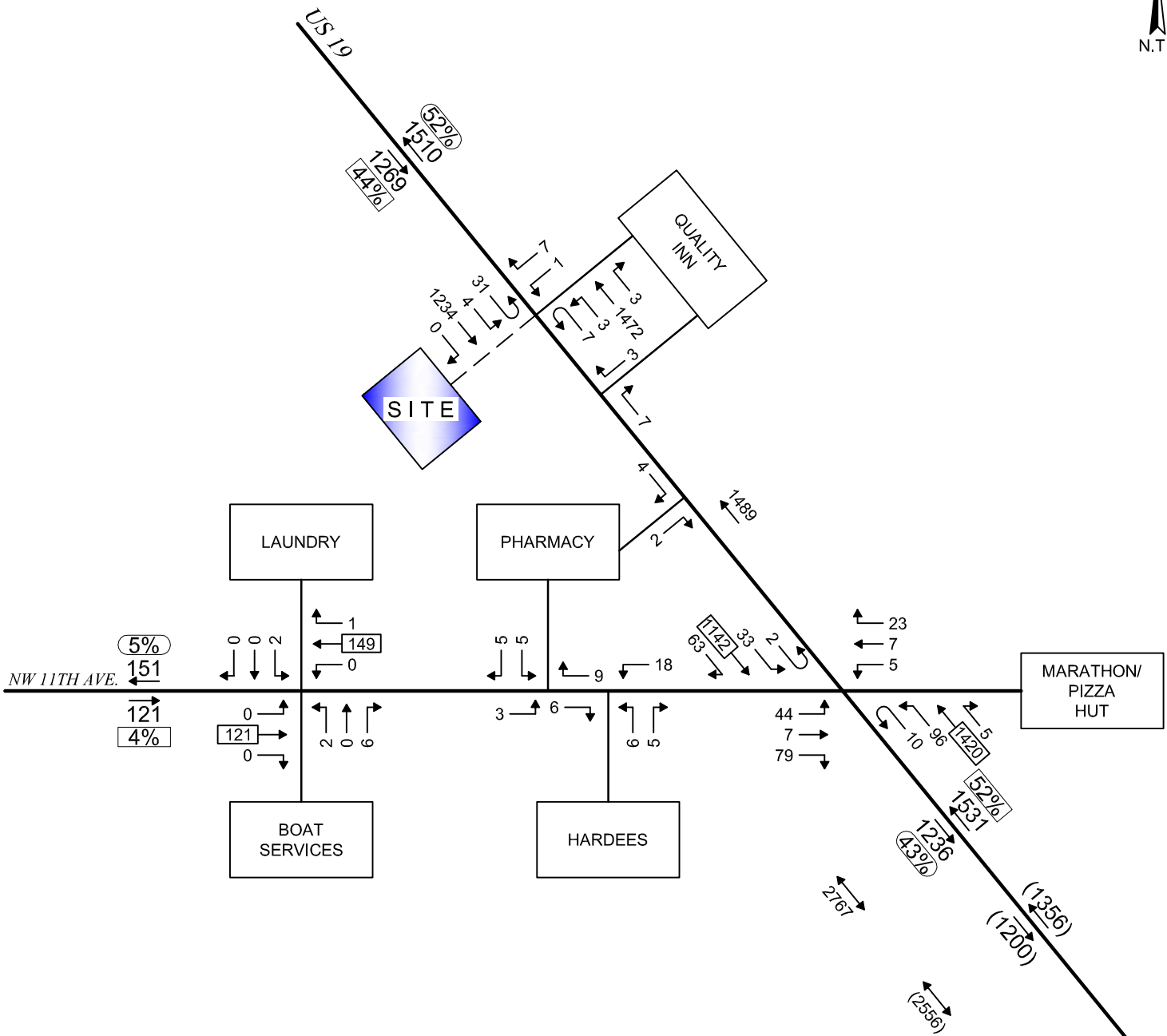
WEEKDAY PM PEAK HOUR



Buckholz Traffic

3:15-5:30 PM

THURSDAY
OCTOBER 15, 2020



XXX = CALCULATED VALUE
 () = TUESDAY, JUNE 11, 2019

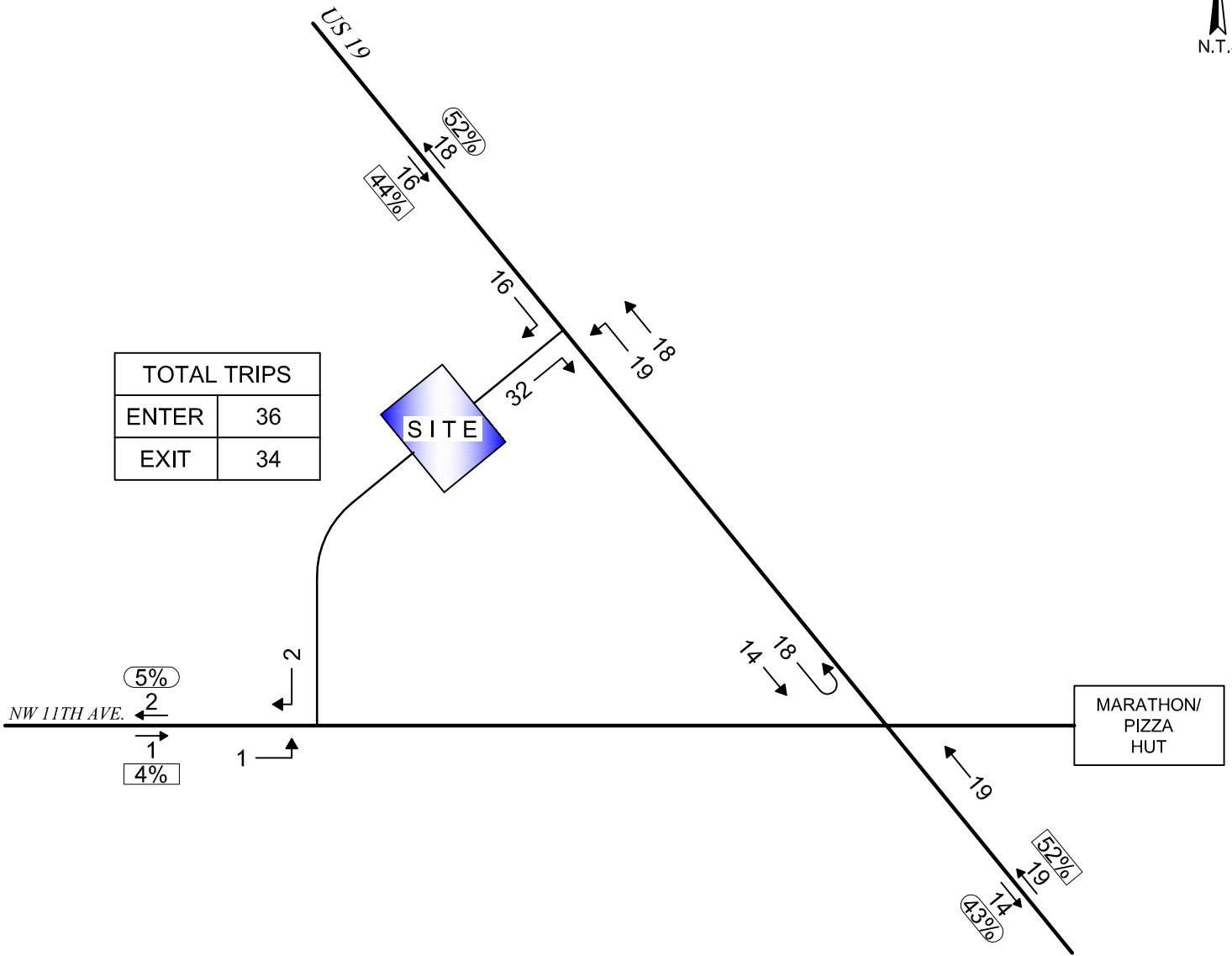
FIGURE 3

TRAFFIC
COUNTS



WEEKDAY PM PEAK PERIOD

Buckholz Traffic



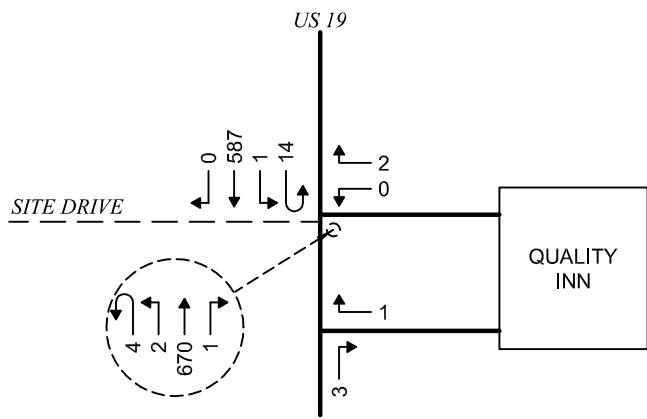
Buckholz Traffic

FIGURE 4

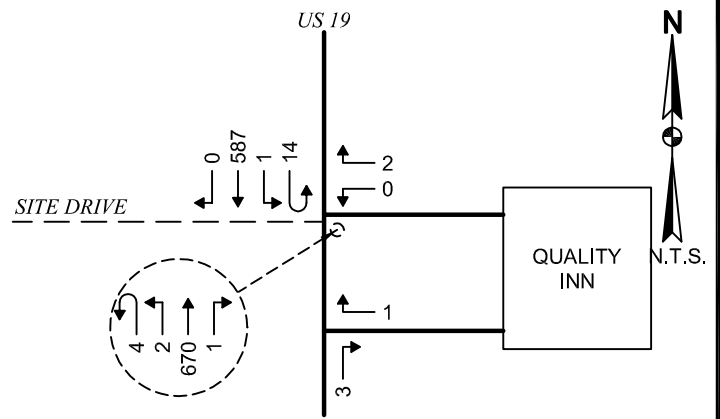
SITE TRAFFIC ASSIGNMENT

WEEKDAY PM PEAK HOUR

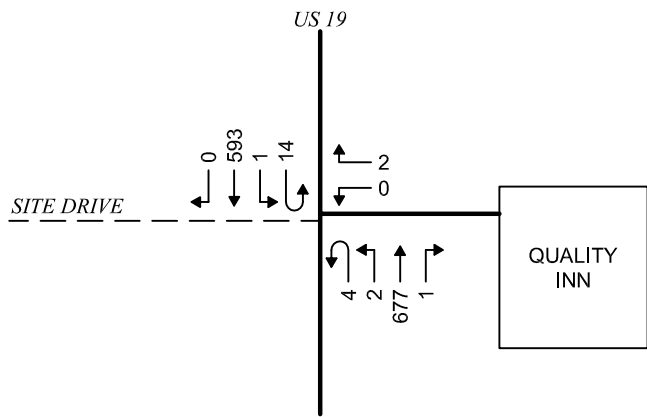




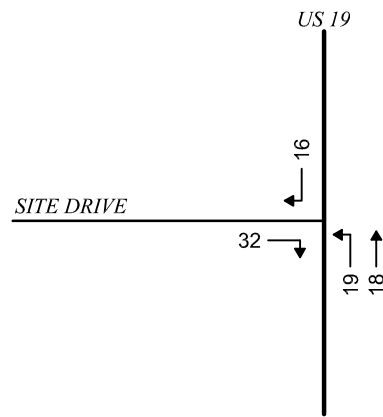
EXISTING TRAFFIC
10/15/20
3:30-4:30 PM



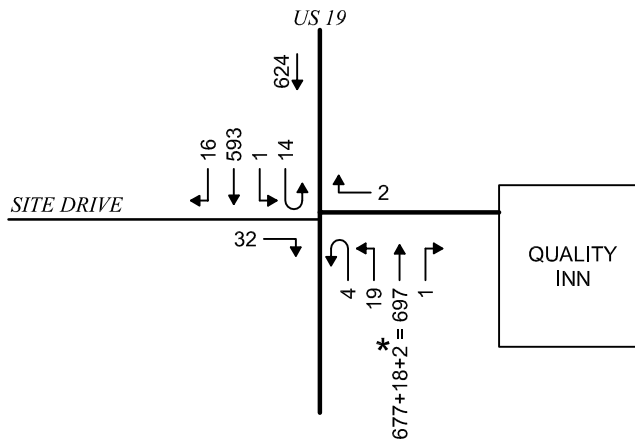
2020 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.00



2021 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.01)



SITE TRAFFIC



2021 BUILD TRAFFIC

* DIVERTED TRAFFIC

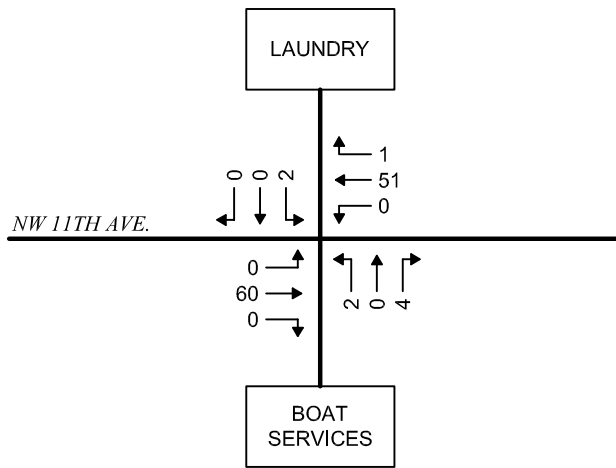
Buckholz Traffic

FIGURE 5

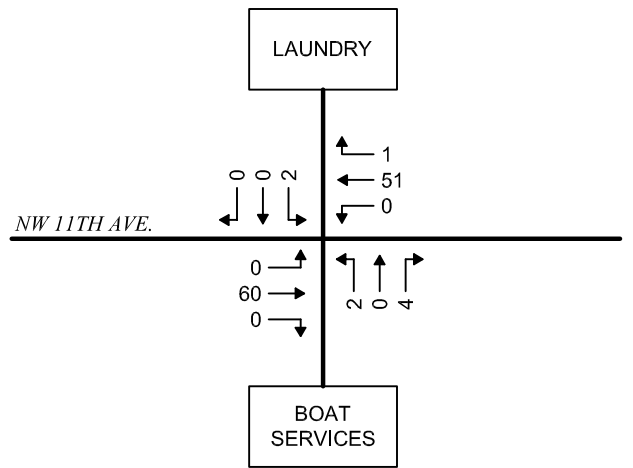
2021 BUILD TRAFFIC
US 19 / SITE DRIVE

WEEKDAY PM PEAK HOUR

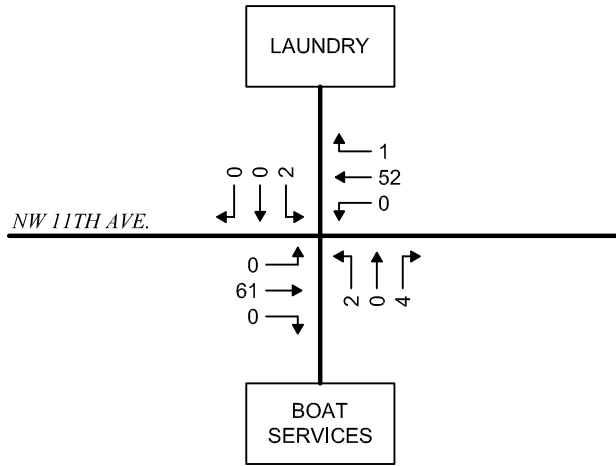




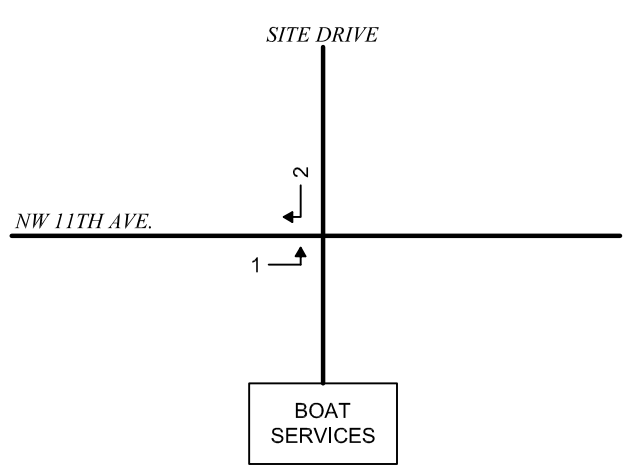
EXISTING TRAFFIC
10/15/20
3:30-4:30 PM



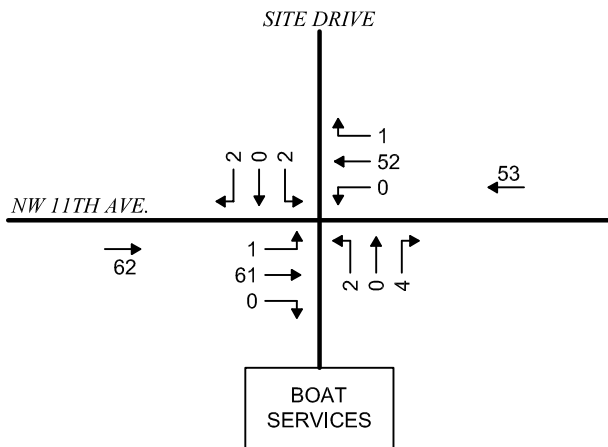
2021 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.00



2021 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.01)



SITE TRAFFIC

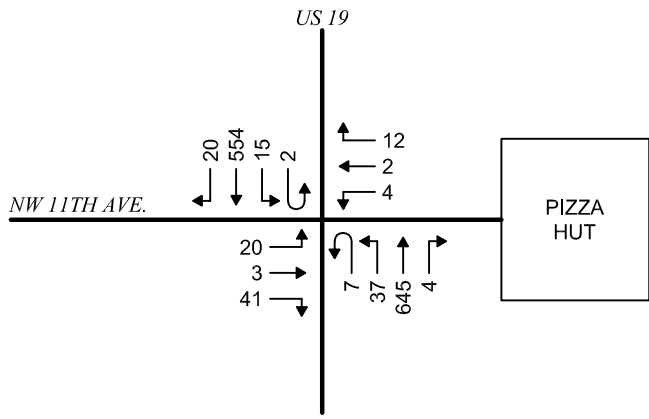


2021 BUILD TRAFFIC

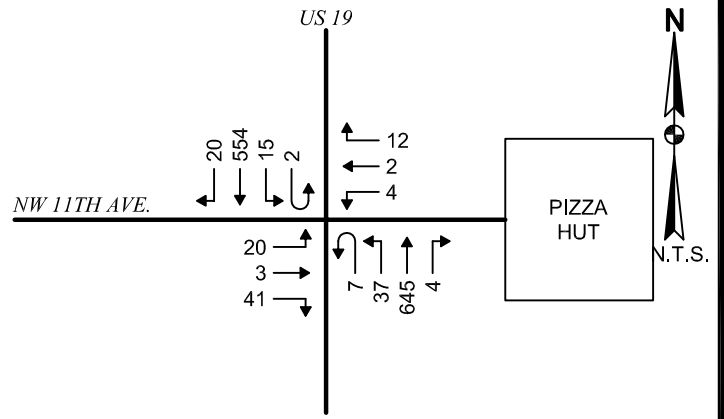
Buckholz Traffic

FIGURE 6
2021 BUILD TRAFFIC
NW 11TH AVENUE / SITE DRIVE
WEEKDAY PM PEAK HOUR

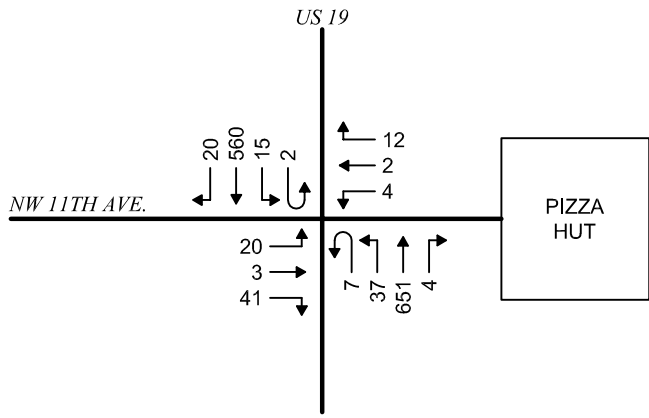




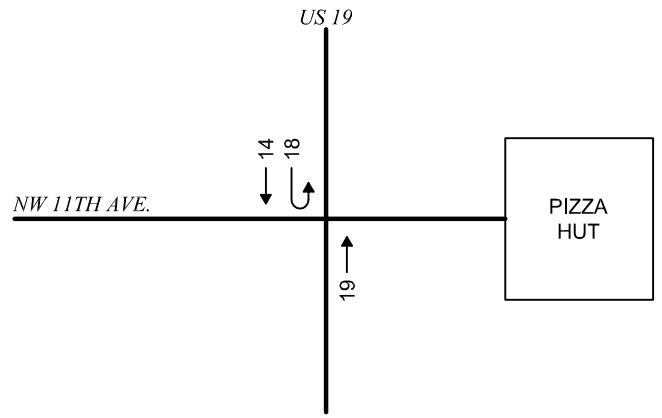
EXISTING TRAFFIC
10/15/20
3:30-4:30 PM



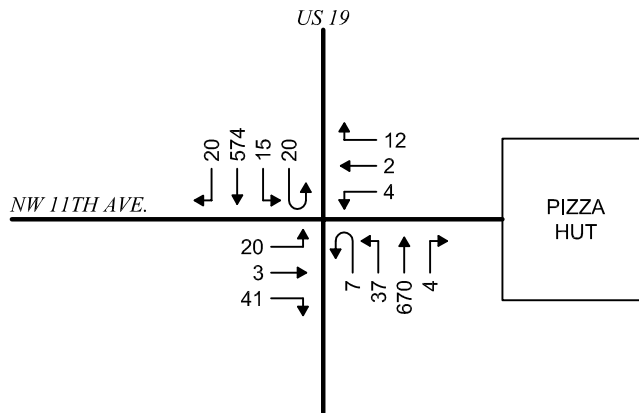
2020 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.00



2021 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.01)



SITE TRAFFIC



2021 BUILD TRAFFIC

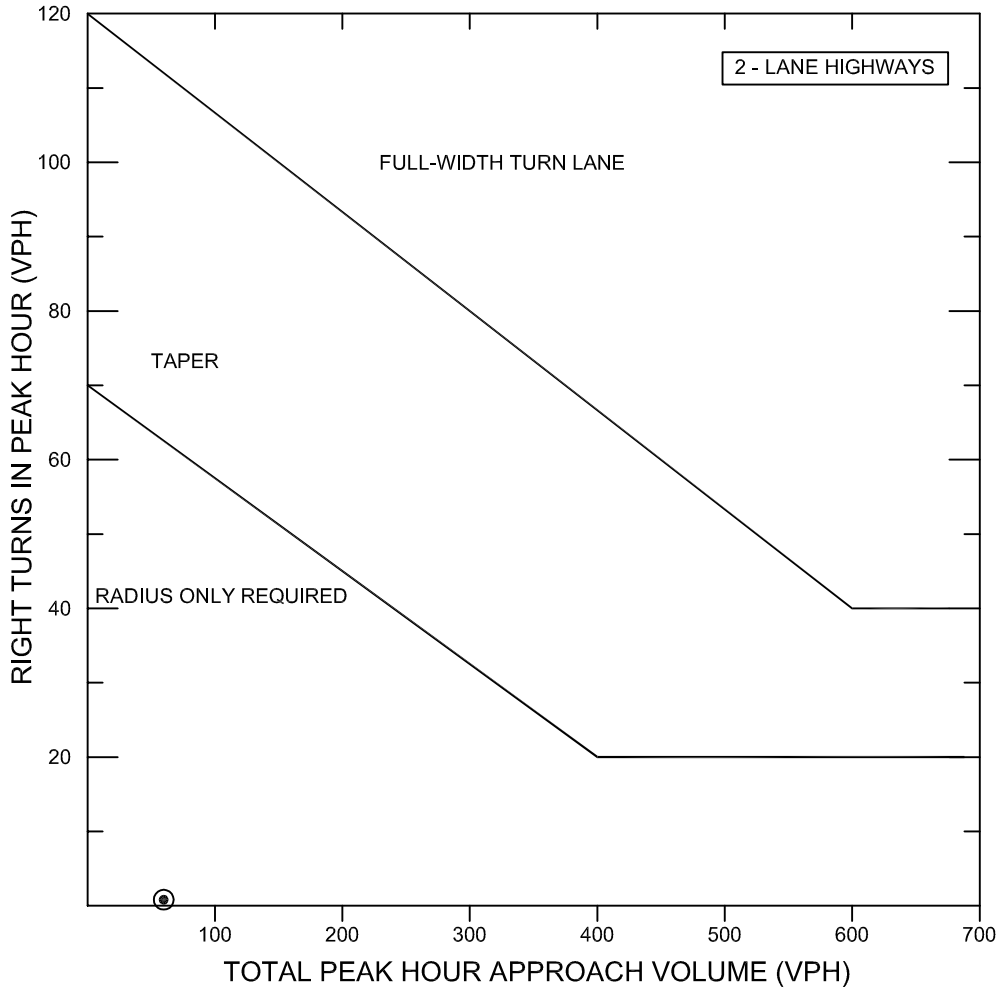
FIGURE 7

2021 BUILD TRAFFIC
US 19 / NW 11TH AVENUE

WEEKDAY PM PEAK HOUR



NW 11TH AVENUE @ SITE DRIVE



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

⊙ PM PEAK HOUR

V_A	53
V_R	1

NCHRP 420	
2 LANE	≤ 45 MPH

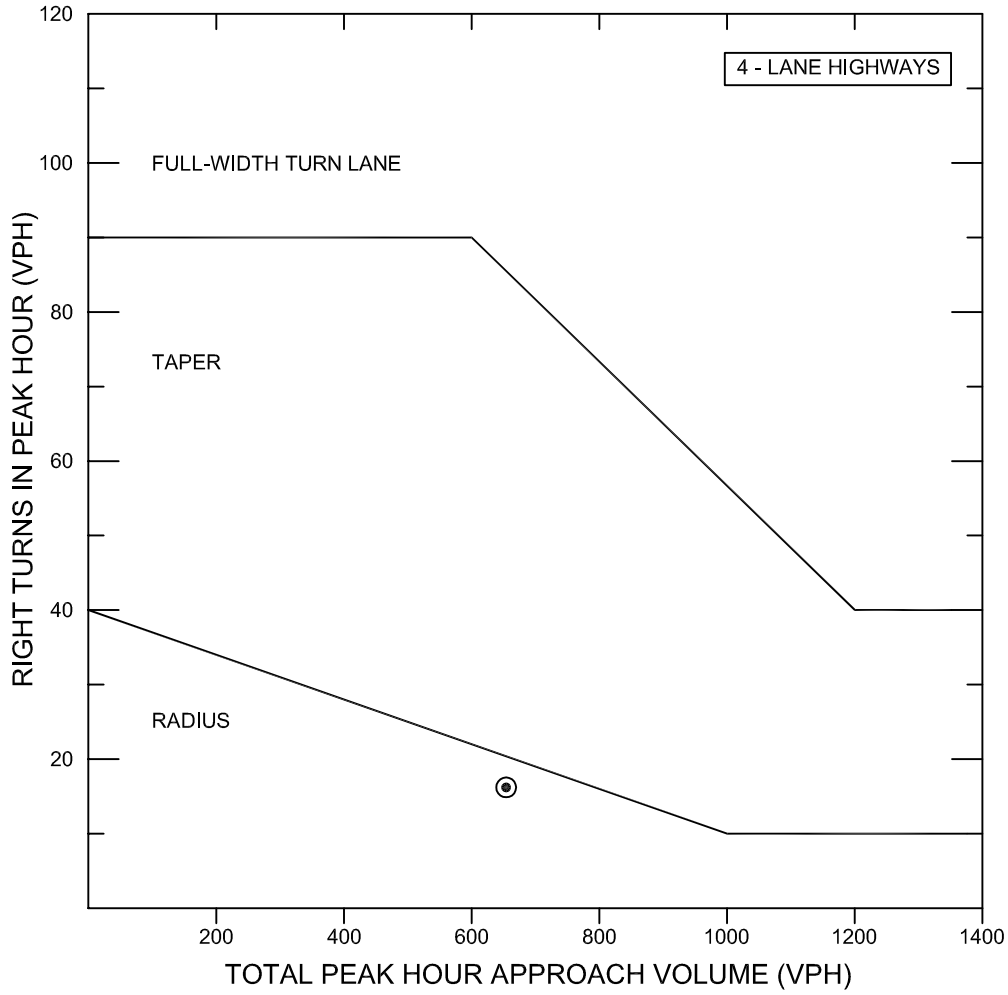
1 < 80 REQUIRED

FIGURE 8

RIGHT TURN
LANE ANALYSIS



US 19 @ SITE DRIVE



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

⊙ PM PEAK HOUR

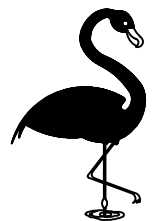
V_A	624
V_R	16

NCHRP 420	
≤ 45 MPH	MULTI-LANE

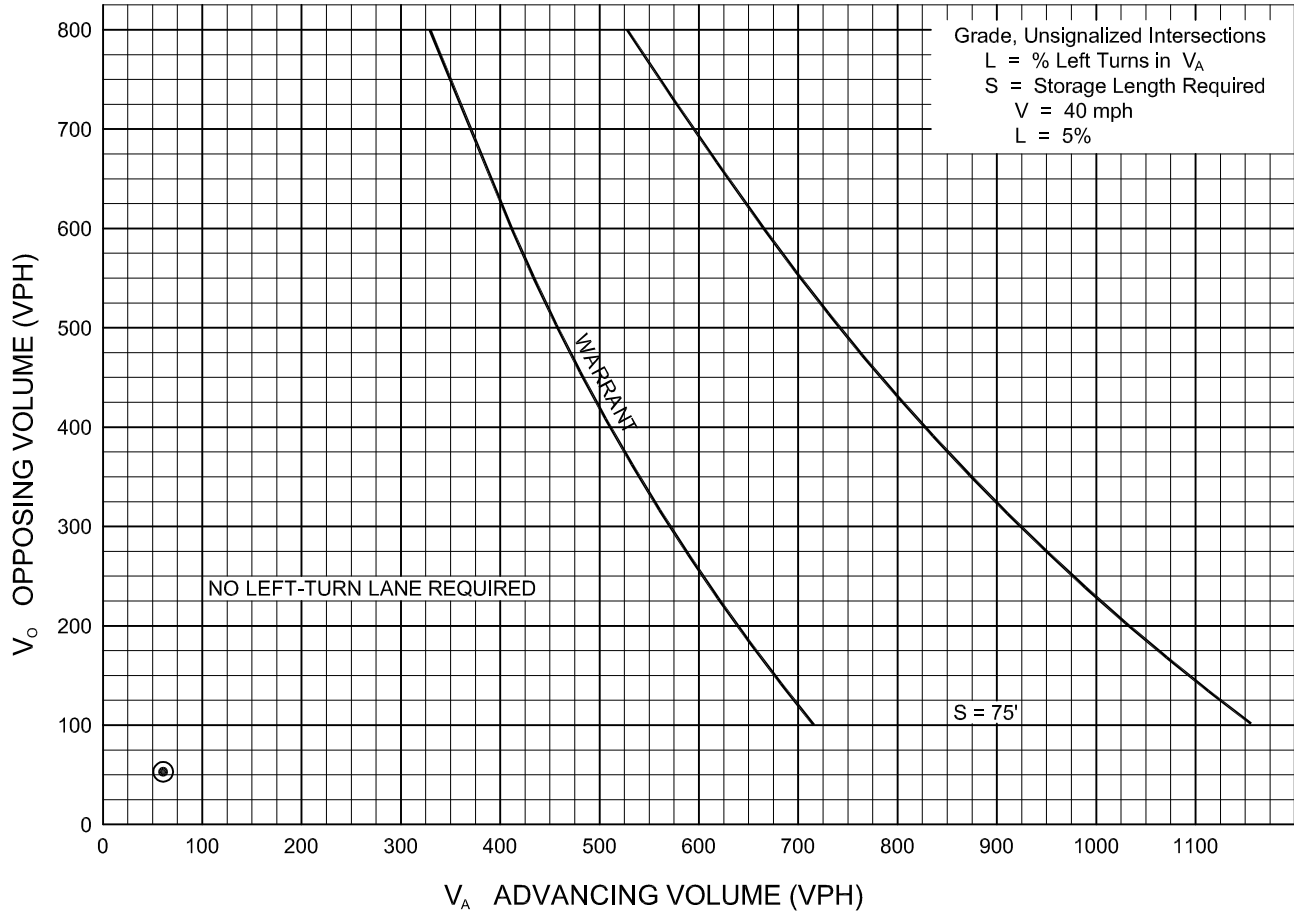
16 < 110 REQUIRED

FIGURE 9

RIGHT TURN LANE
EVALUATION



NW 11TH AVENUE @ SITE DRIVE



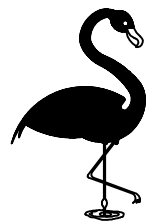
WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAYS

⊙ PM PEAK HOUR

$V_A = 62$
$V_O = 53$
$V_L = 1$
$\%LT = \frac{V_L}{V_A} = \frac{1}{62} = 2\%$

FIGURE 10

LEFT TURN
LANE ANALYSIS



SOURCE: HARMELINK

TABLE 1

TRIP GENERATION CALCULATIONS

FAST-FOOD RESTAURANT WITH DRIVE-THRU WINDOW

Land Use Code 934

T = Number of Vehicle Trip Ends

Size of Building = 2146 (X = 2.146)

<u>TIME PERIOD</u>	<u>TOTAL TRIP GENERATION EQUATION</u>	<u>TOTAL TRIP ENDS</u>	<u>PERCENT ENTERING</u>	<u>PERCENT EXITING</u>	<u>TOTAL TRIP ENDS ENTERING</u>	<u>TOTAL TRIP ENDS EXITING</u>
AVERAGE WEEKDAY						
Daily	T = 470.95 (X)	1010	50%	50%	505	505
AM Peak Hour	NOT OPEN DURING AM PEAK HOUR					
PM Peak Hour	T = 32.67 (X)	70	52%	48%	36	34

SOURCE: Institute of Transportation Engineers, "Trip Generation", 10th Edition (2017)

<u>TIME PERIOD</u>	<u>PERCENT NEW TRIPS</u>	<u>NEW TRIP ENDS</u>	<u>PERCENT ENTERING</u>	<u>PERCENT EXITING</u>	<u>NEW TRIP ENDS ENTERING</u>	<u>NEW TRIP ENDS EXITING</u>
NEW TRIPS						
AVERAGE WEEKDAY						
Daily	50%	460	50%	50%	230	230
AM Peak Hour	NOT OPEN DURING AM PEAK HOUR					
PM Peak Hour	50%	35	52%	48%	18	17

SOURCE: ITE, "Trip Generation Handbook", 3rd Edition, Tables E.31 and E.32

BUCKHOLZ TRAFFIC

TABLE 2**UNSIGNALIZED INTERSECTION CAPACITY RESULTS
EXISTING CONDITIONS**

US 19/QUALITY INN DRIVE	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Northbound U-Turn	B	11.4 sec/veh	0.01	1
Southbound Left Turn	B	12.3 sec/veh	0.03	1
Westbound Approach	B	10.7 sec/veh	0.00	1

NW 11TH AVE/LAUDRY-BOAT DRIVEWAYS	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	7.3 sec/veh	0.00	1
Westbound Left Turn	A	7.3 sec/veh	0.00	1
Northbound Approach	A	8.8 sec/veh	0.01	1
Southbound Approach	A	9.3 sec/veh	0.00	1

US 19/NW 11TH AVENUE	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Northbound Left Turn	A	9.4 sec/veh	0.06	1
Southbound Left Turn	A	9.5 sec/veh	0.02	1
Eastbound Approach	B	14.7 sec/veh	0.16	1
Westbound Approach	B	14.6 sec/veh	0.05	1

BUCKHOLZ TRAFFIC

TABLE 3**UNSIGNALIZED INTERSECTION CAPACITY RESULTS
2021 BUILD CONDITIONS**

US 19/QUALITY INN DRIVE	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Northbound Left Turn	A	9.6 sec/veh	0.03	1
Southbound Left Turn	B	12.7 sec/veh	0.03	1
Eastbound Approach	B	10.7 sec/veh	0.05	1
Westbound Approach	B	10.8 sec/veh	0.00	1

NW 11TH AVE/LAUDRY-BOAT DRIVEWAYS	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	7.3 sec/veh	0.00	1
Westbound Left Turn	A	7.3 sec/veh	0.00	1
Northbound Approach	A	8.9 sec/veh	0.01	1
Southbound Approach	A	8.9 sec/veh	0.00	1

US 19/NW 11TH AVENUE	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
Northbound Left Turn	A	9.5 sec/veh	0.06	1
Southbound Left Turn	B	11.4 sec/veh	0.06	1
Eastbound Approach	C	15.6 sec/veh	0.17	1
Westbound Approach	C	15.2 sec/veh	0.05	1

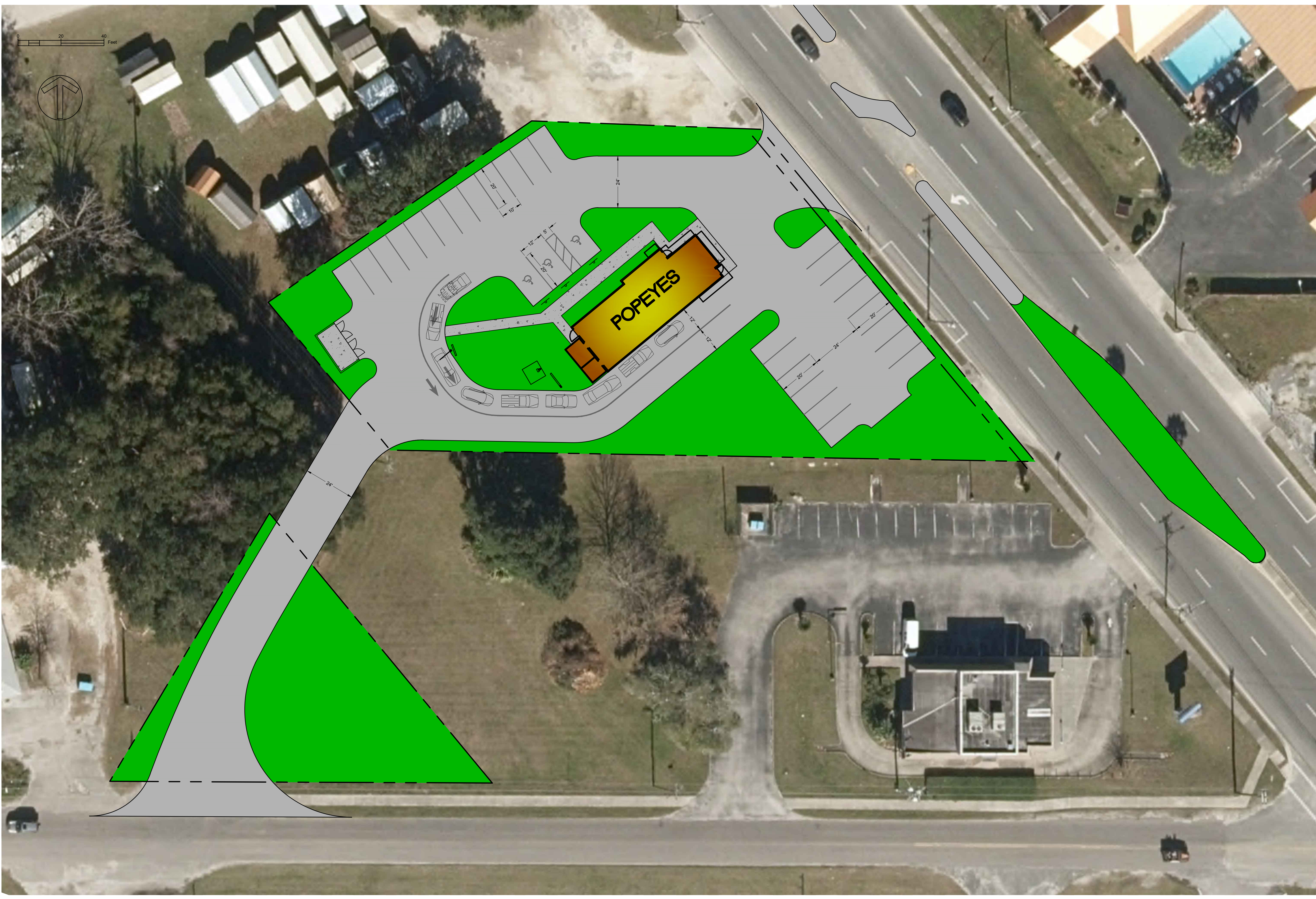
BUCKHOLZ TRAFFIC

APPENDIX A

SITE PLAN



FILE: 20-0035-CONCEPT2.DWG | LAST SAVED: 2020-10-21 01:55:29 PM | PLOT SCALE: 1:1 | PLOTTED: 2020-10-21 01:57:20 PM | USER: scoby



<p>CLIENT: BLUROCK DEVELOPMENT, LLC DESIGN: C.A. GUMER, PE QUALITY CONTROL: C.A. GUMER, PE SITE PLAN APP #: TBD VMD APP #: TBD CONJ PROJECT #: 20-0035</p>	<p>PERMITTING / DESIGN REVISIONS:</p>	<p>PRICING: PRELIMINARY CONSTRUCTION: BUDGETING</p>
<p>ENGINEER OF RECORD: CHRISTOPHER A. GUMER FL PE # 71599 2020-10-21</p>	<p>Gumer ENGINEERING <small>gumereng.com (352) 281-4828 2803 NW 13th St, Box 314 Gainesville, FL 32609</small></p>	
<p>POPEYES CHIEFLAND</p>	<p>CONCEPT PLAN 2</p>	
<p>DRAFT</p>		

APPENDIX B

MANUAL TURNING MOVEMENT COUNTS



DAY: THURSDAY

US 19 @ NW 11TH AVENUE/MARATHON-PIZZA

Start Date: 10/15/20

DATE: 10/15/20

LEVY COUNTY, FLORIDA

File I.D. : 10152002

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY):15:15 Hrs

Page : 1

AUTOMOBILES, COMMERCIAL VEHICLES

Date 10/15/20	US 19 From North				MARATHON/PIZZA HUT From East				US 19 From South				NW 11TH AVENUE From West				Total
	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	
15:15	4	0	10	0	0	2	2	0	9	0	1	1	6	1	11	0	47
15:30	3	0	6	0	1	0	3	0	12	0	0	1	5	3	8	0	42
15:45	6	0	1	1	2	2	3	0	9	0	1	3	4	0	10	0	42
16:00	2	0	10	0	1	0	6	0	8	0	1	0	4	0	14	0	46
Hr Total	15	0	27	1	4	4	14	0	38	0	3	5	19	4	43	0	177
16:15	4	0	3	1	0	0	0	0	8	0	2	3	7	0	9	0	37
16:30	4	0	6	0	0	0	2	0	9	0	0	0	3	0	5	0	29
16:45	2	0	10	0	1	0	3	0	13	0	0	1	5	0	5	0	40
17:00	4	0	12	0	0	1	3	0	11	0	0	1	7	1	7	0	47
Hr Total	14	0	31	1	1	1	8	0	41	0	2	5	22	1	26	0	153
17:15	4	0	5	0	0	2	1	0	17	0	0	0	3	2	10	0	44
Hr Total	4	0	5	0	0	2	1	0	17	0	0	0	3	2	10	0	44
TOTAL	33	0	63	2	5	7	23	0	96	0	5	10	44	7	79	0	374

Peak Hour Analysis By Entire Intersection for the Period: 15:15 to 16:15 on 10/15/20

Peak start	15:15				15:15				15:15				15:15			
Volume	15	0	27	1	4	4	14	0	38	0	3	5	19	4	43	0
Percent	35%	0%	63%	2%	18%	18%	64%	0%	83%	0%	7%	11%	29%	6%	65%	0%
Pk total	43				22				46				66			
Highest	15:15				15:45				15:30				15:15			
Volume	4	0	10	0	2	2	3	0	12	0	0	1	6	1	11	0
Hi total	14				7				13				18			
PHF	.77				.79				.88				.92			

AUTOMOBILES

Date	US 19 From North				MARATHON/PIZZA HUT From East				US 19 From South				NW 11TH AVENUE From West				Total
	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	
10/15/20	-----																
15:15	4	0	10	0	0	2	2	0	8	0	1	1	5	1	11	0	45
15:30	3	0	6	0	1	0	3	0	12	0	0	1	5	3	8	0	42
15:45	6	0	1	1	2	2	3	0	9	0	1	3	4	0	9	0	41
16:00	2	0	10	0	1	0	3	0	8	0	1	0	3	0	14	0	42
Hr Total	15	0	27	1	4	4	11	0	37	0	3	5	17	4	42	0	170
16:15	4	0	3	1	0	0	0	0	8	0	2	3	7	0	7	0	35
16:30	4	0	6	0	0	0	2	0	6	0	0	0	3	0	5	0	26
16:45	2	0	10	0	1	0	2	0	12	0	0	1	5	0	4	0	37
17:00	4	0	11	0	0	1	2	0	9	0	0	1	7	1	7	0	43
Hr Total	14	0	30	1	1	1	6	0	35	0	2	5	22	1	23	0	141
17:15	3	0	5	0	0	2	0	0	17	0	0	0	3	2	9	0	41
Hr Total	3	0	5	0	0	2	0	0	17	0	0	0	3	2	9	0	41
TOTAL	32	0	62	2	5	7	17	0	89	0	5	10	42	7	74	0	352

Peak Hour Analysis By Entire Intersection for the Period: 15:15 to 16:15 on 10/15/20

Peak start	15:15				15:15				15:15				15:15			
Volume	15	0	27	1	4	4	11	0	37	0	3	5	17	4	42	0
Percent	35%	0%	63%	2%	21%	21%	58%	0%	82%	0%	7%	11%	27%	6%	67%	0%
Pk total	43				19				45				63			
Highest	15:15				15:45				15:30				15:15			
Volume	4	0	10	0	2	2	3	0	12	0	0	1	5	1	11	0
Hi total	14				7				13				17			
PHF	.77				.68				.87				.93			

COMMERCIAL VEHICLES

Date	US 19 From North				MARATHON/PIZZA HUT From East				US 19 From South				NW 11TH AVENUE From West				Total
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	
10/15/20	-----																
15:15	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:00	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	4
Hr Total	0	0	0	0	0	0	3	0	1	0	0	0	2	0	1	0	7
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
16:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
16:45	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	3
17:00	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0	0	4
Hr Total	0	0	1	0	0	0	2	0	6	0	0	0	0	0	3	0	12
17:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3
Hr Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3
TOTAL	1	0	1	0	0	0	6	0	7	0	0	0	2	0	5	0	22

Peak Hour Analysis By Entire Intersection for the Period: 15:15 to 16:15 on 10/15/20

Peak start	15:15				15:15				15:15				15:15			
Volume	0	0	0	0	0	0	3	0	1	0	0	0	2	0	1	0
Percent	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	0%	67%	0%	33%	0%
Pk total	0				3				1				3			
Highest	15:15				16:00				15:15				15:15			
Volume	0	0	0	0	0	0	3	0	1	0	0	0	1	0	0	0
Hi total	0				3				1				1			
PHF	.0				.25				.25				.75			

DAY: THURSDAY

MANUAL TURNING MOVEMENT COUNTS

Site Code : 10152001

DATE: 10/15/20

US 19 @ QUALITY INN

Start Date: 10/15/20

WEATHER: CLEAR & DRY

LEVY COUNTY, FLORIDA

File I.D. : 10152001

BEGIN TIME (MILITARY):15:15 Hrs

Page : 1

AUTOMOBILES, COMMERCIAL VEHICLES

Date	US 19 From North				QUALITY INN From East				US 19 From South				N.F. PHARMACY From West				Total
	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	
10/15/20	-----																
15:15	0	120	0	5	0	0	1	0	1	148	0	1	0	0	0	0	276
15:30	1	140	0	1	0	0	0	0	0	159	1	0	0	0	0	0	302
15:45	0	134	0	6	0	0	1	0	1	160	0	1	0	0	0	0	303
16:00	0	168	0	4	0	0	0	0	0	174	0	1	0	0	0	0	347
Hr Total	1	562	0	16	0	0	2	0	2	641	1	3	0	0	0	0	1228
16:15	0	145	1	3	0	0	1	0	1	177	0	2	0	0	1	0	331
16:30	0	142	0	3	1	0	2	0	0	149	1	0	0	0	0	0	298
16:45	1	105	1	5	0	0	1	0	0	148	0	1	0	0	1	0	263
17:00	0	153	0	1	0	0	1	0	0	184	0	1	0	0	2	0	342
Hr Total	1	545	2	12	1	0	5	0	1	658	1	4	0	0	4	0	1234
17:15	2	127	1	3	0	0	1	0	0	173	1	0	0	0	0	0	308
Hr Total	2	127	1	3	0	0	1	0	0	173	1	0	0	0	0	0	308
TOTAL	4	1234	3	31	1	0	8	0	3	1472	3	7	0	0	4	0	2770

Peak Hour Analysis By Entire Intersection for the Period: 15:30 to 16:30 on 10/15/20

Peak start	15:30				15:30				15:30				15:30			
Volume	1	587	1	14	0	0	2	0	2	670	1	4	0	0	1	0
Percent	0%	97%	0%	2%	0%	0%	100%	0%	0%	99%	0%	1%	0%	0%	100%	0%
Pk total	603				2				677				1			
Highest	16:00				15:45				16:15				16:15			
Volume	0	168	0	4	0	0	1	0	1	177	0	2	0	0	1	0
Hi total	172				1				180				1			
PHF	.88				.50				.94				.25			

DAY: THURSDAY

MANUAL TURNING MOVEMENT COUNTS

Site Code : 10152001

DATE: 10/15/20

US 19 @ QUALITY INN

Start Date: 10/15/20

WEATHER: CLEAR & DRY

LEVY COUNTY, FLORIDA

File I.D. : 10152001

BEGIN TIME (MILITARY):15:15 Hrs

Page : 1

AUTOMOBILES

Date	US 19 From North				QUALITY INN From East				US 19 From South				N.F. PHARMACY From West				Total
	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	
10/15/20	-----																
15:15	0	110	0	5	0	0	0	0	0	130	0	1	0	0	0	0	246
15:30	1	130	0	1	0	0	0	0	0	140	1	0	0	0	0	0	273
15:45	0	114	0	6	0	0	1	0	1	147	0	1	0	0	0	0	270
16:00	0	157	0	4	0	0	0	0	0	158	0	1	0	0	0	0	320
Hr Total	1	511	0	16	0	0	1	0	1	575	1	3	0	0	0	0	1109
16:15	0	125	1	2	0	0	1	0	0	159	0	2	0	0	1	0	291
16:30	0	131	0	3	1	0	2	0	0	127	0	0	0	0	0	0	264
16:45	1	99	1	5	0	0	1	0	0	135	0	1	0	0	1	0	244
17:00	0	144	0	1	0	0	0	0	0	167	0	1	0	0	2	0	315
Hr Total	1	499	2	11	1	0	4	0	0	588	0	4	0	0	4	0	1114
17:15	2	113	1	3	0	0	1	0	0	159	1	0	0	0	0	0	280
Hr Total	2	113	1	3	0	0	1	0	0	159	1	0	0	0	0	0	280
TOTAL	4	1123	3	30	1	0	6	0	1	1322	2	7	0	0	4	0	2503

Peak Hour Analysis By Entire Intersection for the Period: 15:30 to 16:30 on 10/15/20

Peak start	15:30				15:30				15:30				15:30			
Volume	1	526	1	13	0	0	2	0	1	604	1	4	0	0	1	0
Percent	0%	97%	0%	2%	0%	0%	100%	0%	0%	99%	0%	1%	0%	0%	100%	0%
Pk total	541				2				610				1			
Highest	16:00				15:45				16:15				16:15			
Volume	0	157	0	4	0	0	1	0	0	159	0	2	0	0	1	0
Hi total	161				1				161				1			
PHF	.84				.50				.95				.25			

DAY: THURSDAY

MANUAL TURNING MOVEMENT COUNTS

Site Code : 10152001

DATE: 10/15/20

US 19 @ QUALITY INN

Start Date: 10/15/20

WEATHER: CLEAR & DRY

LEVY COUNTY, FLORIDA

File I.D. : 10152001

BEGIN TIME (MILITARY):15:15 Hrs

Page : 1

COMMERCIAL VEHICLES

Date	US 19 From North				QUALITY INN From East				US 19 From South				N.F. PHARMACY From West				Total
	Left	Thru	Right	U-TURN	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	
10/15/20	-----																
15:15	0	10	0	0	0	0	1	0	1	18	0	0	0	0	0	0	30
15:30	0	10	0	0	0	0	0	0	0	19	0	0	0	0	0	0	29
15:45	0	20	0	0	0	0	0	0	0	13	0	0	0	0	0	0	33
16:00	0	11	0	0	0	0	0	0	0	16	0	0	0	0	0	0	27
Hr Total	0	51	0	0	0	0	1	0	1	66	0	0	0	0	0	0	119
16:15	0	20	0	1	0	0	0	0	1	18	0	0	0	0	0	0	40
16:30	0	11	0	0	0	0	0	0	0	22	1	0	0	0	0	0	34
16:45	0	6	0	0	0	0	0	0	0	13	0	0	0	0	0	0	19
17:00	0	9	0	0	0	0	1	0	0	17	0	0	0	0	0	0	27
Hr Total	0	46	0	1	0	0	1	0	1	70	1	0	0	0	0	0	120
17:15	0	14	0	0	0	0	0	0	0	14	0	0	0	0	0	0	28
Hr Total	0	14	0	0	0	0	0	0	0	14	0	0	0	0	0	0	28
TOTAL	0	111	0	1	0	0	2	0	2	150	1	0	0	0	0	0	267

Peak Hour Analysis By Entire Intersection for the Period: 15:30 to 16:30 on 10/15/20

Peak start	15:30				15:30				15:30				15:30			
Volume	0	61	0	1	0	0	0	0	1	66	0	0	0	0	0	0
Percent	0%	98%	0%	2%	0%	0%	0%	0%	1%	99%	0%	0%	0%	0%	0%	0%
Pk total	62				0				67				0			
Highest	16:15				15:15				15:30				15:15			
Volume	0	20	0	1	0	0	1	0	0	19	0	0	0	0	0	0
Hi total	21				0				19				0			
PHF	.74				.0				.88				.0			

**TABLE B-1
NW 11TH AVENUE
MANUAL TURNING MOVEMENT COUNTS
Thursday October 15, 2020**

	Market Place Laundry Driveway			
	Right Turn In	Right Turn Out	Left Turn In	Left Turn Out
3:15-3:30 PM	0	0	0	0
3:30-3:45 PM	0	0	0	0
3:45-4:00 PM	0	0	0	1
4:00-4:15 PM	1	0	0	0
4:15-4:30 PM	0	0	0	1
4:30-4:45 PM	0	0	0	0
4:45-5:00 PM	0	0	0	0
5:00-5:15 PM	0	0	0	0
5:15-5:30 PM	0	0	0	0
TOTAL:	1	0	0	2
PM PEAK HOUR:	1	0	0	2

	Boat Services Driveway			
	Right Turn In	Right Turn Out	Left Turn In	Left Turn Out
3:15-3:30 PM	0	2	0	0
3:30-3:45 PM	0	3	0	0
3:45-4:00 PM	0	1	0	1
4:00-4:15 PM	0	0	0	1
4:15-4:30 PM	0	0	0	0
4:30-4:45 PM	0	0	0	0
4:45-5:00 PM	0	0	0	0
5:00-5:15 PM	0	0	0	0
5:15-5:30 PM	0	0	0	0
TOTAL:	0	6	0	2
PM PEAK HOUR:	0	4	0	2

	North Florida Pharmacy Driveway			
	Right Turn In	Right Turn Out	Left Turn In	Left Turn Out
3:15-3:30 PM	0	2	0	1
3:30-3:45 PM	3	2	0	0
3:45-4:00 PM	0	0	2	1
4:00-4:15 PM	1	1	0	1
4:15-4:30 PM	1	0	1	1
4:30-4:45 PM	1	0	0	0
4:45-5:00 PM	2	0	0	0
5:00-5:15 PM	1	0	0	1
5:15-5:30 PM	0	0	0	0
TOTAL:	9	5	3	5
PM PEAK HOUR:	5	3	3	3

	Hardees Driveway			
	Right Turn In	Right Turn Out	Left Turn In	Left Turn Out
3:15-3:30 PM	1	1	2	0
3:30-3:45 PM	2	0	0	1
3:45-4:00 PM	1	0	1	0
4:00-4:15 PM	0	0	5	1
4:15-4:30 PM	0	1	1	0
4:30-4:45 PM	2	0	2	1
4:45-5:00 PM	0	0	2	1
5:00-5:15 PM	0	2	3	1
5:15-5:30 PM	0	1	2	1
TOTAL:	6	5	18	6
PM PEAK HOUR:	3	1	7	2

BUCKHOLZ TRAFFIC

APPENDIX C

FDOT TRAFFIC DATA

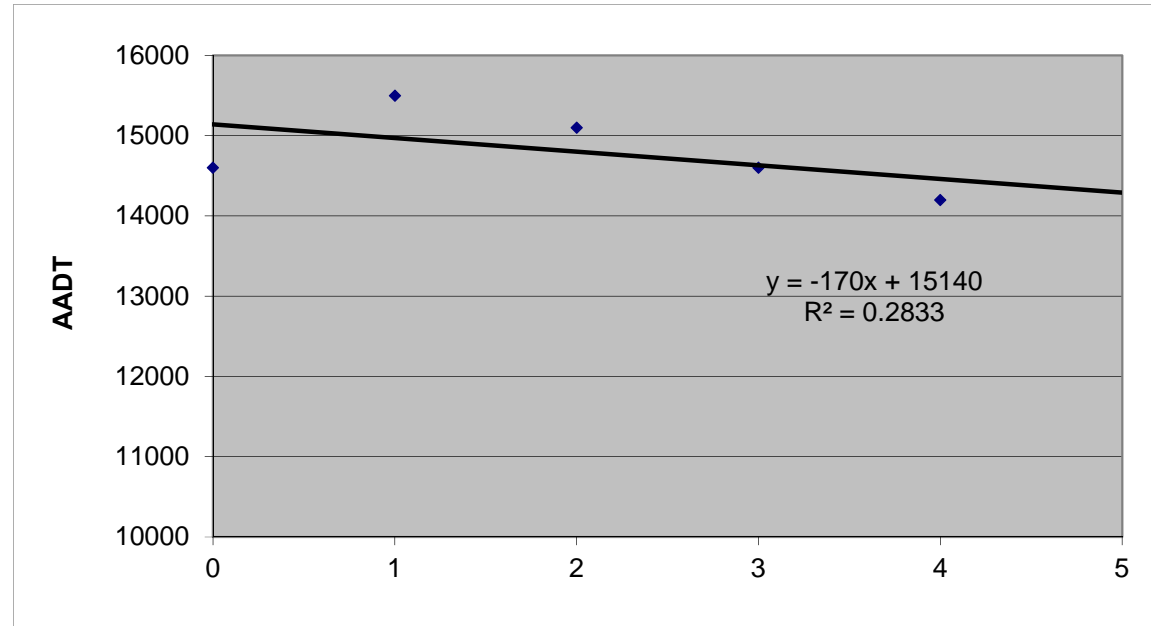


**TABLE C-1
LINEAR REGRESSION ANALYSIS**

US 19, North of US 129

<u>Year</u>	<u>X</u>	Actual AADT (Y)	Predicted AADT
2015	0	14600	15140
2016	1	15500	14970
2017	2	15100	14800
2018	3	14600	14630
2019	4	14200	14460
2020	5		14290
2021	6		14120

i = - 1.2%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 34 - LEVY

SITE: 5019 - SR 55 NW OF SR 49/US 129

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
----	-----		-----	-----	-----	-----	-----	-----	-----
2019	14200	C	S	6900	N	7300	9.50	54.80	11.00
2018	14600	C	S	7200	N	7400	9.50	56.20	12.10
2017	15100	C	S	7400	N	7700	9.50	56.90	10.70
2016	15500	C	S	7500	N	8000	9.50	56.00	10.40
2015	14600	C	S	7000	N	7600	9.50	55.40	9.90
2014	14100	C	S	6900	N	7200	9.50	55.50	7.90
2013	15000	C	S	7300	N	7700	9.50	55.40	8.20
2012	15000	C	S	7300	N	7700	9.50	55.30	8.10
2011	15000	C	S	7300	N	7700	9.50	55.30	8.20
2010	15800	C	S	7800	N	8000	12.68	58.46	8.10
2009	15100	C	S	7400	N	7700	12.77	56.79	8.10
2008	16500	C	S	8200	N	8300	12.80	59.04	10.30
2007	15900	C	S	8100	N	7800	12.52	59.16	10.70
2006	15600	C	S	7800	N	7800	12.14	58.73	10.80
2005	18200	C	S	8900	N	9300	13.70	59.10	10.90
2004	18400	C	S	8800	N	9600	10.70	57.50	10.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 34
 STATION: 5019
 DESCRIPTION: SR 55 NW OF SR 49/US 129
 START DATE: 06/11/2019
 START TIME: 1000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	17	17	10	9	53	9	6	6	9	30	83
0100	7	9	3	9	28	9	10	6	13	38	66
0200	5	8	3	3	19	7	10	7	6	30	49
0300	1	4	11	5	21	5	3	8	18	34	55
0400	8	9	13	18	48	13	14	10	17	54	102
0500	12	18	31	30	91	32	28	34	38	132	223
0600	33	34	57	50	174	41	65	68	70	244	418
0700	58	77	91	84	310	70	86	85	92	333	643
0800	112	125	110	100	447	100	113	85	122	420	867
0900	129	124	129	150	532	105	116	154	119	494	1026
1000	135	155	147	160	597	144	116	122	130	512	1109
1100	156	143	163	156	618	124	141	144	155	564	1182
1200	164	171	157	158	650	161	157	148	177	643	1293
1300	158	171	136	160	625	161	138	148	156	603	1228
1400	125	146	151	146	568	149	154	122	150	575	1143
1500	153	135	142	144	574	144	129	139	131	543	1117
1600	160	170	133	159	622	134	134	146	120	534	1156
1700	184	129	165	131	609	139	128	113	103	483	1092
1800	118	122	104	74	418	113	105	79	92	389	807
1900	85	96	72	72	325	76	77	82	75	310	635
2000	66	67	50	54	237	61	61	64	52	238	475
2100	41	66	47	47	201	58	49	44	31	182	383
2200	24	26	25	17	92	47	24	23	22	116	208
2300	26	9	8	13	56	30	20	10	8	68	124
24-HOUR TOTALS:	7915					7569					15484

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	845	482	845	497	845	979
P.M.	1200	650	1200	643	1200	1293
DAILY	1130	654	1200	643	1200	1293

COUNTY: 34
 STATION: 5019
 DESCRIPTION: SR 55 NW OF SR 49/US 129
 START DATE: 06/12/2019
 START TIME: 1000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	13	9	10	11	43	12	11	8	4	35	78
0100	3	5	6	12	26	4	10	5	7	26	52
0200	3	8	4	4	19	15	6	5	7	33	52
0300	6	9	11	9	35	6	7	3	19	35	70
0400	12	7	15	14	48	12	14	16	11	53	101
0500	10	23	26	36	95	21	36	34	41	132	227
0600	39	48	49	57	193	52	58	85	75	270	463
0700	65	85	91	114	355	69	75	94	101	339	694
0800	87	102	120	115	424	101	100	84	104	389	813
0900	102	133	119	141	495	88	106	122	116	432	927
1000	129	151	130	163	573	97	116	135	116	464	1037
1100	169	155	173	176	673	147	130	143	125	545	1218
1200	193	190	162	186	731	171	172	132	140	615	1346
1300	172	150	156	174	652	140	135	153	157	585	1237
1400	144	136	156	145	581	138	154	151	135	578	1159
1500	154	143	156	150	603	143	124	140	128	535	1138
1600	138	133	125	170	566	130	125	122	145	522	1088
1700	161	141	150	120	572	118	153	104	119	494	1066
1800	137	133	102	106	478	89	131	96	90	406	884
1900	79	102	90	61	332	88	89	60	62	299	631
2000	65	75	42	58	240	59	80	52	60	251	491
2100	37	39	36	21	133	37	56	42	29	164	297
2200	35	34	21	23	113	43	37	34	20	134	247
2300	15	19	17	12	63	18	18	22	5	63	126
24-HOUR TOTALS:	8043					7399					15442

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	830	470	845	420	845	889
P.M.	1200	731	1200	615	1200	1346
DAILY	1130	732	1200	615	1200	1346

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 3400 LEVY COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.95 PSCF
1	01/01/2019 - 01/05/2019	1.00	1.05
2	01/06/2019 - 01/12/2019	1.02	1.07
3	01/13/2019 - 01/19/2019	1.03	1.08
4	01/20/2019 - 01/26/2019	1.02	1.07
5	01/27/2019 - 02/02/2019	1.01	1.06
6	02/03/2019 - 02/09/2019	0.99	1.04
* 7	02/10/2019 - 02/16/2019	0.98	1.03
* 8	02/17/2019 - 02/23/2019	0.96	1.01
* 9	02/24/2019 - 03/02/2019	0.94	0.99
*10	03/03/2019 - 03/09/2019	0.92	0.97
*11	03/10/2019 - 03/16/2019	0.90	0.95
*12	03/17/2019 - 03/23/2019	0.92	0.97
*13	03/24/2019 - 03/30/2019	0.93	0.98
*14	03/31/2019 - 04/06/2019	0.95	1.00
*15	04/07/2019 - 04/13/2019	0.96	1.01
*16	04/14/2019 - 04/20/2019	0.97	1.02
*17	04/21/2019 - 04/27/2019	0.98	1.03
*18	04/28/2019 - 05/04/2019	0.98	1.03
*19	05/05/2019 - 05/11/2019	0.98	1.03
20	05/12/2019 - 05/18/2019	0.99	1.04
21	05/19/2019 - 05/25/2019	0.99	1.04
22	05/26/2019 - 06/01/2019	1.00	1.05
23	06/02/2019 - 06/08/2019	1.01	1.06
24	06/09/2019 - 06/15/2019	1.01	1.06
25	06/16/2019 - 06/22/2019	1.02	1.07
26	06/23/2019 - 06/29/2019	1.02	1.07
27	06/30/2019 - 07/06/2019	1.03	1.08
28	07/07/2019 - 07/13/2019	1.04	1.09
29	07/14/2019 - 07/20/2019	1.04	1.09
30	07/21/2019 - 07/27/2019	1.05	1.11
31	07/28/2019 - 08/03/2019	1.06	1.12
32	08/04/2019 - 08/10/2019	1.07	1.13
33	08/11/2019 - 08/17/2019	1.08	1.14
34	08/18/2019 - 08/24/2019	1.08	1.14
35	08/25/2019 - 08/31/2019	1.07	1.13
36	09/01/2019 - 09/07/2019	1.07	1.13
37	09/08/2019 - 09/14/2019	1.07	1.13
38	09/15/2019 - 09/21/2019	1.06	1.12
39	09/22/2019 - 09/28/2019	1.05	1.11
40	09/29/2019 - 10/05/2019	1.03	1.08
41	10/06/2019 - 10/12/2019	1.02	1.07
42	10/13/2019 - 10/19/2019	1.00	1.05
43	10/20/2019 - 10/26/2019	1.00	1.05
44	10/27/2019 - 11/02/2019	1.00	1.05
45	11/03/2019 - 11/09/2019	1.00	1.05
46	11/10/2019 - 11/16/2019	1.00	1.05
47	11/17/2019 - 11/23/2019	1.00	1.05
48	11/24/2019 - 11/30/2019	1.00	1.05
49	12/01/2019 - 12/07/2019	1.00	1.05
50	12/08/2019 - 12/14/2019	1.00	1.05
51	12/15/2019 - 12/21/2019	1.00	1.05
52	12/22/2019 - 12/28/2019	1.02	1.07
53	12/29/2019 - 12/31/2019	1.03	1.08

* PEAK SEASON

14-FEB-2020 15:39:22

830UPD

2_3400_PKSEASON.TXT

APPENDIX D

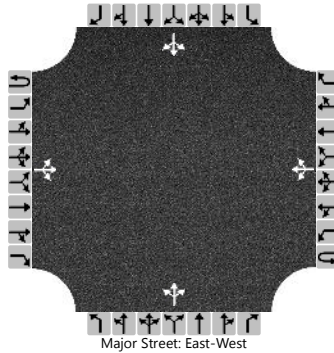
2020 EXISTING CAPACITY ANALYSIS



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz			Intersection	NW11th / Laundry / Boat		
Agency/Co.	BUCKHOLZ TRAFFIC			Jurisdiction	Duval County		
Date Performed	10/19/2020			East/West Street	NW 11th Avenue		
Analysis Year	2020			North/South Street	Laundry Dr. / Boat Dr.		
Time Analyzed	PM Peak Hour - Existing			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
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)		0	60	0		0	51	1		2	0	4		2	0	0
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
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)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
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)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

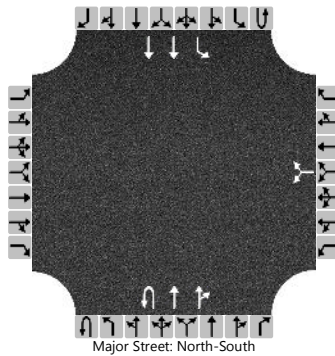
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					7					2	
Capacity, c (veh/h)		1548				1537					945					847	
v/c Ratio		0.00				0.00					0.01					0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.0					0.0	
Control Delay (s/veh)		7.3				7.3					8.8					9.3	
Level of Service (LOS)		A				A					A					A	
Approach Delay (s/veh)		0.0				0.0				8.8				9.3			
Approach LOS										A				A			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz			Intersection	US 19 / Quality Inn Drive		
Agency/Co.	BUCKHOLZ TRAFFIC			Jurisdiction	Duval County		
Date Performed	10/19/2020			East/West Street	Quality Inn N. Driveway		
Analysis Year	2020			North/South Street	US 19		
Time Analyzed	PM Peak Hour - Existing			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	1	0	2	0	0	1	2	0
Configuration							LR		U		T	TR		L	T	
Volume (veh/h)						0		2	6		670	1	14	1	587	
Percent Heavy Vehicles (%)						2		2	2				2	2		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9	6.4					6.4	4.1		
Critical Headway (sec)						6.84		6.94	6.44					6.44	4.14		
Base Follow-Up Headway (sec)						3.5		3.3	2.5					2.5	2.2		
Follow-Up Headway (sec)						3.52		3.32	2.52					2.52	2.22		

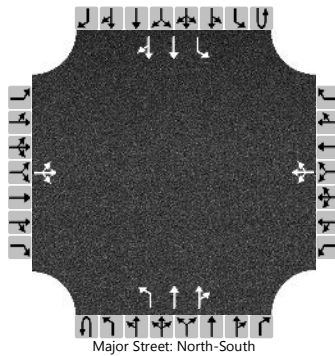
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						2		7						16		
Capacity, c (veh/h)						632		566						508		
v/c Ratio						0.00		0.01						0.03		
95% Queue Length, Q ₉₅ (veh)						0.0		0.0						0.1		
Control Delay (s/veh)						10.7		11.4						12.3		
Level of Service (LOS)						B		B						B		
Approach Delay (s/veh)					10.7				0.1				0.3			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz			Intersection	US 19 / NW 11th Avenue		
Agency/Co.	BUCKHOLZ TRAFFIC			Jurisdiction	Duval County		
Date Performed	10/20/2020			East/West Street	NW 11th Avenue		
Analysis Year	2020			North/South Street	US 19		
Time Analyzed	PM Peak Hour - Existing			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		20	3	41		4	2	12	7	37	645	4	2	15	554	20
Percent Heavy Vehicles (%)		0	0	7		0	0	25	0	0			0	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9	6.4	4.1			6.4	4.1		
Critical Headway (sec)		7.50	6.50	7.04		7.50	6.50	7.40	6.40	4.10			6.40	4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3	2.5	2.2			2.5	2.2		
Follow-Up Headway (sec)		3.50	4.00	3.37		3.50	4.00	3.55	2.50	2.20			2.50	2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			70				20								18		
Capacity, c (veh/h)			439				395								827		
v/c Ratio			0.16				0.05								0.02		
95% Queue Length, Q ₉₅ (veh)			0.6				0.2								0.1		
Control Delay (s/veh)			14.7				14.6								9.5		
Level of Service (LOS)			B				B								A		
Approach Delay (s/veh)	14.7				14.6				0.6				0.3				
Approach LOS	B				B				A				A				

APPENDIX E

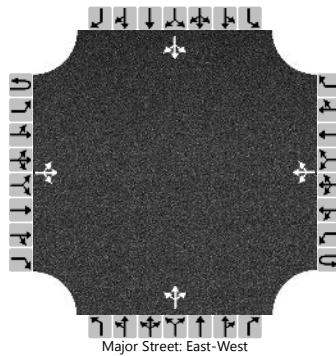
2021 BUILD CAPACITY ANALYSIS



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz			Intersection	NW11th / Laundry / Boat		
Agency/Co.	BUCKHOLZ TRAFFIC			Jurisdiction	Duval County		
Date Performed	10/20/2020			East/West Street	NW 11th Avenue		
Analysis Year	2021			North/South Street	Laundry Dr. / Boat Dr.		
Time Analyzed	PM Peak Hour - BUILD			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
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	61	0		0	52	1		2	0	4		2	0	2
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
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)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
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)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

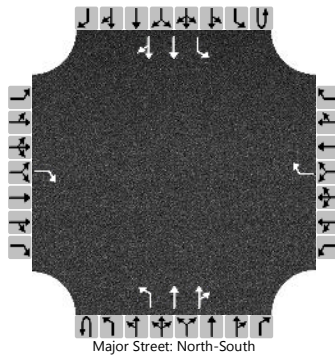
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				0					7					4	
Capacity, c (veh/h)		1547				1535					941					918	
v/c Ratio		0.00				0.00					0.01					0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.0					0.0	
Control Delay (s/veh)		7.3				7.3					8.9					8.9	
Level of Service (LOS)		A				A					A					A	
Approach Delay (s/veh)		0.1				0.0				8.9				8.9			
Approach LOS										A				A			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz	Intersection	US 19 / Quality Inn Drive				
Agency/Co.	BUCKHOLZ TRAFFIC	Jurisdiction	Duval County				
Date Performed	10/20/2020	East/West Street	Quality Inn N. Driveway				
Analysis Year	2021	North/South Street	US 19				
Time Analyzed	PM Peak Hour - BUILD	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	0	0	1	2	0
Configuration				R				R		L	T	TR		L	T	TR
Volume (veh/h)				32				2	4	19	697	1	14	1	593	16
Percent Heavy Vehicles (%)				2				0	2	2			2	2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No											
Median Type Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)				6.9				6.9	6.4	4.1			6.4	4.1		
Critical Headway (sec)				6.94				6.90	6.44	4.14			6.44	4.14		
Base Follow-Up Headway (sec)				3.3				3.3	2.5	2.2			2.5	2.2		
Follow-Up Headway (sec)				3.32				3.30	2.52	2.22			2.52	2.22		

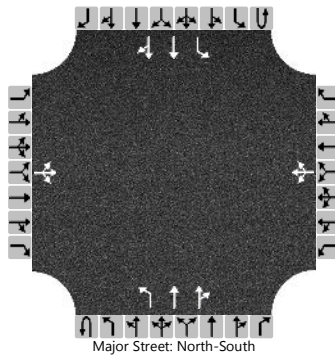
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				35				2		25						16
Capacity, c (veh/h)				665				624		812						487
v/c Ratio				0.05				0.00		0.03						0.03
95% Queue Length, Q ₉₅ (veh)				0.2				0.0		0.1						0.1
Control Delay (s/veh)				10.7				10.8		9.6						12.7
Level of Service (LOS)				B				B		A						B
Approach Delay (s/veh)	10.7				10.8				0.3				0.3			
Approach LOS	B				B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	J. Buckholz			Intersection	US 19 / NW 11th Avenue		
Agency/Co.	BUCKHOLZ TRAFFIC			Jurisdiction	Duval County		
Date Performed	10/20/2020			East/West Street	NW 11th Avenue		
Analysis Year	2021			North/South Street	US 19		
Time Analyzed	PM Peak Hour - BUILD			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	#20-1638						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		20	3	41		4	2	12	7	37	670	4	20	15	574	20
Percent Heavy Vehicles (%)		0	0	7		0	0	25	0	0			0	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9	6.4	4.1			6.4	4.1		
Critical Headway (sec)		7.50	6.50	7.04		7.50	6.50	7.40	6.40	4.10			6.40	4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3	2.5	2.2			2.5	2.2		
Follow-Up Headway (sec)		3.50	4.00	3.37		3.50	4.00	3.55	2.50	2.20			2.50	2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			70				20									38		
Capacity, c (veh/h)			408				373									603		
v/c Ratio			0.17				0.05									0.06		
95% Queue Length, Q ₉₅ (veh)			0.6				0.2									0.2		
Control Delay (s/veh)			15.6				15.2									9.5		
Level of Service (LOS)			C				C									A		
Approach Delay (s/veh)	15.6				15.2				0.6				0.6					
Approach LOS	C				C													