

Hillpointe Apartments

Hernando County, Florida

PREPARED FOR

Hillpointe, LLC
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August 2022

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Introduction

VHB has been retained by Hillpointe, LLC to conduct a traffic study for the proposed Hillpointe Apartments to be located on Astaire Lane, west of Barclay Avenue in Hernando County, Florida. The purpose of this study is to fulfill the Concurrency Approval for the project per the requirements set forth by Hernando County. The analysis quantifies both the existing traffic conditions along area roadways surrounding the parcel and the projected future traffic conditions expected for the Build condition. This document provides a detailed description of the study analysis and key findings.

Project Description

The proposed development will include 348 multi-family mid-rise dwelling units, with a buildout date of 2024. It will be located on Astaire Lane, west of Barclay Avenue in Hernando County, Florida. Access is provided on Astaire Lane. The speed limit on Barclay Avenue is 50 mph. The project location is illustrated in **Figure 1**. A preliminary site plan, along with the approved methodology is provided in **Appendix A**.

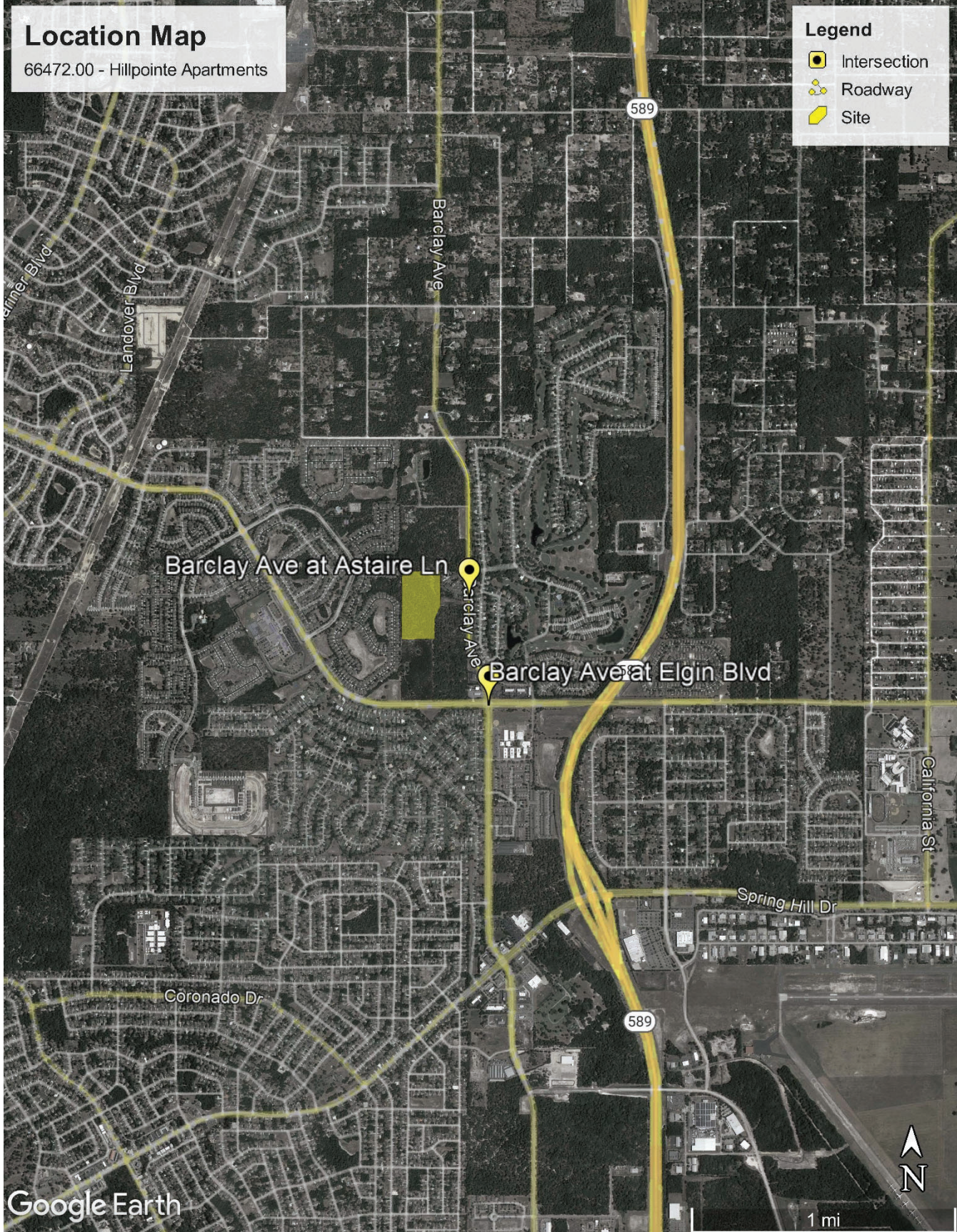


Figure 1 Location Map

Trip Generation

The project’s daily and peak hour trips were calculated based on the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 11th Edition. As shown in **Table 1**, ITE Land Use Code 221 – Multi-Family Mid-Rise was deemed the most appropriate for the proposed development. It is expected to generate 1,614 new daily external trips, 142 (33 in, 109 out) new AM peak hour external trips, and 136 (83 in, 53 out) new PM peak hour external trip for the build out conditions. The ITE Land Use sheets can be found in **Appendix B**.

Table 1 Trip Generation

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period			PM Peak Period		
				In Trips	Out Trips	Total	In Trips	Out Trips	Total
Multi-Family Housing (Mid-Rise)	221	348 DU	1,614	33	109	142	83	53	136
Total			1,614	33	109	142	83	53	136

Source: *ITE Trip Generation, 11th Edition*

Trip Distribution and Assignment

The distribution of site generated traffic is a function of population in surrounding areas, shopping opportunities, existing travel patterns, ease of access to the site, and traffic conditions on area roadways. Distribution was determined using the adopted Tampa Bay Regional Planning Model (TBRPM) and reviewed for reasonableness. The trip distribution is shown in **Figure 2**; a more detailed trip distribution print out is shown in **Appendix E**.

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Existing Conditions

Study Area

Impacted segments will include any public roadway segment where the net new traffic from the proposed project is a least 5% of the Generalized Peak Hour Directional Maximum Service Volume of the roadway. Additionally, any signalized or major unsignalized intersections was determined to be in the study area if they are along a significant roadway. **Table 2** presents the significance of project impacts to the roadway network for the PM peak hour condition at project buildout.

Table 2 Project Impact Significance

<i>PM PEAK HOUR</i>							
Roadway	No. of Lanes	Adopted LOS	PH2W MSV	Project		Significance	
				Dist	Trips	%	(Yes/No)
Barclay Ave from Spring Hill Drive to CR 572	4	D	3,222	38.6%	53	1.6%	No
Barclay Ave from CR 572 to Astaire Ln	2	D	1,440	61.4%	84	5.8%	Yes
Barclay Ave from Astaire Ln to San Antonio Rd	2	D	1,440	38.6%	52	3.6%	No
Barclay Ave from San Antonio Rd to SR 50	2	D	1,440	38.6%	52	3.6%	No
Elgin Blvd from Mariner Blvd to Barclay Ave	4	D	3,222	9.7%	13	0.4%	No
Powell Rd from Barclay Ave to US 41	2	D	1,440	13.1%	18	1.3%	No
Cortez Blvd from Mariner Blvd to Barclay Blvd	6	C	5,250	23.9%	32	0.6%	No
Cortez Blvd from Barclay Blvd to Suncoast Pkwy	6	C	5,250	13.3%	18	0.3%	No

For the purposes of this study, the roadway segment of Barclay Avenue from CR 572 to Astaire Lane will be evaluated, based on significance. Barclay Avenue from Astaire Lane to San Antonio will also be included in the study area since it is adjacent to the project entrance.

In addition, the following intersections were analyzed:

1. Barclay Avenue at Astaire Lane
2. Barclay Avenue at Elgin Boulevard/Powell Road

Turning movement counts were collected on July 12, 2022, during the AM (7:00-9:00AM), and PM (4:00-6:00PM) peak periods. The peak hour for each analysis intersection was determined based on these counts. These peak hour volumes were adjusted using their corresponding seasonal factor to reflect average conditions and form the basis of the traffic analysis. A copy of the data collected and seasonal factors from FDOT Florida Traffic Online reports are found in **Appendix C**. A seasonal adjustment factor of 1.05 was applied based on the count date. The existing turning movement volumes after seasonal factor adjustment are shown in **Figure 3**.

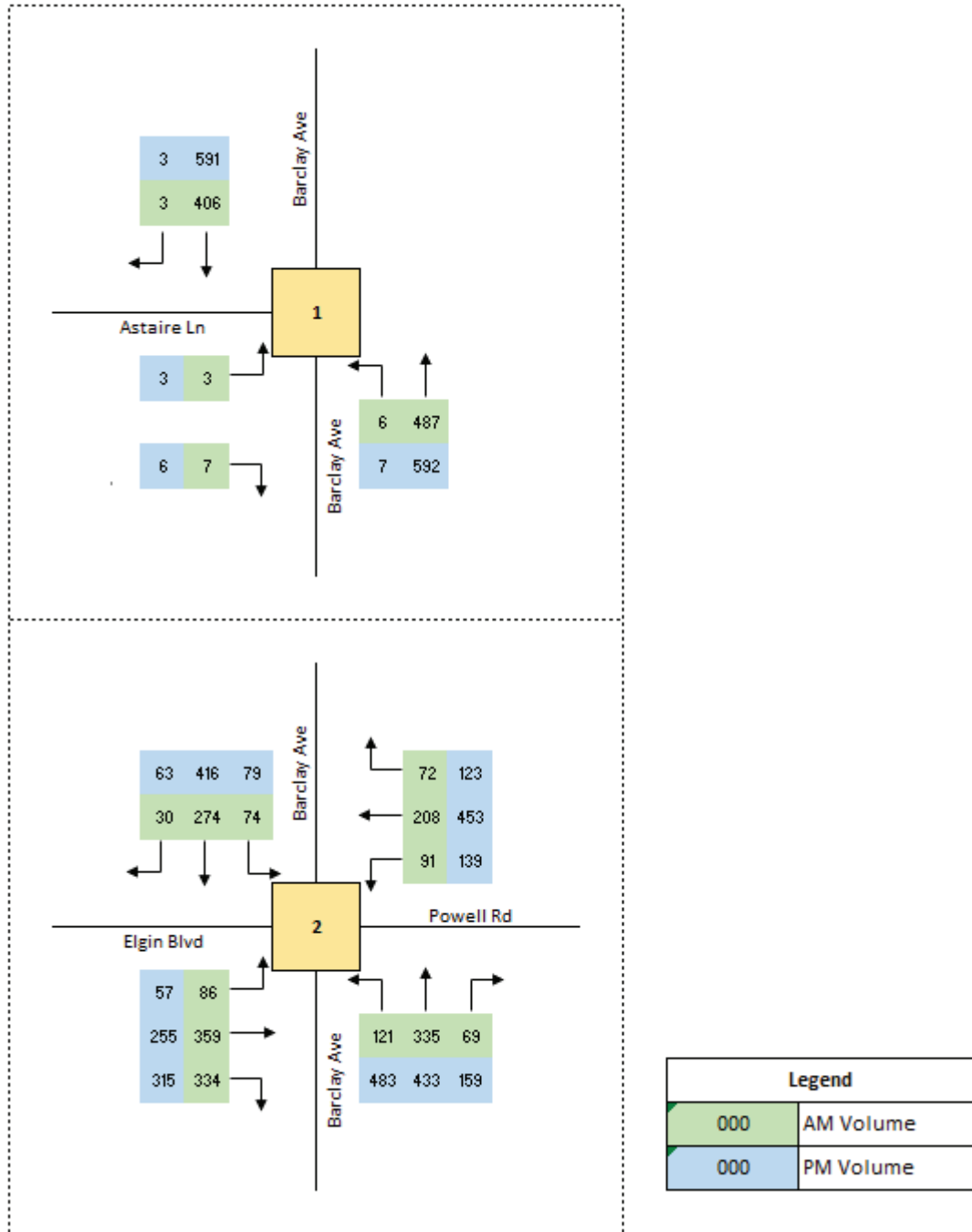


Figure 3 Existing AM/PM Peak Hour Turning Movement Volumes

Existing Roadway Capacity Analysis

VHB conducted an assessment to determine the existing level of service of the study roadways. The level of service (LOS) of a given roadway is related to prevailing traffic volumes and to capacity, which is defined as the maximum number of vehicles that can pass through a roadway section during a specified period. The capacity of a roadway is determined by several factors including composition of traffic (cars, buses, and trucks); roadway alignment; width and number of lanes; posted travel speeds and other variables.

The LOS and remaining capacity for each of the study roadways were determined based on the 2020 FDOT QLOS General Service Volumes. The existing roadway capacity analysis was performed for all roadways within the study area as shown in **Table 3**. In summary, the study roadway has an acceptable v/c ratio under existing conditions.

Table 3 Existing Roadway Capacity Analysis

<i>PM PEAK HOUR</i>										
Roadway	No. of Lanes	Adopted LOS	2021 FTO		PH2W		Existing V/C	Remaining Capacity	Over Capacity?	
			AADT	K	Volume	MSV				
Barclay Ave from CR 572 to Astaire Ln	2	D	12,500	9.0%	1,125	1,440	0.781	315	No	
Barclay Ave from Astaire Ln to San Antonio Rd	2	D	12,500	9.0%	1,125	1,440	0.781	315	No	

Existing Intersection Capacity Analysis

The existing intersections were evaluated using the methodology outlined in the Highway Capacity Manual (HCM) and using the Synchro 11.0 software. A seasonal factor was applied to the existing counts. The results of the intersection capacity analysis for the AM and PM peak hours are shown, in **Table 4**. The existing HCM 6 intersection report printouts are provided in **Appendix D**. As **Table 4** indicates, no individual movement reaches a LOS F or a v/c of 1.0.

Table 4 Intersection Capacity Analysis – Existing Conditions

Intersection	Control	Movement	Existing					
			AM			PM		
			v/c	Delay	LOS	v/c	Delay	LOS
Barclay Avenue at Astaire Lane	TWSC	EBL	0.02	20.2	C	0.02	26.0	D
		EBR	0.01	11.3	B	0.01	12.7	B
		NBTL	0.01	8.4	A	0.01	8.9	A
		SBTR	0.00	0.0	A	0.00	0.0	A
Elgin Boulevard at Barclay Avenue	Signal	EBL	0.77	44.1	D	0.77	71.6	E
		EBT	0.47	25.7	C	0.37	41.5	D
		EBR	0.57	28.5	C	0.66	48.3	D
		EB		29.0	C		47.5	D
		WBL	0.49	36.2	D	0.72	60.5	E
		WBT	0.35	25.2	C	0.75	48.7	D
		WBR	0.35	25.3	C	0.75	49.1	D
		WB		28.1	C		51.2	D
		NBL	0.61	37.0	D	0.94	74.8	E
		NBT	0.79	30.6	C	0.62	30.0	C
		NBR	0.11	22.0	C	0.15	22.4	C
		NB		31.6	C		50.9	D
		SBL	0.77	45.8	D	0.79	67.6	E
		SBTR	0.76	30.5	C	0.93	62.3	E
SB		33.5	C		63.1	E		
Overall			30.4	C		61.7	E	

v/c: Volume to capacity ratio

Delay: Average delay in seconds per vehicle

LOS: Level of Service

HCM 6th Edition based on Synchro 11 Results are reported

3

Future Conditions

The future background traffic was developed based on growth rates derived from historic AADTs. Vested traffic was added from the Village Van Gogh, Jumper Loop and Lucky Lane Residential developments. Additionally, the anticipated number of trips generated from the Hillpointe Multi-family development were calculated based on the trip generation rates/equations obtained from the ITE Trip Generation Manual, 11th Edition and distributed to the roadways and intersections based on site layout and trip distribution. The intersection volume derivation is documented in **Appendix E**.

2025 Future Roadway Capacity Analysis

The future capacity analysis for the study area roadways for the project build out can be found in **Table 5** for the PM peak hour condition. As described in the approved methodology document, the future conditions analysis assumes the two to four-lane widening of Barclay Avenue from Powell Road to N San Antonio Road. The latest roadway improvements plans are included in **Appendix F**. Based on coordination with Hernando County staff, the roadway plans are anticipated to be updated prior to construction of the improvements.

The analysis shows that all the study roadways will continue to operate with an acceptable v/c ratio in the build out condition.

Table 5 Future Roadway Capacity Analysis

PM PEAK HOUR

Roadway	No. of Lanes	Adopted LOS	2021 FTO		PH2W		Growth		2024 Growth	Lucky Lane	Jumper Loop	Village Van Gogh	Total Vested	2024 Background PH2W			Project		2024 Build Out PH2W		
			AAADT	K	Volume	MSV	R ²	%						Volume	v/c	Deficient?	Dist	Trips	Volume	v/c	Deficient?
Barclay Ave from CR 572 to Astaire Ln	4	D	12,500	9.0%	1,125	3,222	0.74	1.8%	62	28	46	12	86	1,273	0.395	No	61.4%	84	1,357	0.421	No
Barclay Ave from Astaire Ln to San Antonio Rd	4	D	12,500	9.0%	1,125	3,222	0.74	1.8%	62	28	46	12	86	1,273	0.395	No	38.6%	52	1,325	0.411	No

Future Intersection Capacity Analysis

To determine the operational conditions at the intersections and project driveways, intersections were evaluated for the PM peak hour and AM peak hour conditions using Synchro 11 software (HCM 6 methodology). As documented in the methodology document, the future conditions analysis for the background and buildout scenarios assumes the two to four-lane widening of Barclay Avenue from Powell Road to N San Antonio Road, as well as the traffic signal retiming for Barclay Avenue at Powell Road/Elgin Boulevard. The results of the intersection capacity analysis are shown in **Table 6**. The future HCM reports are provided in **Appendix G**. **Figure 4** illustrates the AM peak hour future traffic volumes. **Figure 5** illustrates the PM peak hour future traffic volumes. As seen in **Table 6**, no individual movement is anticipated to operate at LOS F or a v/c of 1.0.

Table 6 Intersection Capacity Analysis – Future Conditions

Intersection	Control	Movement	Background						Buildout					
			AM			PM			AM			PM		
			v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS
Barclay Avenue at Astaire Lane	TWSC	EBL	0.01	13.1	B	0.01	15.5	C	0.12	14.5	B	0.1	18.0	C
		EBR	0.01	9.8	A	0.01	10.5	B	0.10	10.3	B	0.1	11.0	B
		NBTL	0.01	8.3	A	0.01	9.0	A	0.03	8.5	A	0.1	9.4	A
		SBTR	0.00	0.0	A	0.00	0.0	A	0.00	0.0	A	0	0.0	A
Elgin Boulevard at Barclay Avenue	Signal	EBL	0.77	41.2	D	0.77	60.5	E	0.77	41.6	D	0.8	60.8	E
		EBT	0.50	23.3	C	0.38	33.1	C	0.51	24.0	C	0.4	33.9	C
		EBR	0.58	25.6	C	0.63	38.4	D	0.58	26.4	C	0.6	39.1	D
		EB		26.2	C		38.2	D		27.0	C		39.2	D
		WBL	0.49	33.9	C	0.69	50.5	D	0.50	34.9	C	0.7	52.4	D
		WBT	0.35	22.6	C	0.75	40.5	D	0.37	23.7	C	0.8	42.7	D
		WBR	0.36	22.7	C	0.75	40.8	D	0.38	23.8	C	0.8	43.0	D
		WB		25.4	C		42.5	D		26.4	C		44.6	D
		NBL	0.60	34.5	C	0.87	48.5	D	0.60	35.3	D	0.9	51.1	D
		NBT	0.64	29.1	C	0.55	28.9	C	0.64	29.8	C	0.6	30.1	C
		NBR	0.64	29.2	C	0.55	29.0	C	0.65	29.8	C	0.6	30.2	C
		NB		30.5	C		38.0	D		31.1	C		39.6	D
		SBL	0.76	43.0	D	0.77	57.8	E	0.76	41.8	D	0.8	58.8	E
		SBT	0.56	28.8	C	0.74	42.2	D	0.60	29.1	C	0.8	43.2	D
SBR	0.56	28.9	C	0.74	42.3	D	0.60	29.2	C	0.8	43.3	D		
SB		31.6	C		44.4	D		31.6	C		45.5	D		
Overall			27.9	C		40.1	D		28.6	C		42.0	D	

HCM 6th Edition based on Synchro 11 Results are reported

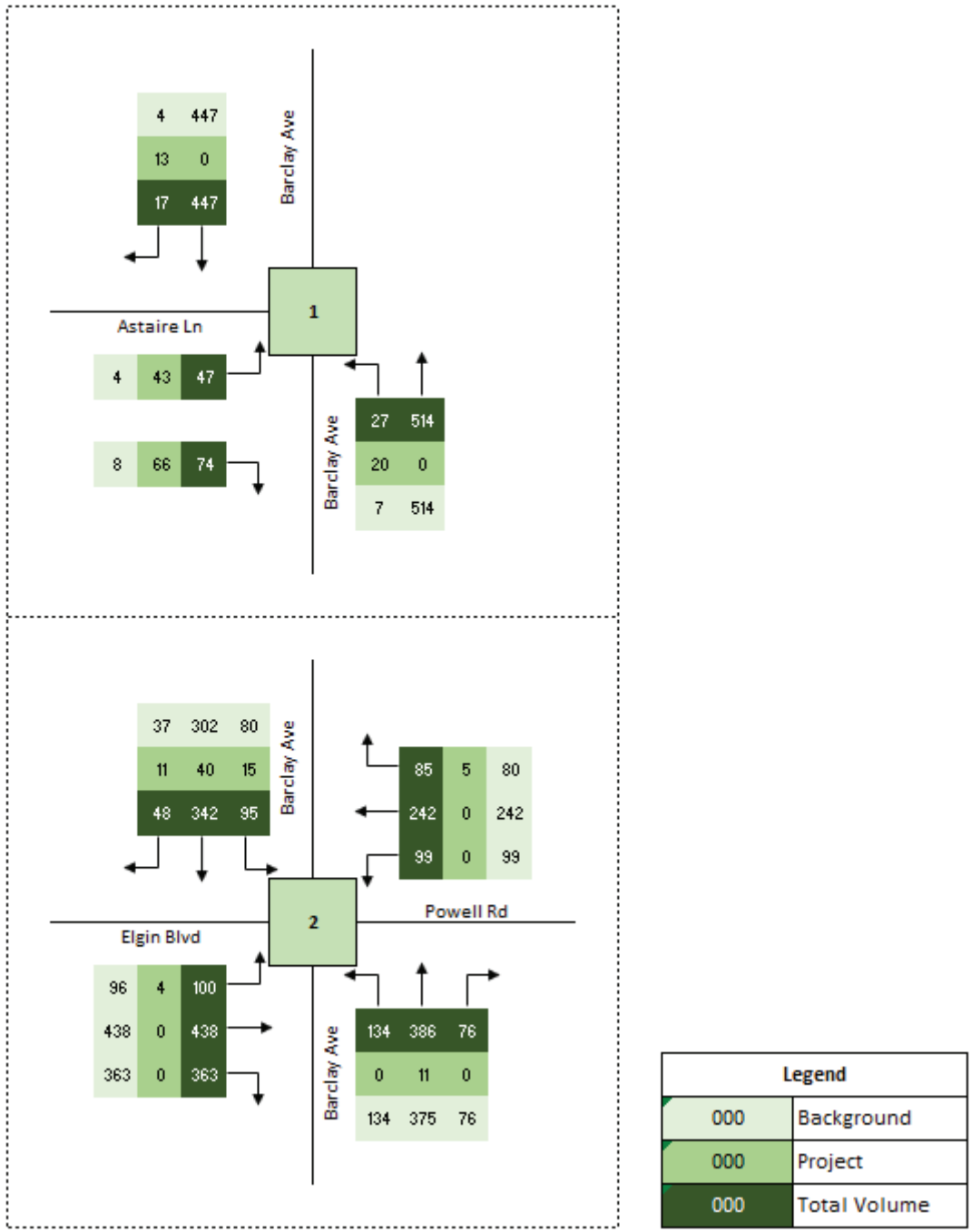
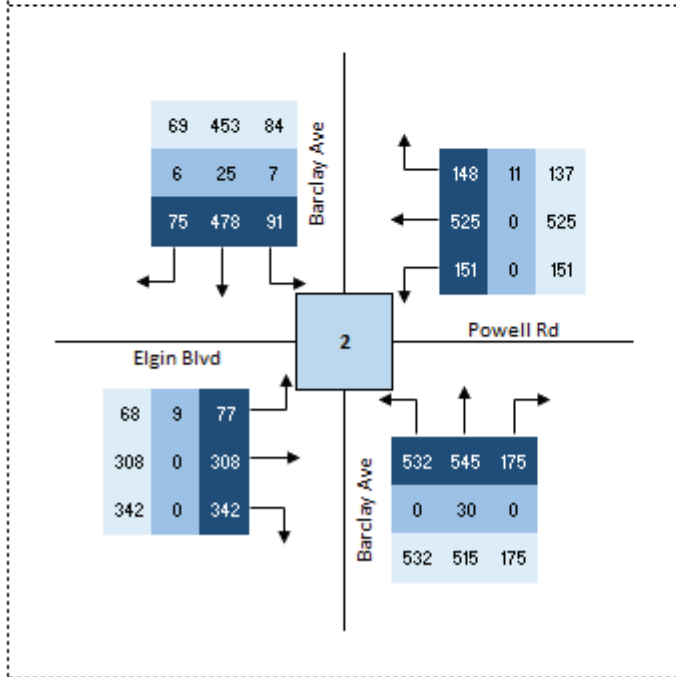
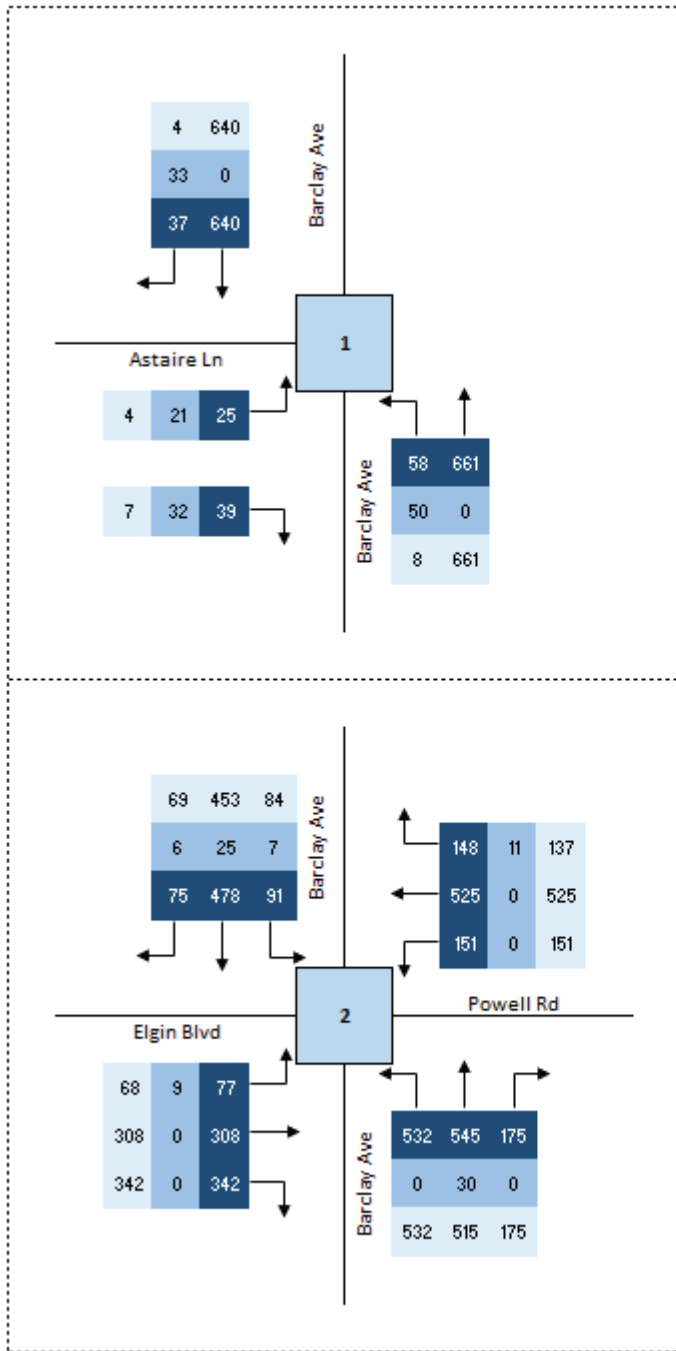


Figure 4 Future Turning Movement Volumes - AM Peak Hour



Legend	
000	Background
000	Project
000	Total Volume

Figure 5 Future Turning Movement Volumes - PM Peak Hour

Intersection Queue Analysis

An intersection queue analysis was performed for turning movements at the project entrance. The analysis compares the existing storage length to the 95th percentile queues for future build conditions in both the AM and PM peak periods. The Synchro movement queue printouts are provided in the **Appendix G**. As part of the project widening Barclay Avenue from Powell Road to N San Antonio Road, a 295 foot long left turn bay will be provided on the northbound approach to the intersection of Barclay Avenue at Astaire Lane. In addition, the stop-controlled eastbound approach of Astaire Lane has 230 feet of queue storage before the retirement home driveway. As the queue lengths in **Table 7** demonstrate, the available queue storage lengths at the unsignalized intersection of Barclay Avenue and Astaire Lane are more than adequate to accommodate the 95th percentile queues during peak hour conditions.

Table 27 in the *FDOT Access Management Guidebook* provides a warrant threshold of 55 peak hour right turning vehicles for an exclusive right turn lanes to an unsignalized driveway on a multilane highway with a posted speed above 45 mph. The PM peak hour southbound right turn demand is 37 vehicles per hour at the intersection of Barclay Avenue and Astaire Lane. Therefore, a southbound right turn lane is not warranted based on NCHRP 420 as cited in the *FDOT Access Management Guidebook's* Table 27.

Table 7 Intersection Queue Analysis – Future Conditions

Intersection	Control	Movement	Storage Length (ft)	Background				Project			
				95%-ile Q (veh)		95%-ile Q (ft)		95%-ile Q (veh)		95%-ile Q (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
Barclay Avenue at Astaire Lane	TWSC	EBL	230	0.0	0.0	0	0	0.4	0.3	10	7.5
		EBR	230	0.0	0.0	0	0	0.3	0.2	7.5	5
		NBL	295	0.0	0.0	0	0	0.1	0.2	2.5	5

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Conclusions

This traffic analysis has been prepared in support of obtaining concurrency approval through Hernando County for the proposed Hillpointe Multi-family development to be located on Astaire Lane, west of Barclay Avenue in Hernando County, Florida.

Summary of Study Findings

- › The proposed development is expected to generate 1,614 new daily external trips, 142 (33 in, 109 out) new AM peak hour external trips, and 136 (83 in, 53 out) new PM peak hour external trip for the build out conditions with an anticipated buildout of 2024.
- › The existing roadway analysis shows all study roadways have an acceptable v/c ratio.
- › The existing intersection capacity analysis shows both study intersections operate at acceptable LOS and v/c in the existing conditions.
- › The 2024 future conditions analysis shows that all study roadways will continue to operate with an acceptable v/c ratio in the buildout condition with the planned improvements implemented.
- › The 2024 future intersection capacity analysis shows that all intersections operate at acceptable LOS and delay with the planned improvements implemented in the build out conditions.
- › A southbound right turn lane is not warranted based on NCHRP 420 as cited in the FDOT Access Management Guidebook's Table 27.

The surrounding roadway network does not show any additional deficiencies with the anticipated traffic increases generated by the proposed development. The development impacts have been analyzed for a year 2024 Full Build Out scenario.

Appendices

A

Methodology



To: Ernie Lane, Traffic Engineering Asst.
Kandi McCorkel, Development Coordinator

Date: 6/24/2022

Memorandum

Hernando County Department of Public Works
1525 East Jefferson St. Brooksville, FL 34601

Project #: 66472.00

From: Jorge Tolosa, P.E.
Director of Transportation Planning
VHB
225 E. Robinson Street
Suite 300
Orlando, FL 32801-4326

Re: Traffic Impact Study Methodology Letter
Hillpointe Apartments

CC: Thomas Wiggins, E.I.

Introduction:

The following memorandum provides the proposed methodology to evaluate the transportation impacts associated with the planned apartment development located in Hernando County, on property zoned PDP-Multifamily, with a direct connection to Barclay Avenue via the intersection with Astaire Lane. This intersection is located approximately 2,200 feet north of the Barclay Avenue/Elgin Boulevard/Powell Road (CR572) intersection in the eastern Springhill area as shown in **Figure 1**. A copy of the concept plan is shown in **Figure 2**.

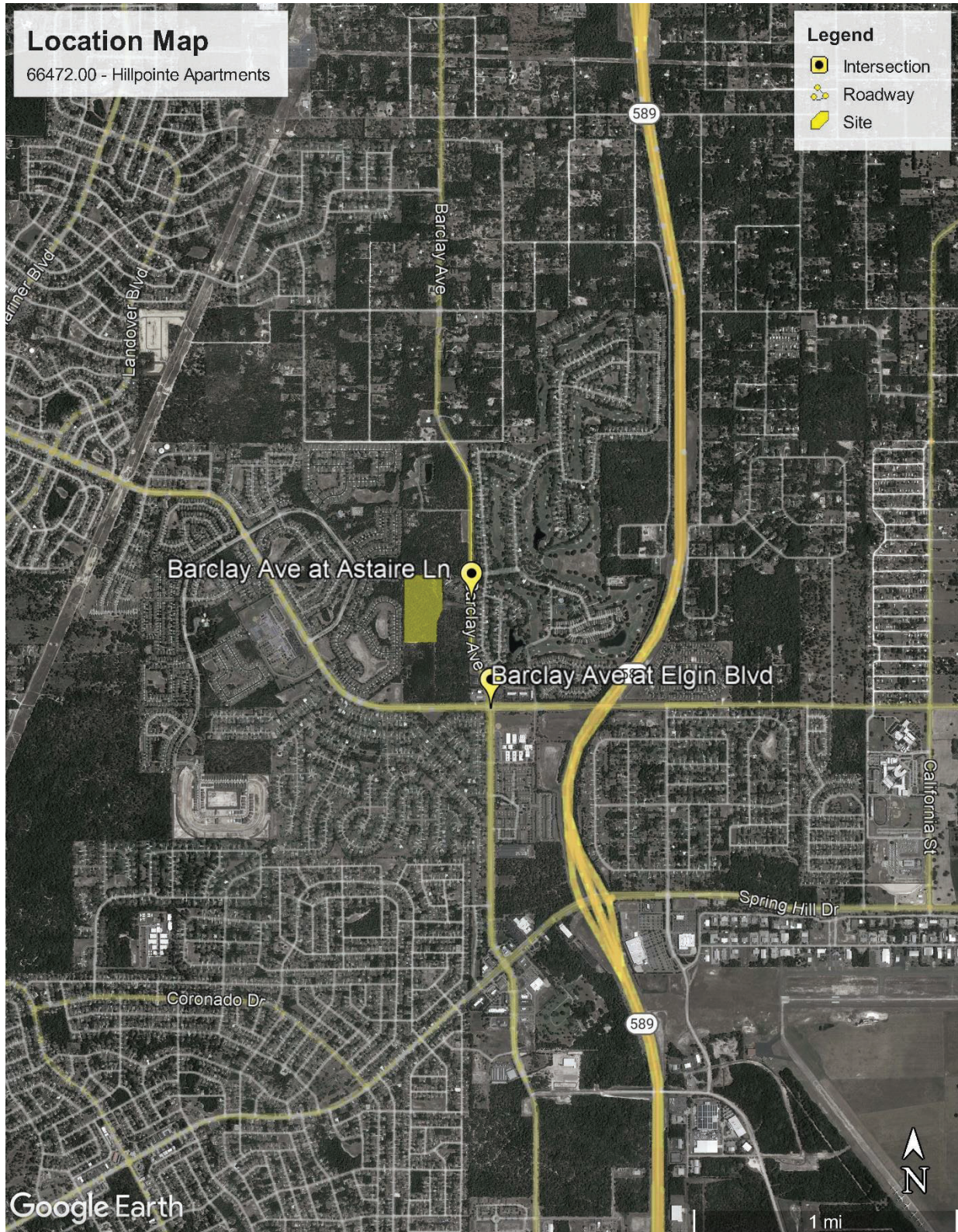
Trip Generation Estimate

The proposed development program for the site includes 348 2-bedroom apartment units that will be constructed in approximately 15 different buildings. The project will also include a recreation/clubhouse facility for the residents. The project traffic volumes for the proposed development will be generated using the trip generation rates and formulas outlined in the *Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition)*. **Table 1** is an estimation of the daily, AM peak-hour, and PM peak-hour volumes. The relevant ITE worksheets are attached.

Table 1: Summary of Trip Generation

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period			PM Peak Period		
				In Trips	Out Trips	Total	In Trips	Out Trips	Total
Multi-Family Housing (Mid-Rise)	221	348 DU	1,614	33	109	142	83	53	136

Figure 1 – Site Location Map



Trip Distribution & Assignment

The project traffic will be distributed to the adjacent roadways and intersections based on the YR 2024 Tampa Bay Regional Planning Model (TBRPM) results, utilizing the existing and committed network. The distribution can be found on **Figure 3**.

Primary Impact Area

Impacted segments will include any public roadway segment where the net new traffic from the proposed project is at least 5% of the Generalized PM Peak Hour Directional Maximum Service Volume of the roadway. Additionally, any signalized or major unsignalized intersections will be determined to be in the study area if they are along a significant roadway. The test for segments that are significantly impacted is shown in **Table 2**.

Table 2: Project Significance

<i>PM PEAK HOUR</i>							
Roadway	No. of Adopted PH2W			Project		Significance	
	Lanes	LOS	MSV	Dist	Trips	%	(Yes/No)
Barclay Ave from Spring Hill Drive to CR 572	4	D	3,222	38.6%	53	1.6%	No
Barclay Ave from CR 572 to Astaire Ln	2	D	1,440	61.4%	84	5.8%	Yes
Barclay Ave from Astaire Ln to San Antonio Rd	2	D	1,440	38.6%	52	3.6%	No
Barclay Ave from San Antonio Rd to SR 50	2	D	1,440	38.6%	52	3.6%	No
Elgin Blvd from Mariner Blvd to Barclay Ave	4	D	3,222	9.7%	13	0.4%	No
Powell Rd from Barclay Ave to US 41	2	D	1,440	13.1%	18	1.3%	No
Cortez Blvd from Mariner Blvd to Barclay Blvd	6	C	5,250	23.9%	32	0.6%	No
Cortez Blvd from Barclay Blvd to Suncoast Pkwy	6	C	5,250	13.3%	18	0.3%	No

Source: FDOT 2020 Quality/Level of Service (QLOS) Handbook, VHB

For the purposes of this study, VHB proposes to evaluate the roadway traffic volumes of Barclay Avenue from CR 572 to Astaire Lane, based on significance. Barclay Avenue from Astaire Lane to San Antonio will also be included as well since it is adjacent to the entrance. In addition, the following have been identified as "major" intersections along significant roadways and will be analyzed:

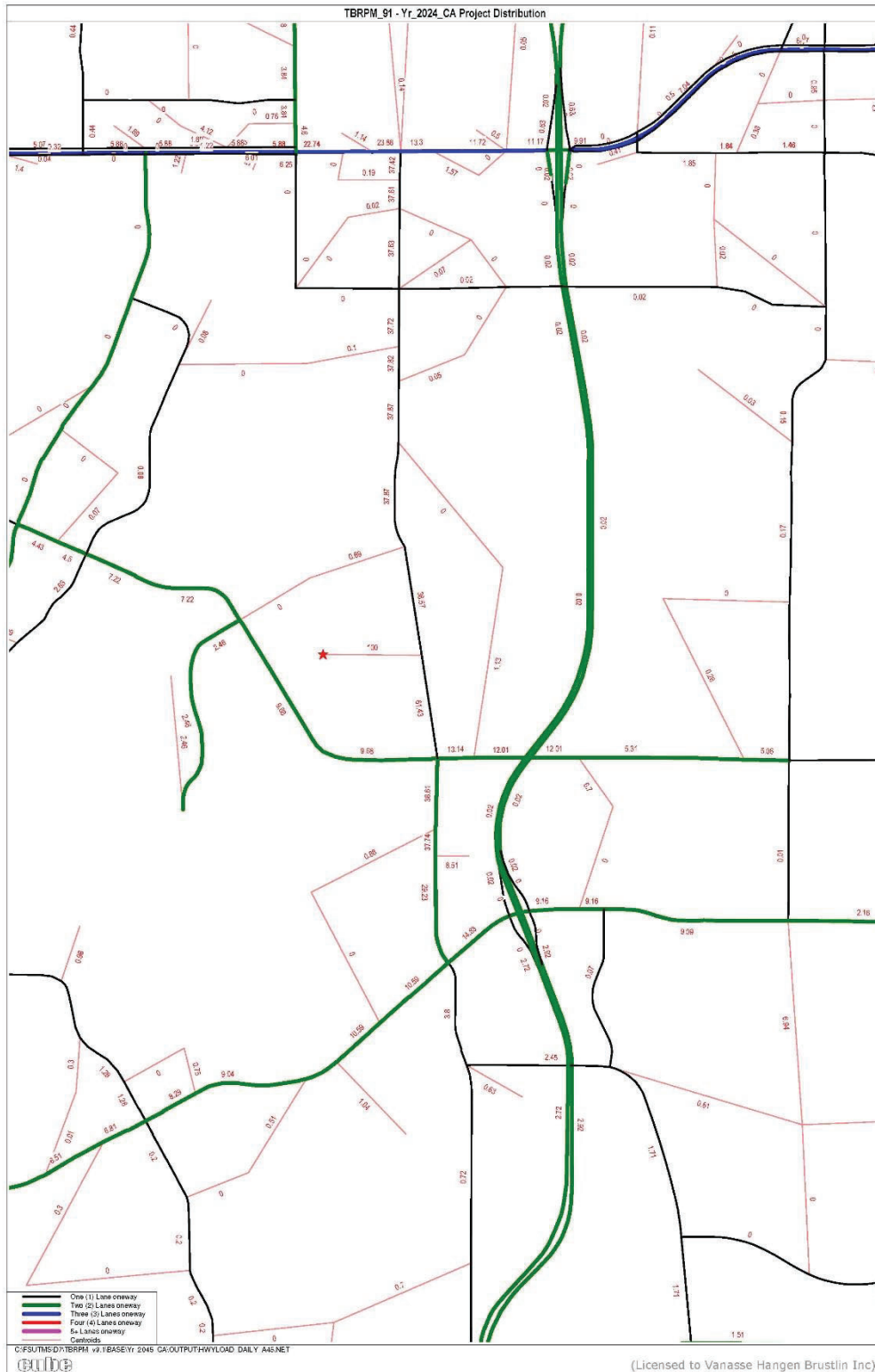
- Barclay Ave at Astaire Ln
- Barclay Ave at Eglin Blvd

Development Traffic Conditions

The project is proposed to be evaluated for the existing year of 2022 and for future project build out year of 2024. Future background volumes will be derived after reviewing historic growth rates, using the last 5 years of available AADT data. Any negative growth will be identified and a minimum of 0% per year growth applied. Based on conversations with County staff, the listed developments will be incorporated into this analysis as background traffic.

- Lucky Lane Residential
- Jumper Loop
- Village Van Gogh

Figure 3 – TBRPM Distribution



Data Collection / Existing Conditions

AM and PM peak-hour traffic counts will be assembled for the study roadway segments and intersections to establish existing traffic conditions. Roadway counts for all study roadways will be identified using the data within the *FTO Database*. Intersection turning movement counts will be collected for study intersections with a seasonal factor adjustment applied. The existing condition analysis will evaluate the current capacity of the study roadways identified within the Primary Impact Area. In addition, the study intersections will be analyzed using Synchro 11 and in accordance with the *Highway Capacity Manual* methodology.

Planned & Programmed Improvements

The study will be conducted based on the use of any roadway or intersection improvements that are within the study area and funded for construction within the first three-year of any agency work program/TIP. The Hernando County CIP lists the following projects:

- Barclay Avenue Multilaning (4-lane) from Powell to N San Antonio – Project #100380 – Funded for construction FY 2023
- Barclay Avenue Multilaning (4-lane) from SR 50 to Lucky – Project #100380 – Funded for construction FY 2023
- Traffic Signal Timing (Elgin from Barclay to Mariner) – Project # 500111 – Funded for FY 2023

Relevant pages from the TIP appendix G for Hernando County's CIP are attached.

Minimum Acceptable Level of Service

The level of service capacities will be derived from the FDOT Generalized LOS Tables utilizing the LOS D peak hour service volumes for County roads, and LOS C peak hour service volumes for State roads.

Traffic Report

As a result of the trip generation, trip distribution, and trip assignment previously mentioned, VHB will evaluate the adjacent transportation system to determine the necessary improvements and timing requirements to accommodate the project for the existing year 2022 and the build-out year 2024 traffic conditions. The assessment of roadway segments and intersection conditions will be conducted for the AM and PM peak-hour conditions. In addition to the level of service and delay reported for intersections, a queue length evaluation will also be conducted for exclusive turn lane needs at project driveways to determine the warrant and length of any turn lanes. The findings of the study will be documented in the traffic report. The traffic report will summarize study procedures, analyses performed, and recommendations, including exhibits to show existing, background, and future with project traffic volumes. Impacts resulting from project traffic will be identified with recommendations to mitigate adverse segments and intersection lane groups.

Attachments

ITE Pages

Hernando County CIP

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

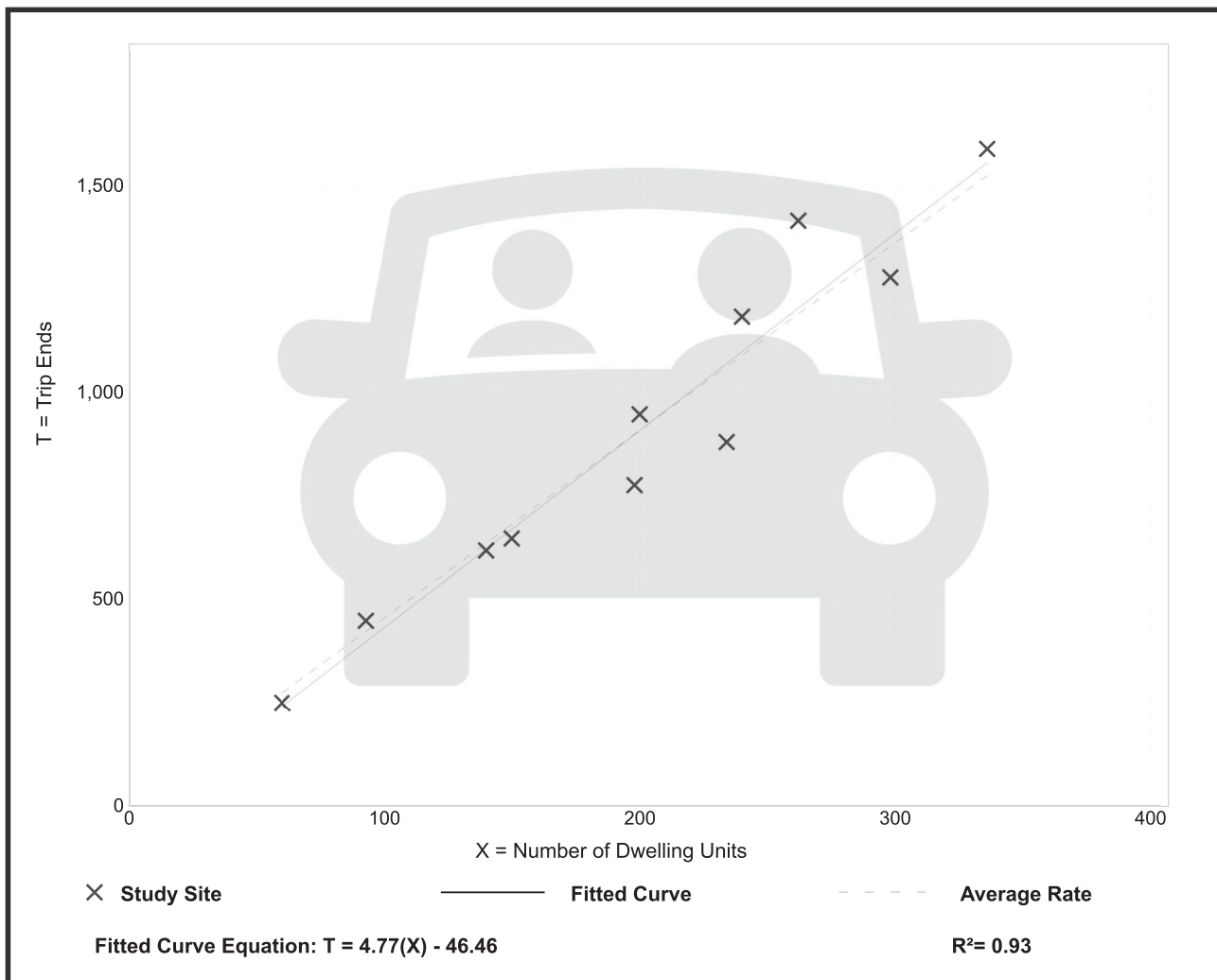
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

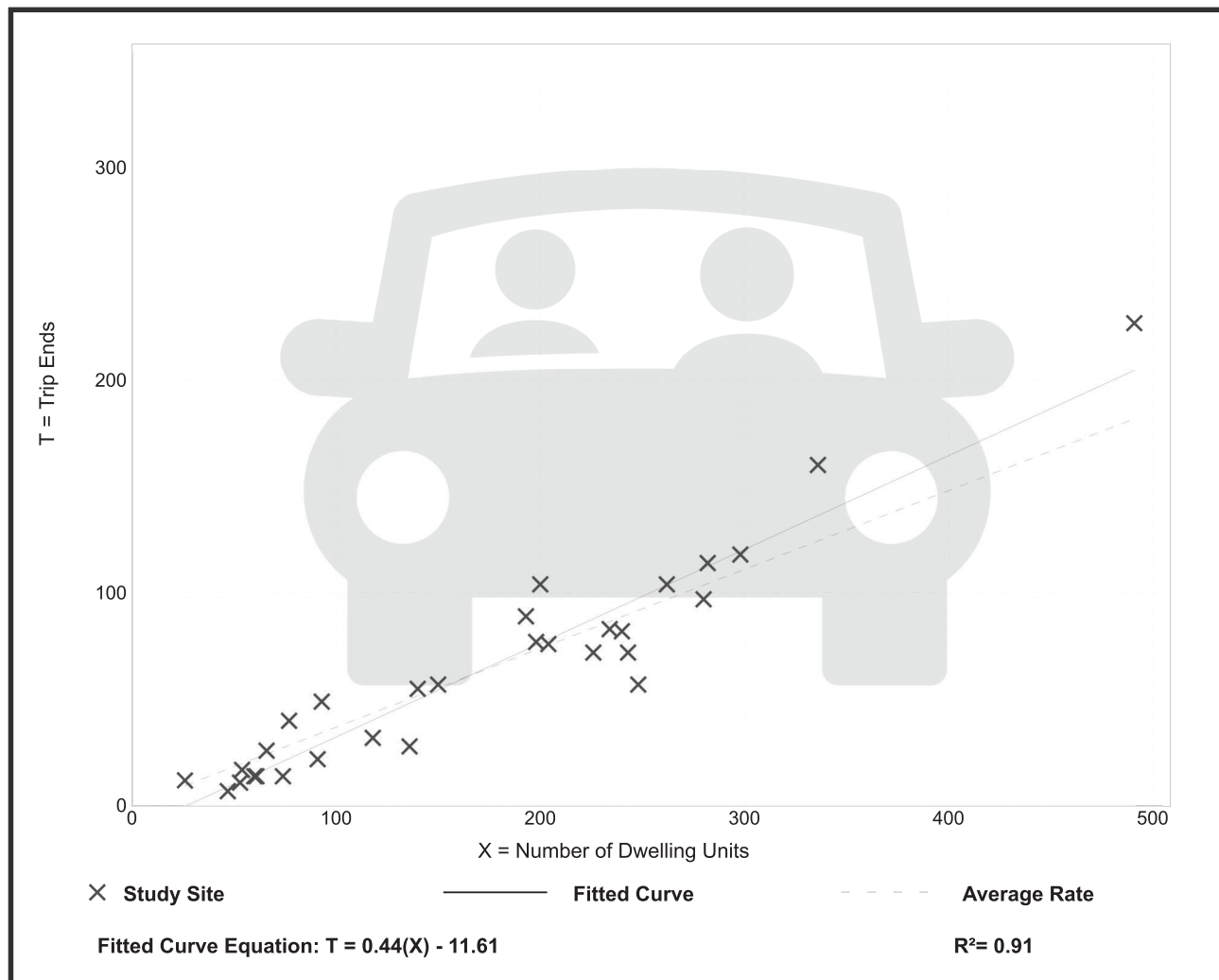
Setting/Location: General Urban/Suburban

Number of Studies: 30
 Avg. Num. of Dwelling Units: 173
 Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation





APPENDIX G: LOCAL AGENCY CAPITAL IMPROVEMENT PROGRAMS

HERNANDO COUNTY CAPITAL IMPROVEMENT PROGRAM FY 2023-2027

The tables in this document are formatted for ADA compliance and appear different to the tables produced by Hernando County. The numbers for the projects have not been changed, only the format.

Table 177: Hernando County Capacity CIP Projects, by Project Number FY 2022-2027

PRJ NO	PROJECT NAME	NOTES	FY22	FY23	FY24	FY25	FY26	FY27	FY 2023-27
100380	Barclay Ave Multilaning	R/W (SR50 to Lucky)	\$1,200,000						\$0
100380	Barclay Ave Multilaning	Design Update (Powell to N San An)	\$100,000						\$0
100380	Barclay Ave Multilaning	R/W (Powell to N San An) On -hold		\$750,000					\$750,000
100380	Barclay Ave Multilaning (Powell to N San An)	Construction		\$6,600,000					\$6,600,000
100380	Barclay Ave Multilaning (SR50 to Lucky)	Construction		\$1,480,000					\$1,480,000
100380	Barclay Ave Multilaning (San Antonio to Lucky)	Design (San Antonio to Lucky)			\$520,000				\$520,000
100380	Barclay Ave Multilaning	Land Acquisition (San Antonio to Lucky)				\$1,250,000			\$1,250,000
100380	Barclay Ave Multilaning	Land Acquisition (San Antonio to Lucky)					\$1,250,000		\$1,250,000
100380	Barclay Ave Multilaning	Land Acquisition (San Antonio to Lucky)						\$1,250,000	\$1,250,000
105840	SR50 Frontage Rd W of Mariner (Kadri to Evergreen)	Land Acquisition		\$530,000					\$530,000
105840	SR50 Frontage Rd W of Mariner (Kadri to Evergreen)	Construction			\$423,500				\$423,500
105900	Star Rd Imp	Acquisition (anticipated land swap)							\$0
105900	Coastal Way Intersection Imp	Construction		\$650,000					\$650,000
105930	Star Rd Imp	Land Acquisition				\$250,000			\$250,000
105930	Star Rd Imp	Land Acquisition					\$250,000		\$250,000
105930	Star Rd Imp	Land Acquisition						\$250,000	\$250,000
105940	Weeping Willow Rd Imp	Land Acquisition				\$250,000			\$250,000
105940	Weeping Willow Rd Imp	Land Acquisition					\$250,000		\$250,000
105940	Weeping Willow Rd Imp	Land Acquisition						\$250,000	\$250,000

PRJ NO	PROJECT NAME	NOTES	FY22	FY23	FY24	FY25	FY26	FY27	FY 2023-27
110210	SZ-Pine Grv/WHMS/CHS	Construction	\$65,310						\$0
110220	SZ-Explorer K-8	Construction	\$209,820						\$0
110230	SZ-Fox Chapel MS LAP (Freeport from Dltna to Nrthclf)	Construction	\$59,300						\$0
110240	SZ-Springstead HS	Construction	\$99,590						\$0
110250	SZ-Suncoast ES	Construction	\$25,750						\$0
110250	SZ-Westside ES	Construction	\$22,890						\$0
110250	SZ-Winding Waters K-8/Weeki Wachee HS	Construction	\$40,480						\$0
110260	SZ-JD Floyd ES	Construction	\$80,370						\$0
110260	SZ-Moton ES	Construction	\$19,220						\$0
111809	Evergreen Woods @ SR50 Signalization Improv	Construction	\$1,000,000						\$0
111889	SR50 @ Cortez Oaks Signal Relocation	Construction	\$1,435,000						\$0
111932	SZ-Powell MS	Construction	\$184,500						\$0
111950	County Line @ Linden Signalization	Design/Construction		\$750,000					\$750000
500107	Traffic Signal Timing - Spring Hill Dr (Waterfall-US19)	Contract		\$50,000					\$50000
500111	Traffic Signal Timing - Elgin (Barclay to Mariner)	Contract		\$40,000					\$40000
		Total	\$3673200	\$1917333	\$1421380	\$0	\$0	\$0	\$3338713

Source: Hernando County Engineering Department May 2022

Table 184: Hernando County CIP Stormwater Projects by Project Number FY 2022-2027

PRJ NO	PROJECT NAME	NOTES	FY22	FY23	FY24	FY25	FY26	FY27	FY 2023-27
106220	South Brooksville BMP-2 Drainage Improvements	Design		\$100,000					\$100,000
106220	South Brooksville BMP-2 Drainage Improvements	Construction			\$1,000,000				\$1,000,000
108510	Culbreath Rd@ Carr Creek Flood Imp	Acquisition	\$100,000						\$0
108510	Culbreath Rd@ Carr Creek Flood Imp	Construction		\$2,500,000					\$2,500,000



B

ITE Trip Generation

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

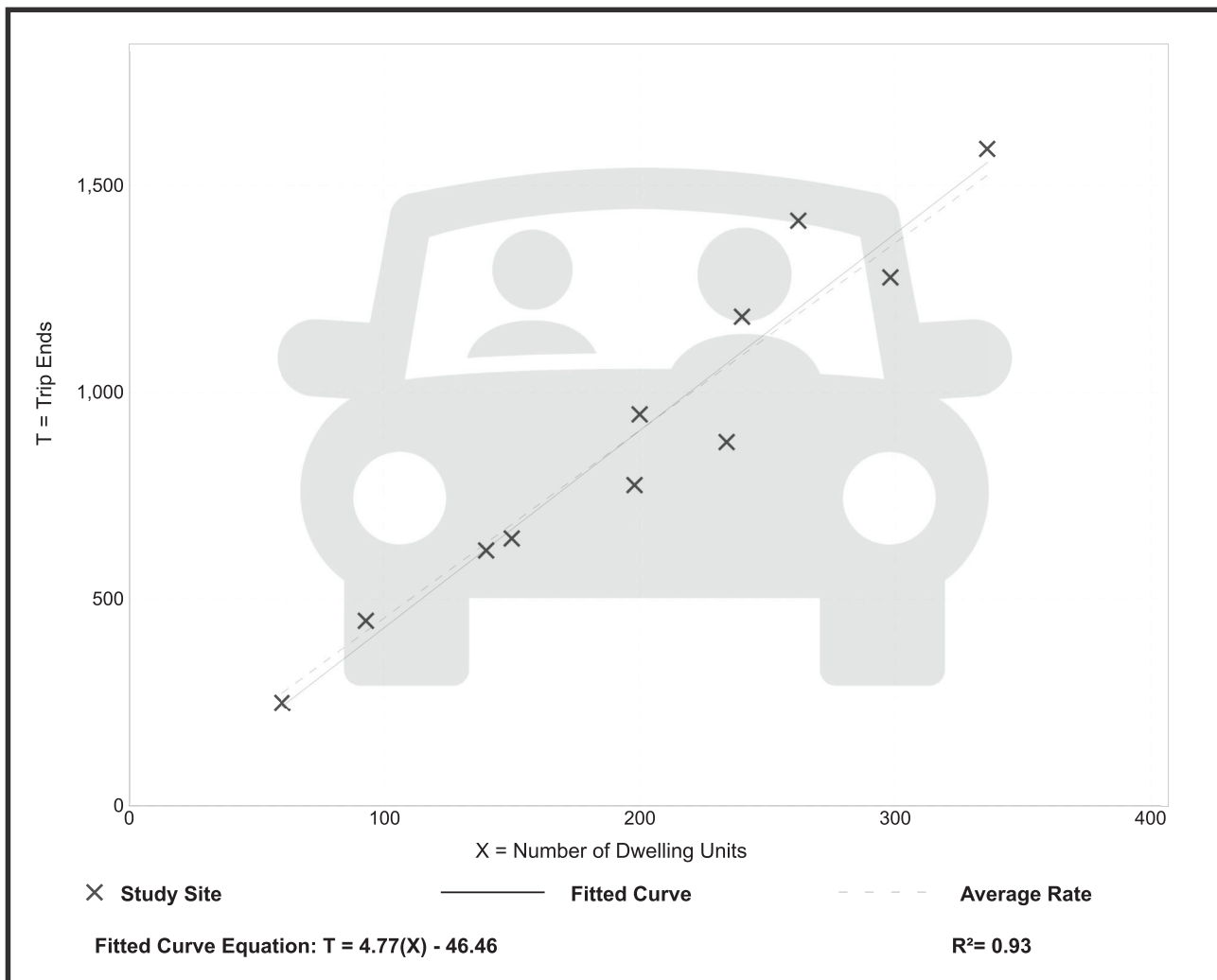
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

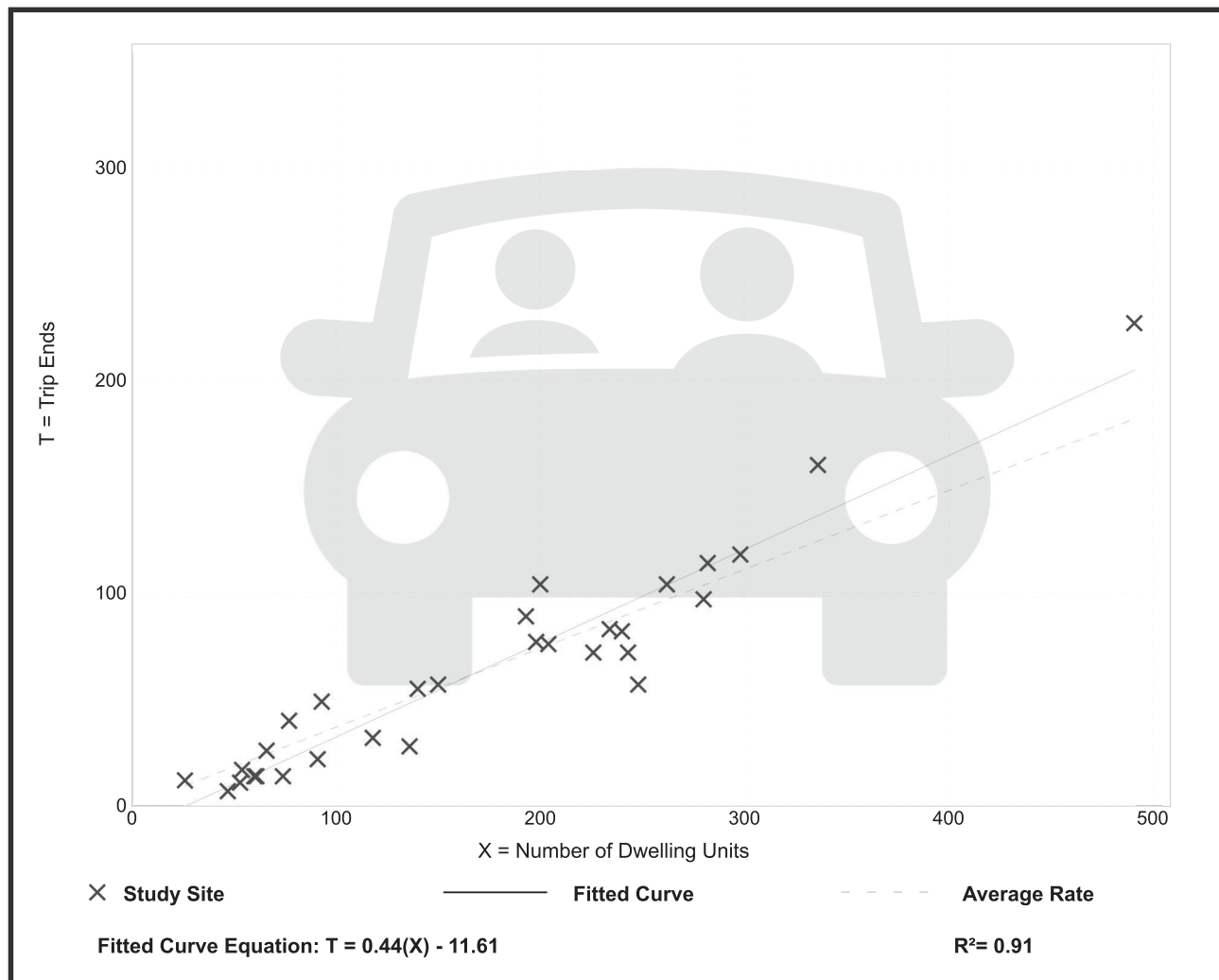
Setting/Location: General Urban/Suburban

Number of Studies: 30
 Avg. Num. of Dwelling Units: 173
 Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

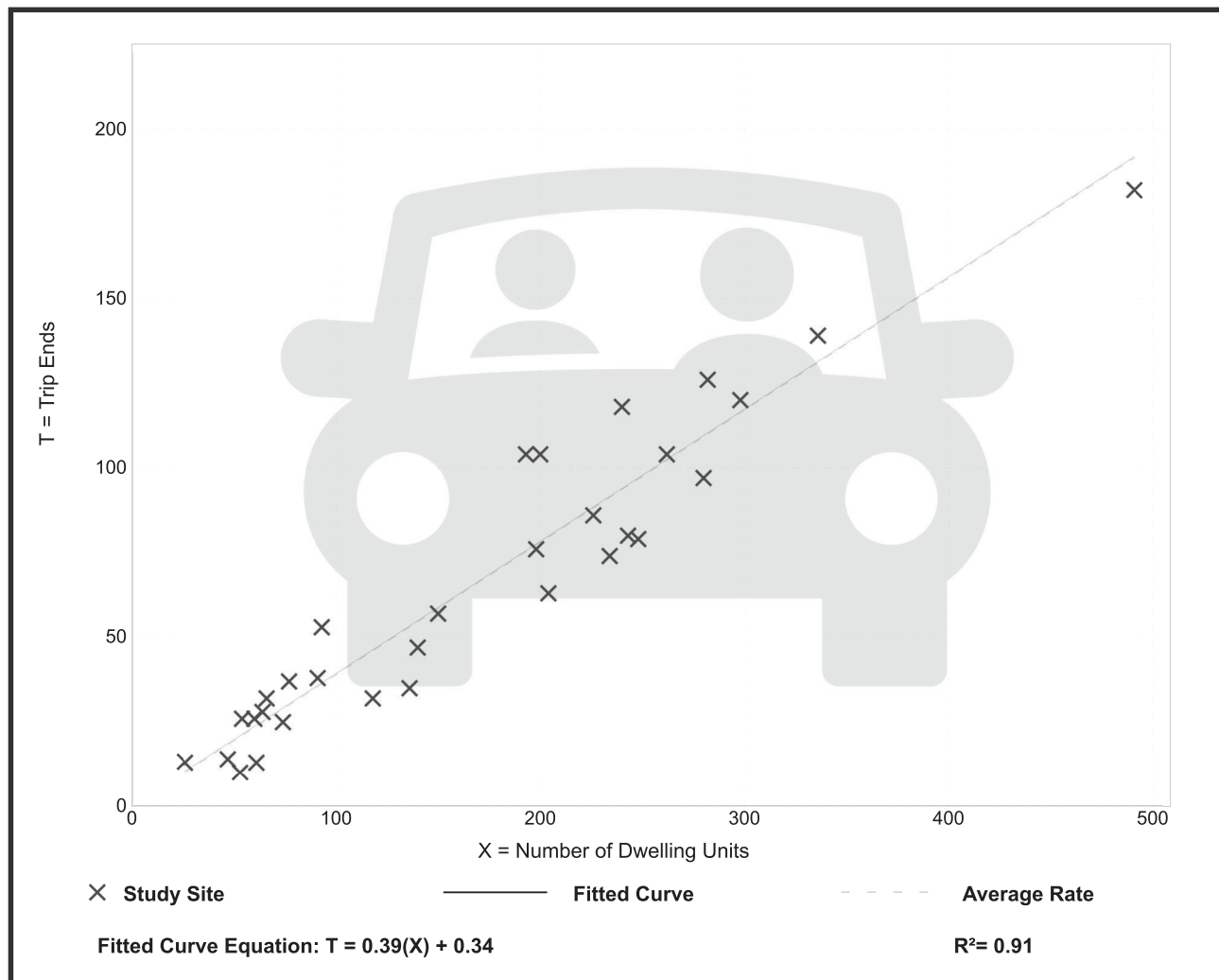
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban
 Number of Studies: 31
 Avg. Num. of Dwelling Units: 169
 Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation





C

Traffic Count Data

SECTION: 66472.00
 STATE ROUTE: arclay Ave
 OBSERVER: VHB
 WEATHER: Good

CITY: Brooksville
 INTERSECTING ROUTE: Elgin Blvd-Powell Rd
 DATE OF COUNT: 1/0/00
 ROAD CONDITION: Good
 COUNT PERIODS:

COUNTY: Hernando
 MILEPOST: 3.982
 COMPLETED BY: VV
 DATE COMPLETED: 7/12/22

VEHICLE TURNING MOVEMENT COUNT

ALL VEHICLES / ALL MOVEMENTS

Direction	Northbound					Total	Southbound					NS Total	Eastbound					Total	Westbound					EW Total	Grand Total		
	NBU	NBL	NT	NBR	NRRTOR		SBU	SBL	ST	SBR	SBRTOR		EBU	EBL	ET	EBR	EBRTOR		WBU	WBL	WT	WBR	WBRTOR				
7:00 AM	0	34	44	9	10	97	0	11	53	3	1	68	165	5	7	64	29	41	146	1	12	36	5	9	64	210	375
7:15 AM	0	28	68	5	6	107	0	19	66	2	1	88	195	3	18	88	56	42	207	4	22	45	11	2	84	291	486
7:30 AM	0	27	85	15	11	138	0	14	66	8	0	88	226	6	21	100	48	35	210	3	18	53	9	5	88	298	524
7:45 AM	0	33	100	5	13	151	0	24	68	8	1	101	252	6	26	94	32	38	196	4	25	47	15	4	95	291	543
Total	0	122	297	34	40	493	0	68	253	21	3	345	838	20	72	346	165	156	759	12	77	181	41	20	331	1,090	1,928
8:00 AM	0	27	66	4	7	104	0	13	61	9	0	83	187	4	17	60	43	24	148	3	22	53	15	8	101	249	436
8:15 AM	0	37	55	6	8	106	0	20	70	9	2	101	207	5	29	61	48	23	166	1	25	49	5	10	90	256	463
8:30 AM	0	34	86	12	10	142	0	15	75	9	1	100	242	4	25	85	32	25	171	3	18	62	14	4	101	272	514
8:45 AM	0	38	72	6	15	131	0	15	70	10	1	96	227	2	25	65	44	19	155	2	25	62	9	6	104	259	486
Total	0	136	279	28	40	483	0	63	276	37	4	380	863	15	96	271	167	91	640	9	90	226	43	28	396	1,036	1,899
4:00 PM	1	102	83	17	16	219	0	20	79	12	1	112	331	6	19	59	49	18	151	3	33	102	13	5	156	307	638
4:15 PM	1	77	82	24	7	191	0	31	90	9	1	131	322	3	17	48	46	16	130	4	35	103	11	5	158	288	610
4:30 PM	0	93	74	19	12	198	0	17	92	16	2	127	325	11	18	57	43	25	154	1	22	110	22	4	159	313	638
4:45 PM	1	98	83	22	16	220	0	23	103	12	0	138	358	3	15	53	49	23	143	2	39	102	25	0	168	311	669
Total	3	370	372	82	51	623	0	91	364	40	4	508	1,335	23	60	217	137	62	572	10	123	417	71	14	641	1,215	2,555
5:00 PM	1	154	111	20	28	314	0	25	100	19	0	144	458	4	18	57	51	33	163	0	24	106	30	10	170	333	791
5:15 PM	0	92	111	15	18	236	0	13	110	16	0	139	375	6	9	69	48	26	158	1	37	107	21	6	172	330	705
5:30 PM	0	116	107	21	11	255	0	14	83	13	0	110	365	6	12	64	37	33	152	2	32	116	23	2	175	327	662
5:45 PM	0	130	88	13	14	245	0	14	84	8	2	108	353	5	20	65	33	25	148	4	38	100	17	7	166	314	667
Total	1	492	417	69	71	1,050	0	66	377	56	2	501	1,551	21	59	255	169	117	621	7	131	429	91	25	683	1,304	2,855
AM	0	115	319	29	37	500	0	70	261	27	2	360	860	19	82	342	179	139	761	14	87	198	50	19	368	1129	0.91574586
AM Truck	0	4	7	6	1	18	0	2	6	0	0	8	26	0	1	0	1	1	3	0	2	4	4	1	11	14	
AM Truck %	0.0%	3.5%	2.2%	20.7%	2.7%	3.6%	0.0%	2.9%	2.3%	0.0%	0.0%	2.2%	3.0%	0.0%	1.2%	0.0%	0.6%	0.7%	0.4%	0.0%	2.3%	2.0%	8.0%	5.3%	3.0%	1.2%	
PM	2	460	412	78	73	1025	0	75	396	60	0	531	1556	19	54	243	185	115	616	5	132	431	99	18	685	1301	0.9029709
PM Truck	0	5	1	0	0	6	0	1	3	3	0	7	13	0	2	2	6	0	1	1	1	1	0	3	9		
PM Truck %	0.0%	1.1%	0.2%	0.0%	0.0%	0.6%	0.0%	1.3%	0.8%	5.0%	0.0%	1.3%	0.8%	0.0%	0.0%	0.8%	1.1%	1.7%	1.0%	0.0%	0.8%	0.2%	1.0%	0.0%	0.4%	0.7%	

SECTION: 66472.00
 STATE ROUTE: arclay Ave
 OBSERVER: VHB
 WEATHER: Good

VEHICLE TURNING MOVEMENT COUNT

CITY: Brooksville
 INTERSECTING ROUTE: Elgin Blvd-Powell Rd
 DATE OF COUNT: 1/0/00
 ROAD CONDITION: Good
 COUNT PERIODS:

COUNTY: Hernando
 MILEPOST: 3.982
 COMPLETED BY: VV
 DATE COMPLETED: 7/12/22

HEAVY VEHICLES (TRUCKS + BUSES)

Direction	Northbound					Southbound					NS Total	Eastbound					Westbound					EW Total	Grand Total				
	NBU	NBL	NT	NBR	NBRTOR	Total	SBU	SBL	SBT	SBR		SBRTOR	Total	EBU	EBL	EBT	EBR	EBRTOR	Total	WBU	WBL			WBT	WBR	WBRTOR	Total
7:00 AM	0	0	2	0	0	2	0	0	1	1	0	2	4	1	0	0	1	2	0	0	1	0	1	2	4	5	
7:15 AM	0	3	4	0	0	7	0	0	0	0	0	7	0	1	0	1	0	2	0	0	1	0	0	1	3	10	
7:30 AM	0	0	1	6	1	8	0	0	2	0	0	2	10	0	0	0	0	0	0	1	0	3	0	4	4	14	
7:45 AM	0	1	1	0	0	2	0	1	2	0	0	3	5	0	0	0	0	0	0	1	1	0	0	2	2	7	
Total	0	4	8	6	1	19	0	1	5	1	0	7	26	1	1	0	1	1	4	0	2	3	3	1	9	13	39
8:00 AM	0	0	1	0	0	1	0	1	2	0	0	3	4	0	0	0	1	1	0	0	2	1	1	1	4	5	9
8:15 AM	0	0	4	1	0	5	0	1	0	0	0	1	6	0	0	0	0	0	0	1	0	0	0	1	1	7	
8:30 AM	0	3	1	0	0	4	0	2	2	0	0	4	8	0	1	3	0	4	0	0	1	1	0	2	6	14	
8:45 AM	0	2	0	0	0	2	0	1	2	0	0	3	5	0	0	0	1	1	2	0	1	0	0	1	3	8	
Total	0	5	6	1	0	12	0	5	6	0	0	11	23	0	1	3	1	2	7	0	2	3	2	1	8	15	38
4:00 PM	0	0	1	0	1	2	0	0	0	0	0	2	2	0	0	1	1	2	0	0	0	0	0	0	2	4	
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	1	0	0	1	0	0	1	0	2	3	5	
4:30 PM	0	0	1	0	0	1	0	1	0	0	0	1	2	0	0	0	2	0	0	0	1	1	0	2	4	6	
4:45 PM	0	2	0	0	0	2	0	0	3	0	0	3	5	0	0	0	1	1	0	1	1	0	0	2	3	8	
Total	0	2	2	0	1	5	0	2	4	0	0	6	11	0	0	1	3	2	6	0	1	3	2	0	6	12	23
5:00 PM	0	2	0	0	0	2	0	1	0	0	0	2	4	0	0	1	0	0	1	0	0	0	0	0	0	1	5
5:15 PM	0	0	1	0	0	1	0	0	0	2	0	2	3	0	0	1	1	1	3	0	0	0	1	0	1	4	7
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	2
5:45 PM	0	1	0	1	0	2	0	1	1	0	0	2	4	0	0	1	2	1	4	0	0	1	0	0	1	5	9
Total	0	4	1	1	0	6	0	2	1	3	0	6	12	0	0	3	4	2	9	0	0	1	1	0	2	11	23

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2021 HISTORICAL AADT REPORT

COUNTY: 08 - HERNANDO

SITE: 2018 - BARCLAY, SOUTH OF CORTEZ (HPMS)

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2021	12500 F	N	6200	S	6300	9.00	54.20	7.00
2020	12300 C	N	6100	S	6200	9.00	54.30	5.90
2019	12500 X		0		0	9.00	54.30	6.90
2018	12000 X		0		0	9.00	54.40	6.40
2017	11500 X		0		0	9.00	55.60	5.40
2016	11000 E		0		0	9.00	54.80	4.70
2015	10700 E					9.00	55.00	3.40
2014	10600 S	N	5200	S	5400	9.00	56.00	2.90
2013	10800 F	N	5300	S	5500	9.00	58.40	2.90
2012	10800 C	N	5300	S	5500	9.00	55.00	2.90
2011	10100 S	N	5100	S	5000	9.00	55.00	2.90
2010	10100 F	N	5100	S	5000	9.74	54.68	2.90
2009	10300 C	N	5200	S	5100	9.60	55.47	2.90
2008	10400 C	N	5200	S	5200	9.72	54.99	6.20

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

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 0800 HERNANDO COUNTYWIDE

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.95	0.98
2	01/03/2021 - 01/09/2021	1.02	1.05
3	01/10/2021 - 01/16/2021	1.08	1.11
4	01/17/2021 - 01/23/2021	1.07	1.10
5	01/24/2021 - 01/30/2021	1.06	1.09
6	01/31/2021 - 02/06/2021	1.06	1.09
7	02/07/2021 - 02/13/2021	1.05	1.08
8	02/14/2021 - 02/20/2021	1.04	1.07
9	02/21/2021 - 02/27/2021	1.02	1.05
10	02/28/2021 - 03/06/2021	1.01	1.04
11	03/07/2021 - 03/13/2021	0.99	1.02
12	03/14/2021 - 03/20/2021	0.98	1.01
13	03/21/2021 - 03/27/2021	0.98	1.01
14	03/28/2021 - 04/03/2021	0.98	1.01
15	04/04/2021 - 04/10/2021	0.98	1.01
16	04/11/2021 - 04/17/2021	0.98	1.01
17	04/18/2021 - 04/24/2021	0.98	1.01
18	04/25/2021 - 05/01/2021	0.98	1.01
19	05/02/2021 - 05/08/2021	0.98	1.01
20	05/09/2021 - 05/15/2021	0.98	1.01
21	05/16/2021 - 05/22/2021	0.98	1.01
22	05/23/2021 - 05/29/2021	0.99	1.02
23	05/30/2021 - 06/05/2021	0.99	1.02
24	06/06/2021 - 06/12/2021	0.99	1.02
25	06/13/2021 - 06/19/2021	1.00	1.03
26	06/20/2021 - 06/26/2021	1.01	1.04
27	06/27/2021 - 07/03/2021	1.02	1.05
28	07/04/2021 - 07/10/2021	1.04	1.07
29	07/11/2021 - 07/17/2021	1.05	1.08
30	07/18/2021 - 07/24/2021	1.05	1.08
31	07/25/2021 - 07/31/2021	1.05	1.08
32	08/01/2021 - 08/07/2021	1.05	1.08
33	08/08/2021 - 08/14/2021	1.05	1.08
34	08/15/2021 - 08/21/2021	1.05	1.08
35	08/22/2021 - 08/28/2021	1.05	1.08
36	08/29/2021 - 09/04/2021	1.04	1.07
37	09/05/2021 - 09/11/2021	1.04	1.07
38	09/12/2021 - 09/18/2021	1.03	1.06
39	09/19/2021 - 09/25/2021	1.02	1.05
*40	09/26/2021 - 10/02/2021	1.00	1.03
*41	10/03/2021 - 10/09/2021	0.99	1.02
*42	10/10/2021 - 10/16/2021	0.97	1.00
*43	10/17/2021 - 10/23/2021	0.97	1.00
*44	10/24/2021 - 10/30/2021	0.97	1.00
*45	10/31/2021 - 11/06/2021	0.96	0.99
*46	11/07/2021 - 11/13/2021	0.96	0.99
*47	11/14/2021 - 11/20/2021	0.96	0.99
*48	11/21/2021 - 11/27/2021	0.95	0.98
*49	11/28/2021 - 12/04/2021	0.95	0.98
*50	12/05/2021 - 12/11/2021	0.95	0.98
*51	12/12/2021 - 12/18/2021	0.95	0.98
*52	12/19/2021 - 12/25/2021	1.02	1.05
53	12/26/2021 - 12/31/2021	1.08	1.11

* PEAK SEASON

08-MAR-2022 12:36:28

830UPD

7_0800_PKSEASON.TXT

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 0875 HERNANDO I75

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.93	0.97
2	01/03/2021 - 01/09/2021	1.04	1.08
3	01/10/2021 - 01/16/2021	1.15	1.20
4	01/17/2021 - 01/23/2021	1.14	1.19
5	01/24/2021 - 01/30/2021	1.13	1.18
6	01/31/2021 - 02/06/2021	1.12	1.17
7	02/07/2021 - 02/13/2021	1.12	1.17
8	02/14/2021 - 02/20/2021	1.11	1.16
9	02/21/2021 - 02/27/2021	1.07	1.11
10	02/28/2021 - 03/06/2021	1.04	1.08
11	03/07/2021 - 03/13/2021	1.00	1.04
12	03/14/2021 - 03/20/2021	0.96	1.00
13	03/21/2021 - 03/27/2021	0.96	1.00
14	03/28/2021 - 04/03/2021	0.96	1.00
*15	04/04/2021 - 04/10/2021	0.95	0.99
*16	04/11/2021 - 04/17/2021	0.95	0.99
*17	04/18/2021 - 04/24/2021	0.95	0.99
*18	04/25/2021 - 05/01/2021	0.96	1.00
*19	05/02/2021 - 05/08/2021	0.96	1.00
*20	05/09/2021 - 05/15/2021	0.97	1.01
*21	05/16/2021 - 05/22/2021	0.96	1.00
*22	05/23/2021 - 05/29/2021	0.96	1.00
*23	05/30/2021 - 06/05/2021	0.95	0.99
*24	06/06/2021 - 06/12/2021	0.95	0.99
*25	06/13/2021 - 06/19/2021	0.95	0.99
*26	06/20/2021 - 06/26/2021	0.95	0.99
*27	06/27/2021 - 07/03/2021	0.96	1.00
28	07/04/2021 - 07/10/2021	0.97	1.01
29	07/11/2021 - 07/17/2021	0.98	1.02
30	07/18/2021 - 07/24/2021	1.00	1.04
31	07/25/2021 - 07/31/2021	1.02	1.06
32	08/01/2021 - 08/07/2021	1.04	1.08
33	08/08/2021 - 08/14/2021	1.07	1.11
34	08/15/2021 - 08/21/2021	1.09	1.14
35	08/22/2021 - 08/28/2021	1.09	1.14
36	08/29/2021 - 09/04/2021	1.09	1.14
37	09/05/2021 - 09/11/2021	1.09	1.14
38	09/12/2021 - 09/18/2021	1.09	1.14
39	09/19/2021 - 09/25/2021	1.06	1.10
40	09/26/2021 - 10/02/2021	1.04	1.08
41	10/03/2021 - 10/09/2021	1.01	1.05
42	10/10/2021 - 10/16/2021	0.99	1.03
43	10/17/2021 - 10/23/2021	0.98	1.02
44	10/24/2021 - 10/30/2021	0.97	1.01
45	10/31/2021 - 11/06/2021	0.95	0.99
46	11/07/2021 - 11/13/2021	0.94	0.98
47	11/14/2021 - 11/20/2021	0.93	0.97
48	11/21/2021 - 11/27/2021	0.93	0.97
49	11/28/2021 - 12/04/2021	0.93	0.97
50	12/05/2021 - 12/11/2021	0.93	0.97
51	12/12/2021 - 12/18/2021	0.93	0.97
52	12/19/2021 - 12/25/2021	1.04	1.08
53	12/26/2021 - 12/31/2021	1.15	1.20

* PEAK SEASON

08-MAR-2022 12:36:28

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Synchro Analysis

Existing Conditions

HCM 6th Signalized Intersection Summary
2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	359	334	91	208	72	121	335	69	74	274	30
Future Volume (veh/h)	86	359	334	91	208	72	121	335	69	74	274	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1781	1841	1870	1589	1856	1870	1870
Adj Flow Rate, veh/h	93	390	212	99	226	57	132	364	35	80	298	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	8	4	2	21	3	2	2
Cap, veh/h	121	829	370	201	654	161	218	464	334	105	394	41
Arrive On Green	0.07	0.23	0.23	0.06	0.23	0.23	0.06	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	2824	697	3401	1870	1346	1767	1666	173
Grp Volume(v), veh/h	93	390	212	99	140	143	132	364	35	80	0	329
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1745	1700	1870	1346	1767	0	1839
Q Serve(g_s), s	3.9	7.1	8.9	2.1	5.0	5.1	2.8	13.7	1.5	3.4	0.0	12.5
Cycle Q Clear(g_c), s	3.9	7.1	8.9	2.1	5.0	5.1	2.8	13.7	1.5	3.4	0.0	12.5
Prop In Lane	1.00		1.00	1.00		0.40	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	121	829	370	201	411	404	218	464	334	105	0	435
V/C Ratio(X)	0.77	0.47	0.57	0.49	0.34	0.35	0.61	0.78	0.10	0.77	0.00	0.76
Avail Cap(c_a), veh/h	355	2126	948	689	1063	1044	904	994	716	470	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	24.8	25.5	34.4	24.1	24.2	34.3	26.4	21.8	34.9	0.0	26.7
Incr Delay (d2), s/veh	9.7	0.9	3.0	1.9	1.0	1.1	2.7	4.2	0.2	11.0	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.8	0.3	0.9	2.0	2.0	1.2	5.9	0.4	1.6	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	25.7	28.5	36.2	25.2	25.3	37.0	30.6	22.0	45.8	0.0	30.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	A	C
Approach Vol, veh/h		695			382			531				409
Approach Delay, s/veh		29.0			28.1			31.6				33.5
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	24.8	12.0	26.0	12.4	25.0	12.8	25.1				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	45.0	20.0	* 40	15.0	45.0	20.0	* 40				
Max Q Clear Time (g_c+I1), s	5.9	7.1	5.4	15.7	4.1	10.9	4.8	14.5				
Green Ext Time (p_c), s	0.1	3.1	0.1	3.0	0.2	6.7	0.3	2.5				

Intersection Summary

HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	7	6	487	406	3
Future Vol, veh/h	3	7	6	487	406	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	3	3	2
Mvmt Flow	4	8	7	580	483	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1079	485	487	0	-	0
Stage 1	485	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	242	582	1076	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	240	582	1076	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	552	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1076	-	240	582	-	-
HCM Lane V/C Ratio	0.007	-	0.015	0.014	-	-
HCM Control Delay (s)	8.4	0	20.2	11.3	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

HCM 6th Signalized Intersection Summary
2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	255	315	139	453	123	483	433	159	79	416	63
Future Volume (veh/h)	57	255	315	139	453	123	483	433	159	79	416	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826
Adj Flow Rate, veh/h	63	283	222	154	503	117	537	481	96	88	462	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	5
Cap, veh/h	81	759	338	214	672	156	569	773	655	112	495	68
Arrive On Green	0.05	0.21	0.21	0.06	0.23	0.23	0.16	0.41	0.41	0.06	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	2865	663	3456	1870	1585	1781	1611	220
Grp Volume(v), veh/h	63	283	222	154	311	309	537	481	96	88	0	525
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1751	1728	1870	1585	1781	0	1831
Q Serve(g_s), s	4.3	8.3	15.6	5.3	19.7	19.9	18.7	24.7	4.6	5.9	0.0	33.8
Cycle Q Clear(g_c), s	4.3	8.3	15.6	5.3	19.7	19.9	18.7	24.7	4.6	5.9	0.0	33.8
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	81	759	338	214	417	411	569	773	655	112	0	563
V/C Ratio(X)	0.77	0.37	0.66	0.72	0.75	0.75	0.94	0.62	0.15	0.79	0.00	0.93
Avail Cap(c_a), veh/h	220	1316	587	427	658	649	569	773	655	293	0	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.3	40.8	43.7	56.0	43.1	43.2	50.2	28.2	22.3	56.1	0.0	40.9
Incr Delay (d2), s/veh	14.3	0.7	4.6	4.5	5.6	5.8	24.6	1.8	0.1	11.4	0.0	21.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.6	6.3	2.4	9.0	8.9	9.7	10.8	1.7	2.9	0.0	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	41.5	48.3	60.5	48.7	49.1	74.8	30.0	22.4	67.6	0.0	62.3
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	A	E
Approach Vol, veh/h		568			774			1114				613
Approach Delay, s/veh		47.5			51.2			50.9				63.1
Approach LOS		D			D			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	35.9	15.1	57.5	15.5	33.3	28.0	44.6				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	45.0	20.0	* 40	15.0	45.0	20.0	* 40				
Max Q Clear Time (g_c+I1), s	6.3	21.9	7.9	26.7	7.3	17.6	20.7	35.8				
Green Ext Time (p_c), s	0.1	6.6	0.1	3.5	0.2	5.0	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			52.8									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	7	592	591	3
Future Vol, veh/h	3	6	7	592	591	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	8	643	642	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1303	644	645	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	177	473	940	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	473	940	-	-	-
Mov Cap-2 Maneuver	175	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	940	-	175	473	-	-
HCM Lane V/C Ratio	0.008	-	0.019	0.014	-	-
HCM Control Delay (s)	8.9	0	26	12.7	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

E

Intersection Volume Derivation

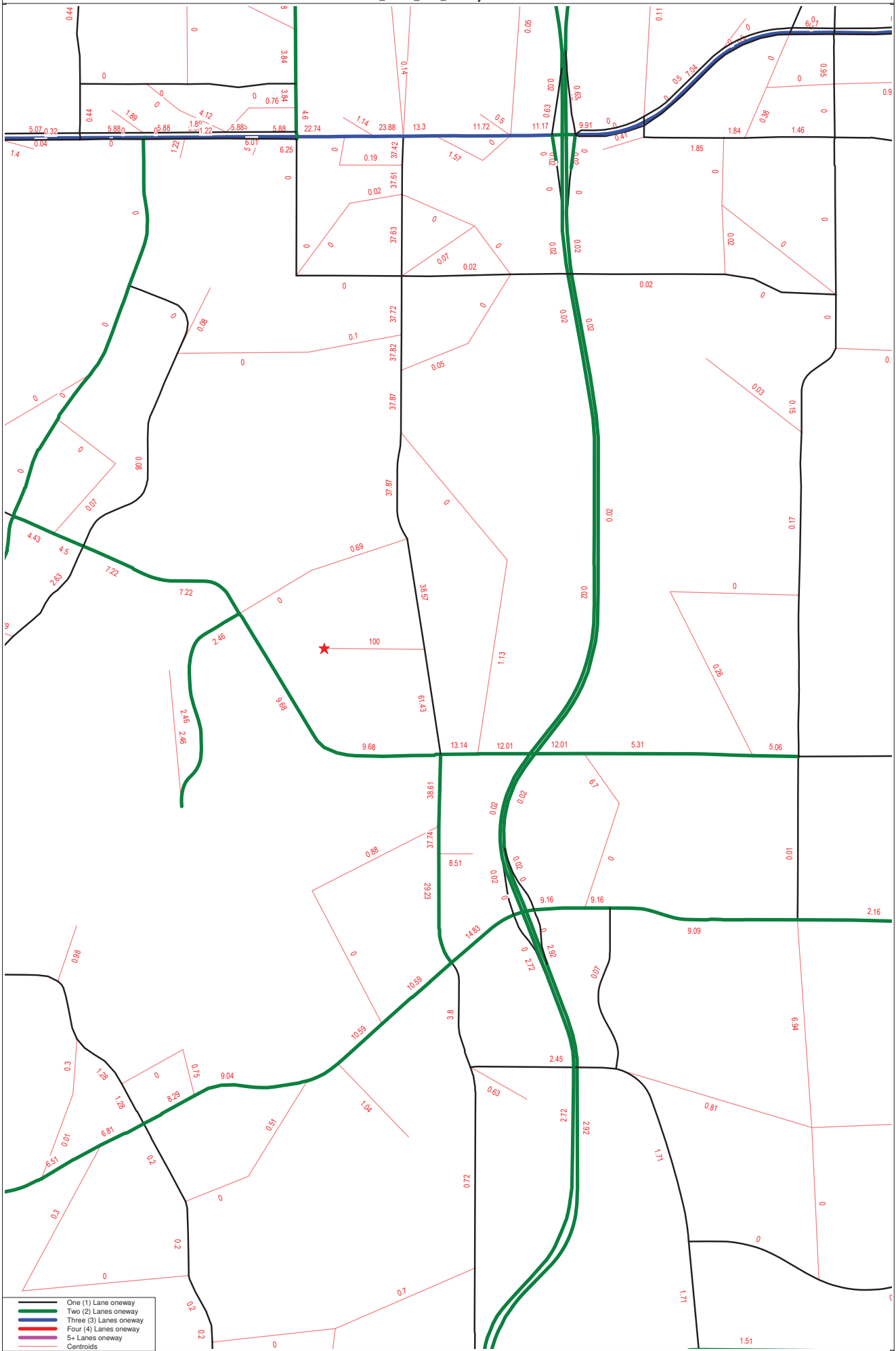
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66472.00 - Hillpointe Multifamily																								
Inputs:	Analysis Years			Seasonal Factor			External Project Trips			Passby Project Trips			PM Peak											
	Existing Year	Future Year	Total	Factor	Date	In	Out	Total	In	Out	Total													
		2022	2024	2	1.05	7/12/2022	83	53	136	-	-	-												
Existing Turning Movement Counts																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	7	564	0	0	563	3	3	0	6	0	0	0									
2	Barclay Ave	Elgin Blvd	PM	460	412	151	75	396	60	54	243	300	132	431	117									
2022 TMC Projected																								
Location	Intersection		Seasonal Factor	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	1.05	7	592	0	0	591	3	3	0	6	0	0	0									
2	Barclay Ave	Elgin Blvd	1.05	483	433	159	79	416	63	57	255	315	139	453	123									
Annual Growth Rates																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%									
2	Barclay Ave	Elgin Blvd	PM	5.0%	5.0%	5.0%	1.8%	1.8%	1.8%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%									
Vested Trips																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM		47			27																
2	Barclay Ave	Elgin Blvd	PM		38		2	22	3	6	31			33	3									
Future Background																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	8	661	0	0	640	4	4	0	7	0	0	0									
2	Barclay Ave	Elgin Blvd	PM	532	515	175	84	453	69	68	308	342	151	525	137									
Future Trip Distribution Out (Movement)																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	100.0%	38.57%	0.00%	0.00%	61.43%	100.0%	38.57%	0.00%	61.43%	61.43%	100.0%	38.57%									
2	Barclay Ave	Elgin Blvd	PM	9.68%	61.43%	13.14%	13.14%	38.61%	9.68%	61.43%	13.14%	38.61%	38.61%	9.68%	61.43%									
Future Trip Distribution In (Leg)																								
Location	Intersection		Peak Hour	South Leg			North Leg			West Leg			East Leg											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	61.4%	61.4%	61.4%	38.6%	38.6%	38.6%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%									
2	Barclay Ave	Elgin Blvd	PM	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	9.7%	9.7%	9.7%	13.1%	13.1%	13.1%									
In / Out (Input: I/O)																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	i			o	o	o	o		o												
2	Barclay Ave	Elgin Blvd	PM		i					i					i									
Trip Adjustment																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	-1								-1												
2	Barclay Ave	Elgin Blvd	PM		-3			4																
External Project Trips																								
Location	Intersection		Peak Hour	External Trip Generation			Entering			83			Exiting			53			Total			136		
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	Barclay Ave	Astaire Ln	PM	50	0	0	0	0	33	21	0	32	0	0	0	0	0	0	0	0	0	0	0	0
2	Barclay Ave	Elgin Blvd	PM	0	30	0	7	25	6	9	0	0	0	0	0	0	0	0	0	0	11			
Future Buildout																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	PM	58	661	0	0	640	37	25	0	39	0	0	0									
2	Barclay Ave	Elgin Blvd	PM	532	545	175	91	478	75	77	308	342	151	525	148									

66472.00 - Hillpointe Multifamily

66472.00 - Hillpointe Multifamily																								
Inputs:	Analysis Years			Seasonal Factor			External Project Trips			Passby Project Trips			AM Peak											
	Existing Year	Future Year	Total	Factor	Date	In	Out	Total	In	Out	Total													
	2022	2024	2	1.05	44754	33	109	142	-	-	-													
Existing Turning Movement Counts																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	6	464	0	0	387	3	3	0	7	0	0	0									
2	Barclay Ave	Elgin Blvd	AM	115	319	66	70	261	29	82	342	318	87	198	69									
2021 TMC Projected																								
Location	Intersection		Seasonal Factor	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	1.05	6	487	0	0	406	3	3	0	7	0	0	0									
2	Barclay Ave	Elgin Blvd	1.05	121	335	69	74	274	30	86	359	334	91	208	72									
Annual Growth Rates																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%									
2	Barclay Ave	Elgin Blvd	AM	5.0%	5.0%	5.0%	1.8%	1.8%	1.8%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%									
Vested Trips																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM		9			26																
2	Barclay Ave	Elgin Blvd	AM		6		3	18	5	2	48			16	1									
Future Background																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	7	514	0	0	447	4	4	0	8	0	0	0									
2	Barclay Ave	Elgin Blvd	AM	134	375	76	80	302	37	96	438	363	99	242	80									
Future Trip Distribution Out (Movement)																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	100.00%	38.57%	0.00%	0.00%	61.43%	100.00%	38.57%	0.00%	61.43%	61.43%	100.00%	38.57%									
2	Barclay Ave	Elgin Blvd	AM	9.68%	61.43%	13.14%	13.14%	38.61%	9.68%	61.43%	13.14%	38.61%	38.61%	9.68%	61.43%									
Future Trip Distribution In (Leg)																								
Location	Intersection		Peak Hour	South Leg			North Leg			West Leg			East Leg											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	61.4%	61.4%	61.4%	38.6%	38.6%	38.6%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%									
2	Barclay Ave	Elgin Blvd	AM	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	9.7%	9.7%	9.7%	13.1%	13.1%	13.1%									
In / Out (Input: I/O)																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	i					i															
2	Barclay Ave	Elgin Blvd	AM		i		o	o	o		i				i									
Adjustment																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	-1								-1												
2	Barclay Ave	Elgin Blvd	AM		-2			-3																
External Project Trips																								
Location	Intersection		Peak Hour	External Trip Generation			Entering			33			Exiting			109			Total			142		
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
1	Barclay Ave	Astaire Ln	AM	20	0	0	0	0	13	43	0	66	0	0	0	0	0	0	0	0	0	0	0	0
2	Barclay Ave	Elgin Blvd	AM	0	11	0	15	40	11	4	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Future Buildout																								
Location	Intersection		Peak Hour	Northbound			Southbound			Eastbound			Westbound											
	NB/SB	EB/WB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
1	Barclay Ave	Astaire Ln	AM	27	514	0	0	447	17	47	0	74	0	0	0									
2	Barclay Ave	Elgin Blvd	AM	134	386	76	95	342	48	100	438	363	99	242	85									

TBRPM_91 - Yr. 2024_CA Project Distribution



- One (1) Lane oneway
- Two (2) Lanes oneway
- Three (3) Lanes oneway
- Four (4) Lanes oneway
- 5+ Lanes oneway
- ★ Centroids

C:\FSUTMS\ID7\TBRPM_v3\1\BASE\Yr_2024_CA\OUTPUT\HWYLOAD_DAILY_A45.NET



(Licensed to Vanasse Hangen Brustlin Inc)

TRAFFIC ACCESS ANALYSIS

Lucky Lane Residential

Prepared for:

D.R. Horton

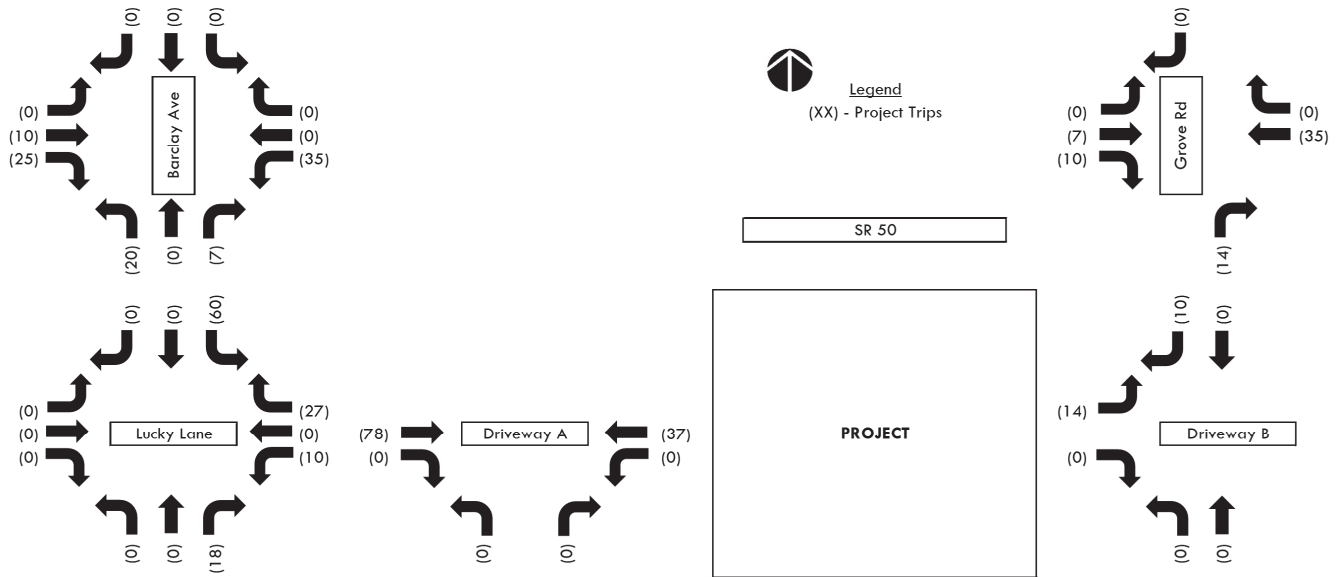


Table 1. Estimated Project Traffic

<u>Land Use</u>	<u>ITE LUC</u>	<u>Size</u>	<u>Daily Trip Ends (1)</u>	<u>AM Peak Hour Trip Ends (1)</u>			<u>PM Peak Hour Trip Ends (1)</u>		
				<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Single Family	210	139 DUs	1,408	26	77	103	88	51	139

(1) Source: ITE Trip Generation, 10th Edition, 2017.

Figure 2. PM Peak Hour Project Traffic



TRANSPORTATION ANALYSIS

JUMPER LOOP

Prepared For

COASTAL ENGINEERING ASSOCIATES, INC.

Prepared By



LINCKS & ASSOCIATES, INC.
Engineers - Planners
Tampa, Florida



TABLE 1
TRIP GENERATION (1)

<u>Land Use</u>	<u>ITE LUC</u>	<u>Size</u>	<u>Daily Trip Ends</u>	<u>AM Peak Hour Trip Ends</u>			<u>PM Peak Hour Trip Ends</u>		
				<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Single Family Homes	210	90 DU's	944	17	52	69	58	34	92

(1) Source: ITE Trip Generation Manual, 10th Edition, 2017.

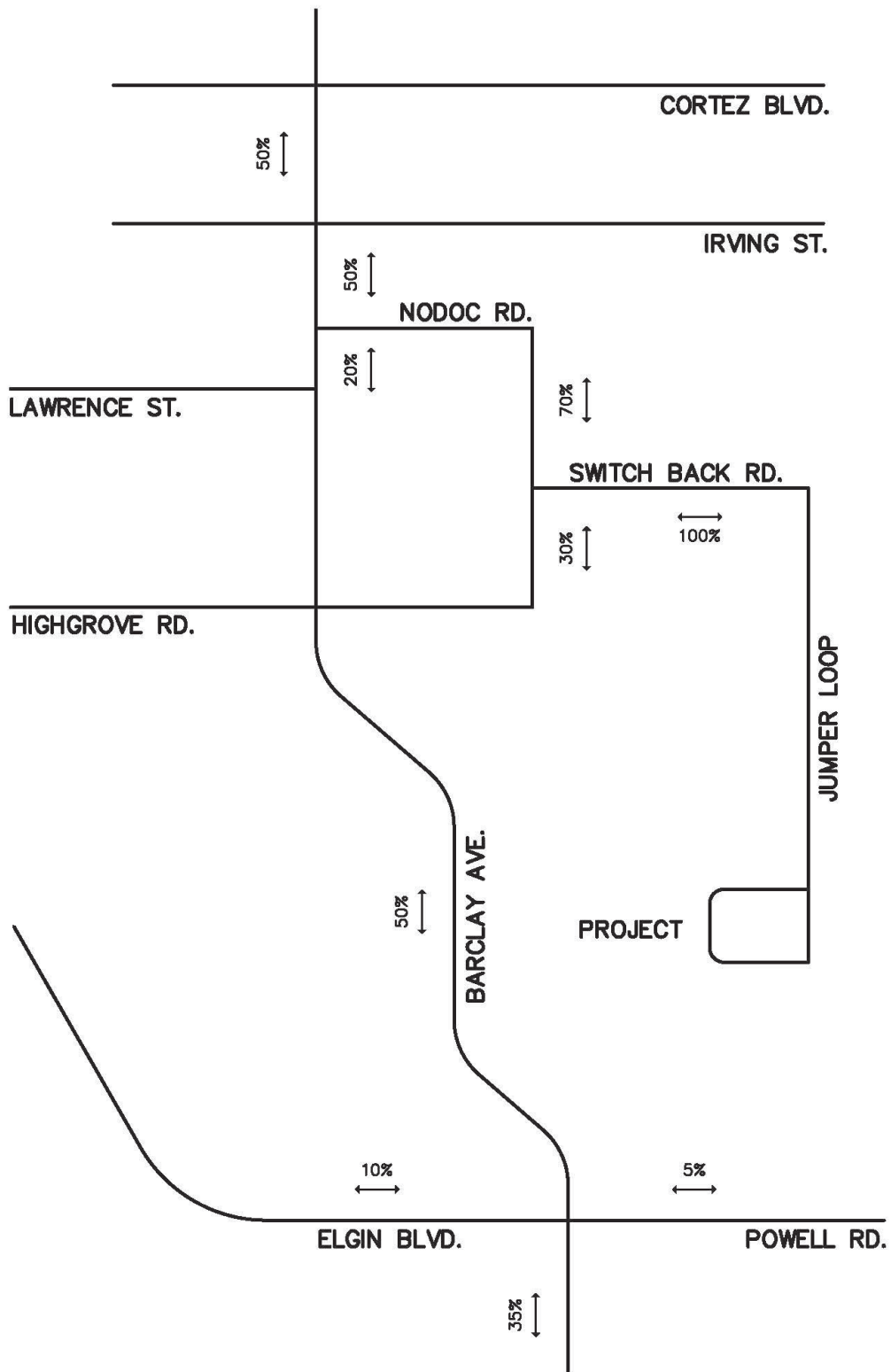


FIGURE 2
PROJECT TRAFFIC
DISTRIBUTION



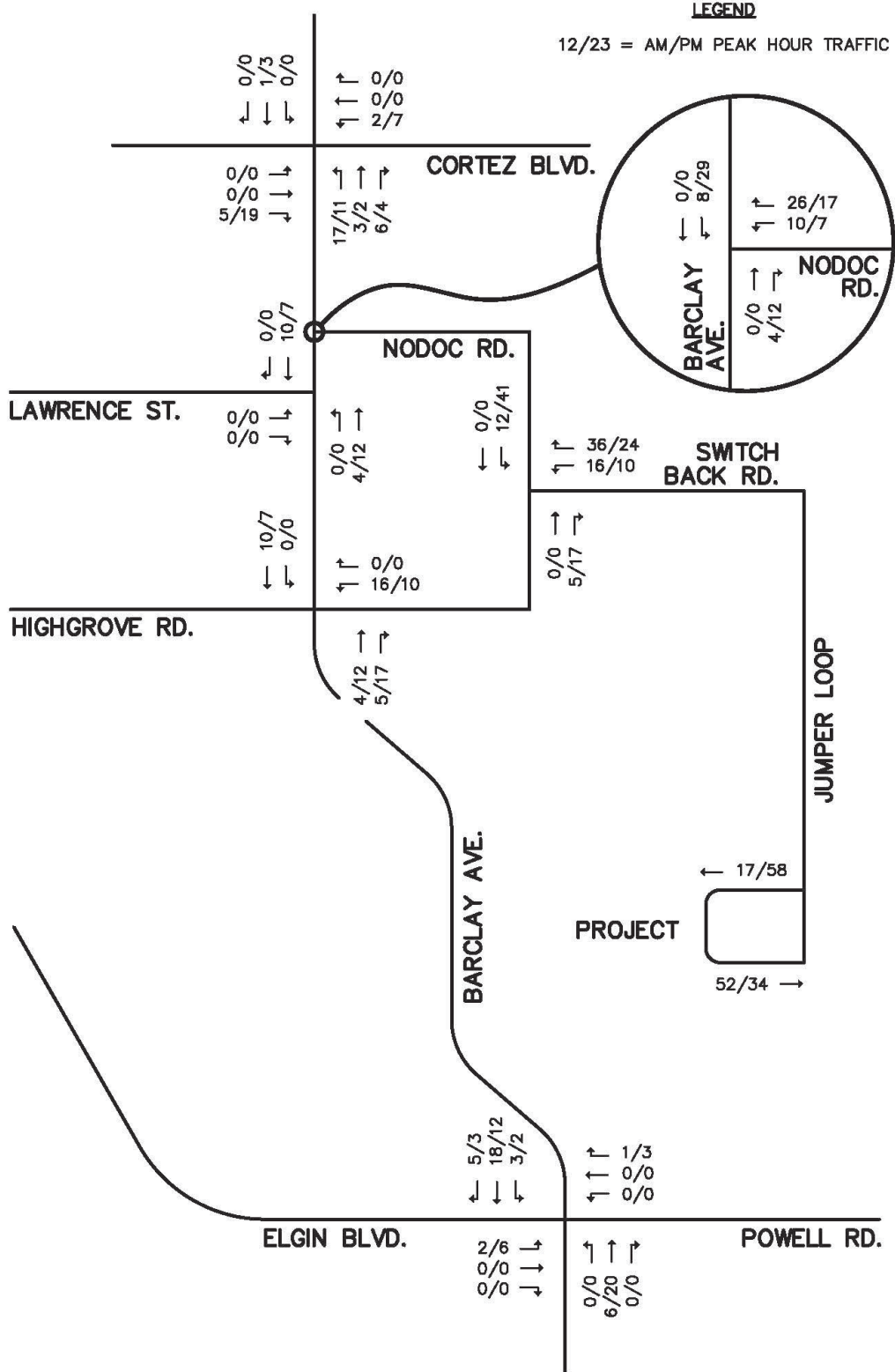


FIGURE 3
PROJECT TRAFFIC

TRANSPORTATION ANALYSIS

VILLAGE VAN GOGH

Prepared For

LENNAR

Prepared By



LINCKS & ASSOCIATES, INC.

Engineers - Planners

Tampa, Florida



TABLE 1

ESTIMATED PEAK HOUR PROJECT TRIP ENDS (1)

<u>Land Use</u>	<u>ITE LUC</u>	<u>Size</u>	<u>Daily Trip Ends</u>	<u>AM Peak Hour Trip Ends</u>			<u>PM Peak Hour Trip Ends</u>		
				<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Single Family	210	242 DU's	2,344	44	133	177	149	88	237

(1) Source: ITE Trip Generation Manual, 10th Edition, 2017.

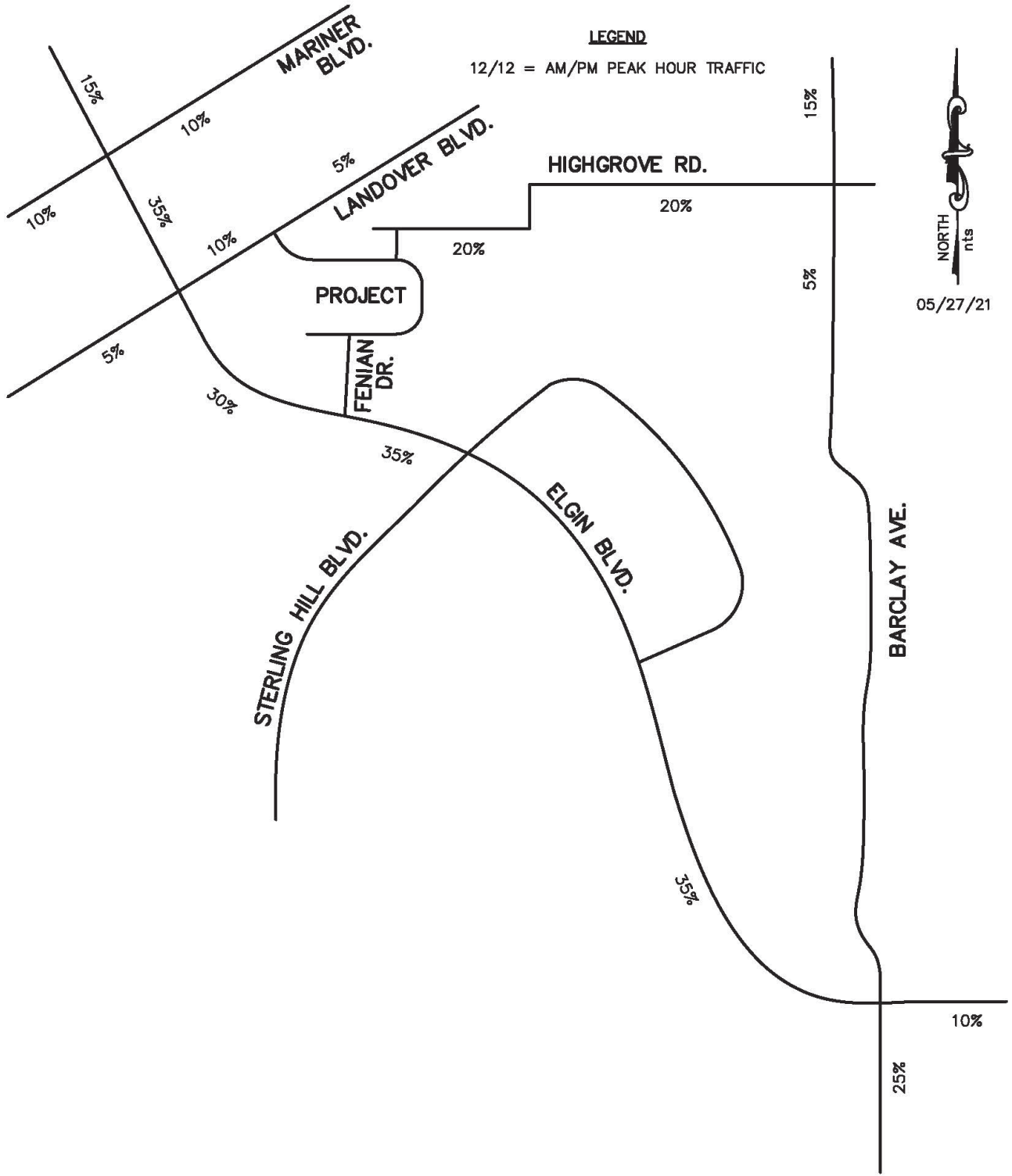


FIGURE 2
PROJECT TRAFFIC
DISTRIBUTION



LEGEND

12/12 = AM/PM PEAK HOUR TRAFFIC



07/12/21

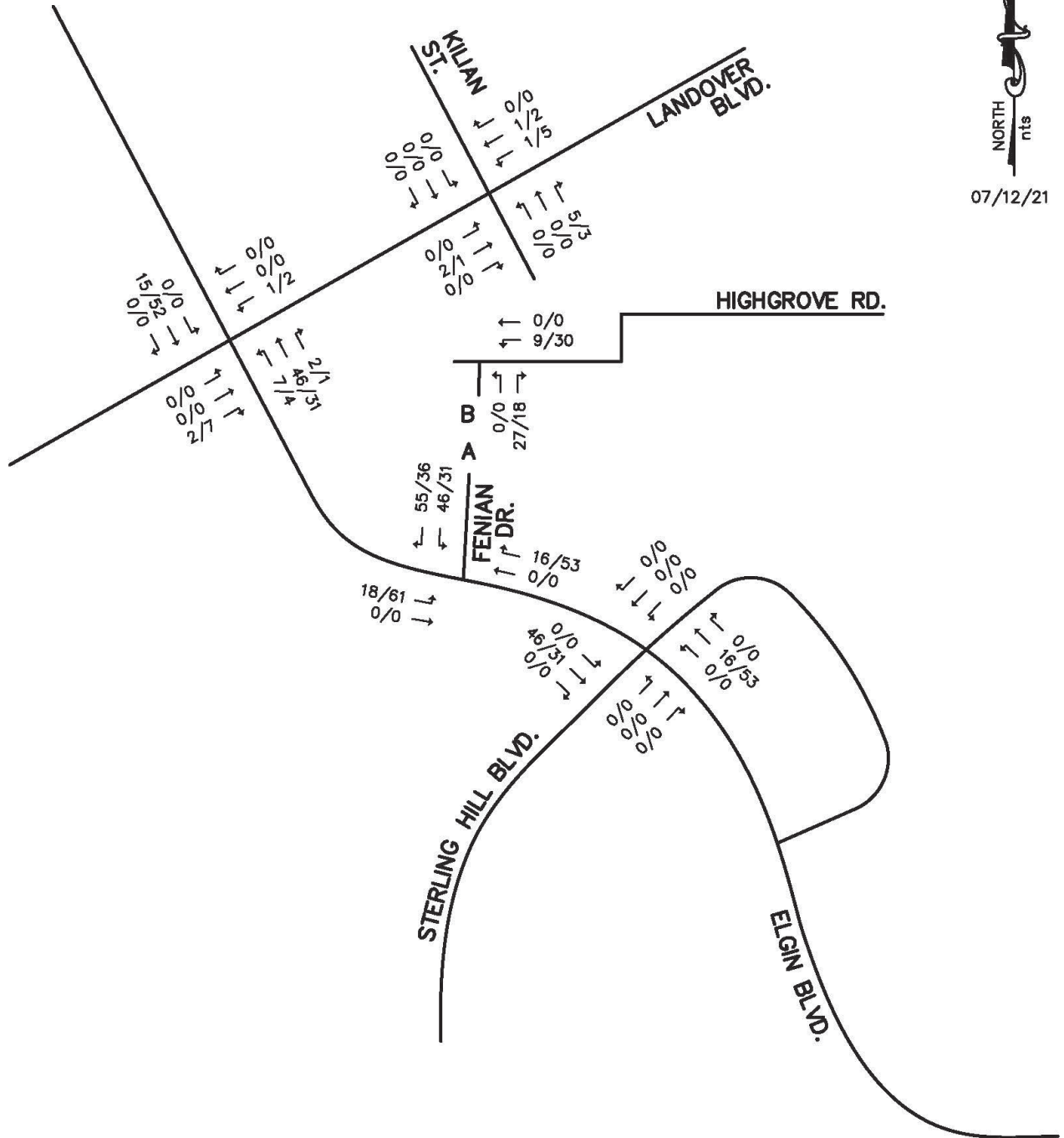


FIGURE 3
PROJECT TRAFFIC

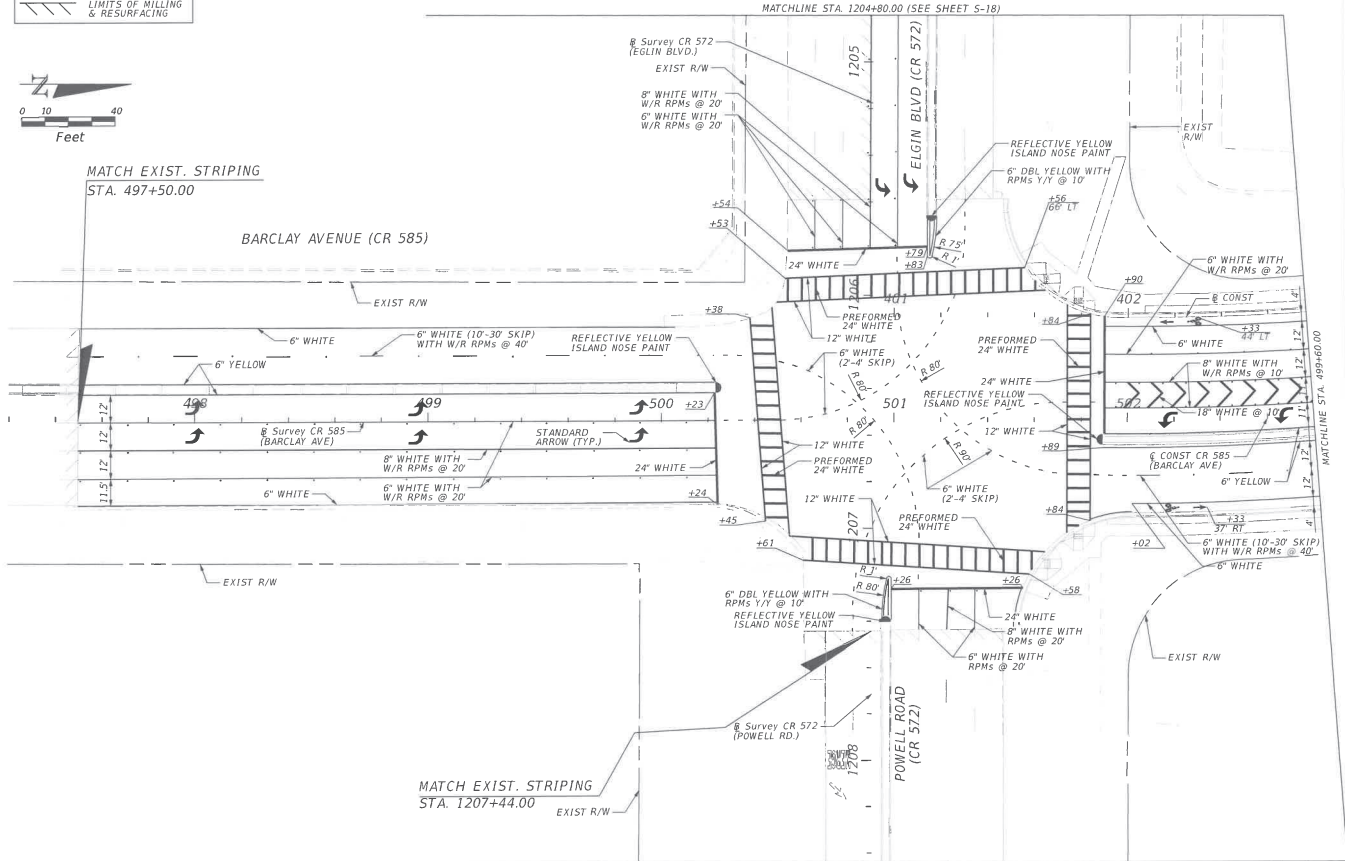
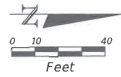




F

Roadway Improvement Plans

LEGEND
LIMITS OF MILLING
& RESURFACING



HERNANDO COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
1525 N. JEFFERSON STREET
BROOKSVILLE, FL 34601-4423

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DATE	DESCRIPTION

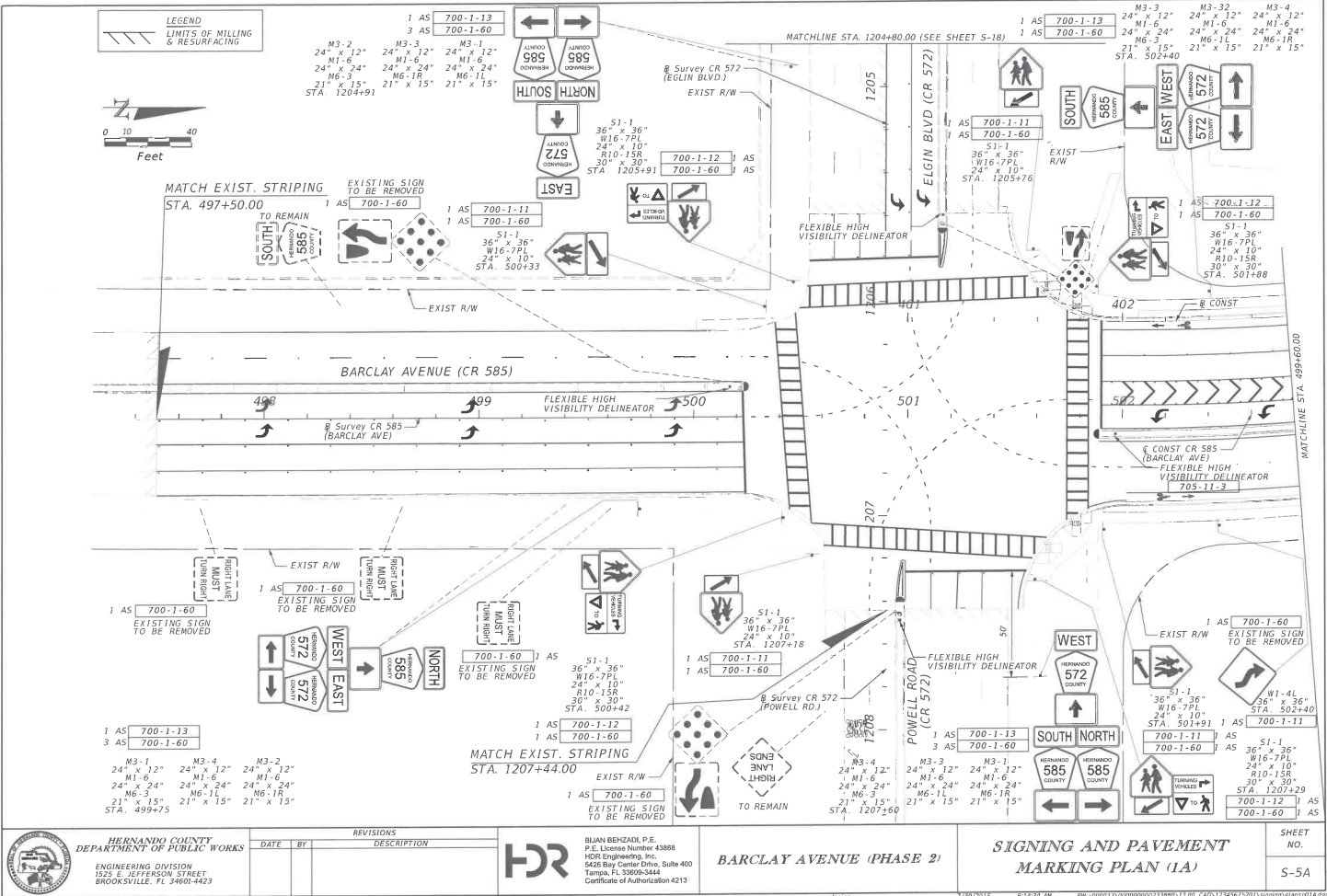


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BARCLAY AVENUE (PHASE 2)

SIGNING AND PAVEMENT
MARKING PLAN (1)

SHEET
NO.
5-5



HERNANDO COUNTY
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 1523 S. JEFFERSON STREET
 BROOKSVILLE, FL 34601-4423

DATE	BY	DESCRIPTION



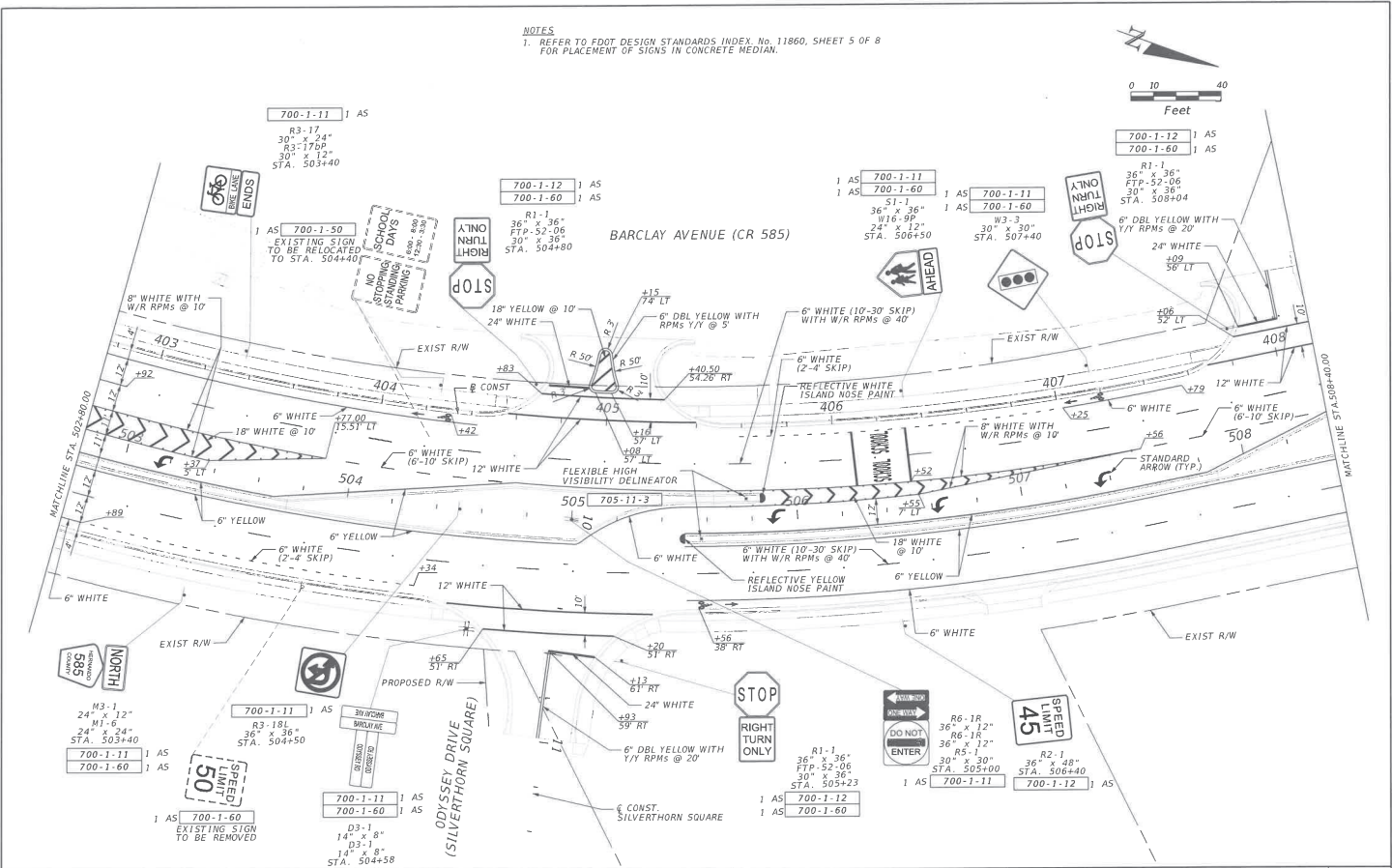
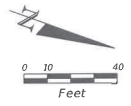
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BARCLAY AVENUE (PHASE 2)

SIGNING AND PAVEMENT MARKING PLAN (1A)

SHEET NO.
 S-5A

NOTES
 1. REFER TO FDOT DESIGN STANDARDS INDEX No. 11860, SHEET 5 OF 8 FOR PLACEMENT OF SIGNS IN CONCRETE MEDIAN.



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 1223 S. JEFFERSON STREET
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DATE	BY	REVISIONS DESCRIPTION

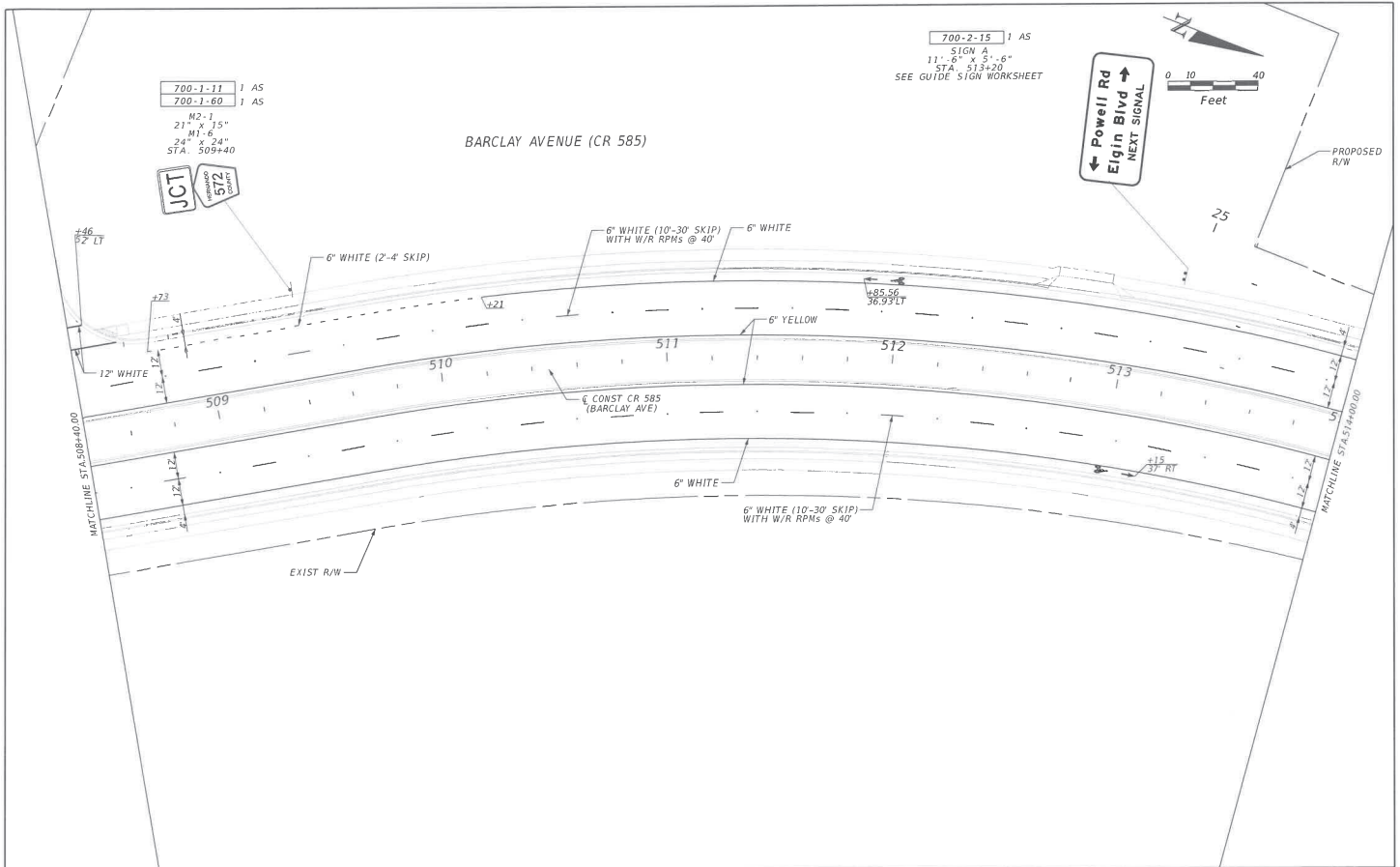
HR
 BJAN BENZADI, P.E.
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BARCLAY AVENUE (PHASE 2)

SIGNING AND PAVEMENT MARKING PLAN (2)

SHEET NO. 5-6

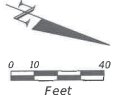
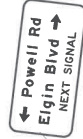
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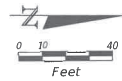
700-1-11 1 AS
 700-1-60 1 AS
 #2-1
 21' x 15"
 #1-8
 24' x 24"
 STA. 509+40



700-2-15 1 AS
 SIGN A
 11'-6" x 5'-6"
 STA. 513+20
 SEE GUIDE SIGN WORKSHEET



<p>HERNANDO COUNTY DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION 1229 E. JEFFERSON STREET BROOKSVILLE, FL 34601-4423</p>	REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		DATE	BY	DESCRIPTION				<p>ELIJAH BEHZADI, P.E. P.E. License Number 43968 HDR Engineering, Inc. 5426 Bay Center Drive, Suite 400 Tampa, FL 33606-3444 Certificate of Authorization 4213</p>	<p>BARCLAY AVENUE (PHASE 2)</p> <p>SIGNING AND PAVEMENT MARKING PLAN (3)</p>	SHEET NO. S-7
	DATE	BY	DESCRIPTION								
<p>DATE: 7/29/2015 BY: 912:33 AM</p> <p>FILE: \\000013\0000000000233880\1\3\00_CAD\1234567890\signing-plan\2032.dwg</p>											



BARCLAY AVENUE (CR 585)

700-1-11 1 AS
 W1-4L
 36" x 36"
 STA. 516+64



6" WHITE (10'-30' SKIP)
 WITH W/R RPMs @ 40'

PROPOSED R/W

6" WHITE

6" YELLOW

CONST CR 585
 (BARCLAY AVE)

1284
 37' LT

6" WHITE
 (6'-10' SKIP)

6" WHITE

6" WHITE (10'-30' SKIP)
 WITH W/R RPMs @ 40'

EXIST R/W

MATCHLINE STA. 514+00.00

MATCHLINE STA. 518+60.00

515 516 517 518 519



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 DEPARTMENT OF PUBLIC WORKS
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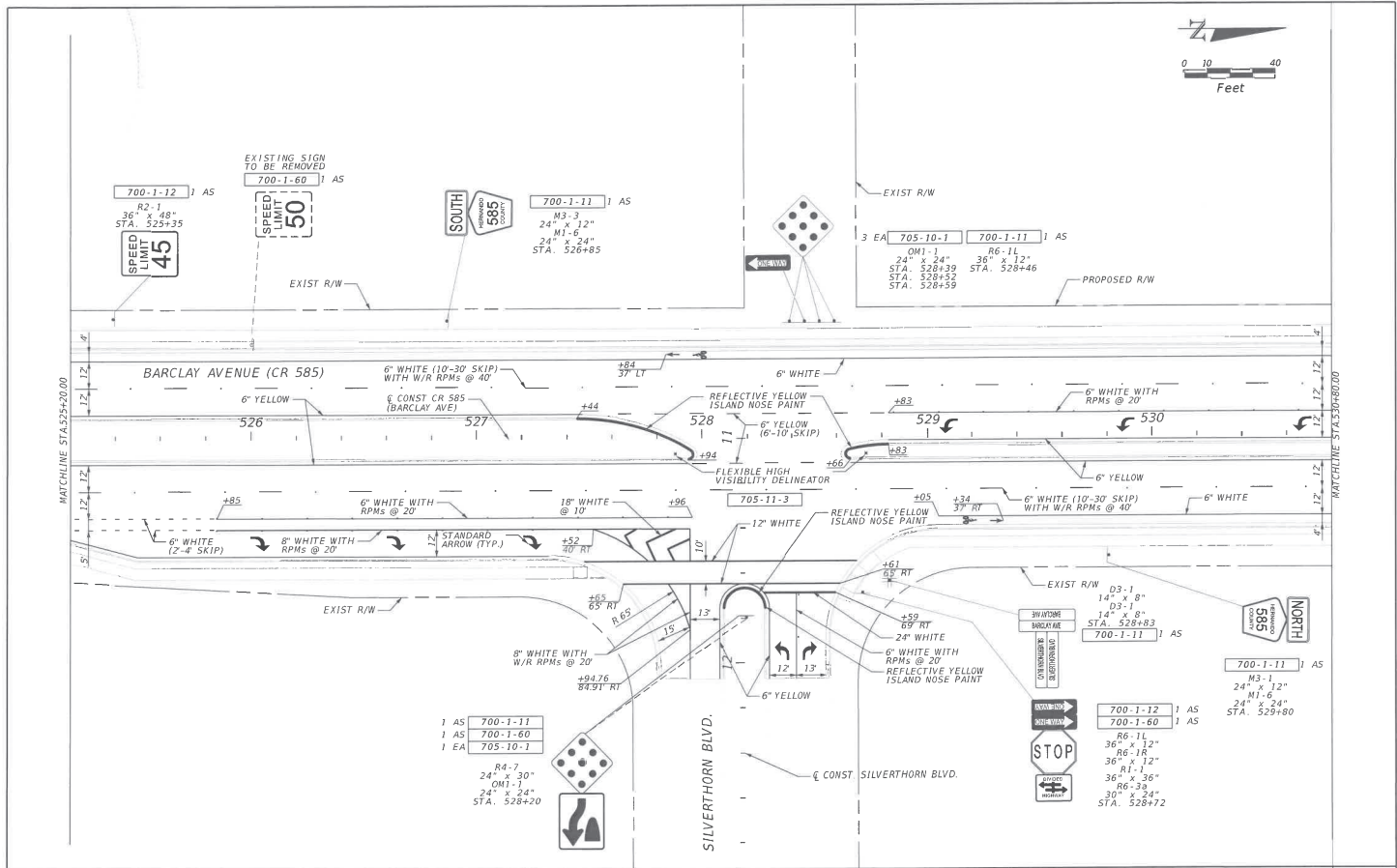
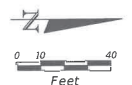


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BARCLAY AVENUE (PHASE 2)

SIGNING AND PAVEMENT
 MARKING PLAN (4)

SHEET
 NO.
 S-8



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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
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BROOKSVILLE, FL 34601-4423

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BARCLAY AVENUE (PHASE 2)

SIGNING AND PAVEMENT MARKING PLAN (6)

SHEET NO.
S-10

G

Synchro Analysis

Future Conditions

Queues
2: Barclay Ave & Elgin Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	101	461	382	104	339	141	475	84	357
v/c Ratio	0.49	0.51	0.55	0.33	0.41	0.41	0.55	0.44	0.47
Control Delay	51.7	33.1	6.6	47.6	30.8	46.9	35.4	51.1	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	33.1	6.6	47.6	30.8	46.9	35.4	51.1	34.8
Queue Length 50th (ft)	57	124	0	30	83	41	131	48	95
Queue Length 95th (ft)	132	205	73	68	148	87	225	113	166
Internal Link Dist (ft)		1128			726		866		1726
Turn Bay Length (ft)	545		175	465		430		530	
Base Capacity (vph)	288	1384	851	559	1352	877	1752	409	1707
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.33	0.45	0.19	0.25	0.16	0.27	0.21	0.21

Intersection Summary

HCM 6th Signalized Intersection Summary

2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Background AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	438	363	99	242	80	134	375	76	80	302	37
Future Volume (veh/h)	96	438	363	99	242	80	134	375	76	80	302	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1781	1841	1870	1589	1856	1870	1870
Adj Flow Rate, veh/h	101	461	236	104	255	64	141	395	41	84	318	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	8	4	2	21	3	2	2
Cap, veh/h	132	920	411	212	721	177	235	621	64	110	569	66
Arrive On Green	0.07	0.26	0.26	0.06	0.25	0.25	0.07	0.19	0.19	0.06	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	3456	2826	696	3401	3251	336	1767	3210	371
Grp Volume(v), veh/h	101	461	236	104	158	161	141	215	221	84	175	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1745	1700	1777	1810	1767	1777	1804
Q Serve(g_s), s	3.9	7.8	9.2	2.1	5.2	5.3	2.9	7.9	8.0	3.3	6.4	6.5
Cycle Q Clear(g_c), s	3.9	7.8	9.2	2.1	5.2	5.3	2.9	7.9	8.0	3.3	6.4	6.5
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.19	1.00		0.21
Lane Grp Cap(c), veh/h	132	920	411	212	453	445	235	340	346	110	315	320
V/C Ratio(X)	0.77	0.50	0.57	0.49	0.35	0.36	0.60	0.63	0.64	0.76	0.56	0.56
Avail Cap(c_a), veh/h	377	1805	805	731	918	901	1152	1203	1226	536	1128	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	22.4	22.9	32.2	21.6	21.7	32.0	26.4	26.4	32.7	26.6	26.6
Incr Delay (d2), s/veh	8.9	0.9	2.7	1.7	1.0	1.1	2.4	2.8	2.8	10.4	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.0	3.3	0.8	2.0	2.0	1.1	3.2	3.3	1.6	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	23.3	25.6	33.9	22.6	22.7	34.5	29.1	29.2	43.1	28.8	28.9
LnGrp LOS	D	C	C	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h		798			423			577			439	
Approach Delay, s/veh		26.2			25.4			30.5			31.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	25.5	11.9	20.8	12.4	25.8	12.9	19.9				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	36.6	21.5	* 48	15.0	36.0	24.0	* 45				
Max Q Clear Time (g_c+I1), s	5.9	7.3	5.3	10.0	4.1	11.2	4.9	8.5				
Green Ext Time (p_c), s	0.1	3.3	0.1	3.6	0.2	7.2	0.4	2.8				

Intersection Summary

HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	8	7	514	447	4
Future Vol, veh/h	4	8	7	514	447	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	510	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	3	2
Mvmt Flow	4	8	7	541	471	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	758	238	475	0	-	0
Stage 1	473	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	343	763	1083	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	341	763	1083	-	-	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1083	-	451	763	-	-
HCM Lane V/C Ratio	0.007	-	0.009	0.011	-	-
HCM Control Delay (s)	8.3	-	13.1	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Queues
2: Barclay Ave & Elgin Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	324	360	159	709	560	726	88	550
v/c Ratio	0.48	0.39	0.56	0.51	0.74	0.82	0.64	0.52	0.72
Control Delay	68.3	41.4	7.6	61.9	46.2	60.4	38.3	67.8	50.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	41.4	7.6	61.9	46.2	60.4	38.3	67.8	50.0
Queue Length 50th (ft)	57	113	0	64	270	230	259	70	218
Queue Length 95th (ft)	118	179	83	111	396	#393	368	136	296
Internal Link Dist (ft)		1128			726		866		1726
Turn Bay Length (ft)	545		175	465		430		530	
Base Capacity (vph)	219	1054	724	426	1052	681	1372	314	1293
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.50	0.37	0.67	0.82	0.53	0.28	0.43

Intersection Summary

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

HCM 6th Signalized Intersection Summary
2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Background PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	308	342	151	525	148	532	515	175	84	453	69
Future Volume (veh/h)	68	308	342	151	525	148	532	515	175	84	453	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826
Adj Flow Rate, veh/h	72	324	239	159	553	137	560	542	107	88	477	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	5
Cap, veh/h	93	855	381	230	736	182	648	990	195	114	645	90
Arrive On Green	0.05	0.24	0.24	0.07	0.26	0.26	0.19	0.33	0.33	0.06	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	3456	2824	697	3456	2960	582	1781	3131	438
Grp Volume(v), veh/h	72	324	239	159	347	343	560	325	324	88	270	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1745	1728	1777	1766	1781	1777	1792
Q Serve(g_s), s	4.1	7.8	13.8	4.6	18.4	18.5	16.1	15.2	15.4	5.0	14.6	14.7
Cycle Q Clear(g_c), s	4.1	7.8	13.8	4.6	18.4	18.5	16.1	15.2	15.4	5.0	14.6	14.7
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.33	1.00		0.24
Lane Grp Cap(c), veh/h	93	855	381	230	463	455	648	594	590	114	366	369
V/C Ratio(X)	0.77	0.38	0.63	0.69	0.75	0.75	0.86	0.55	0.55	0.77	0.74	0.74
Avail Cap(c_a), veh/h	261	1248	557	506	634	623	809	832	827	374	780	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	32.5	34.8	46.8	34.8	34.9	40.4	27.8	27.8	47.2	38.1	38.2
Incr Delay (d2), s/veh	12.5	0.6	3.6	3.7	5.7	6.0	8.1	1.1	1.1	10.6	4.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.3	5.4	2.0	8.2	8.1	7.2	6.2	6.2	2.5	6.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	33.1	38.4	50.5	40.5	40.8	48.5	28.9	29.0	57.8	42.2	42.3
LnGrp LOS	E	C	D	D	D	D	D	C	C	E	D	D
Approach Vol, veh/h		635			849			1209			632	
Approach Delay, s/veh		38.2			42.5			38.0			44.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	34.1	14.0	41.6	14.8	32.1	27.2	28.4				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	36.6	21.5	* 48	15.0	36.0	24.0	* 45				
Max Q Clear Time (g_c+I1), s	6.1	20.5	7.0	17.4	6.6	15.8	18.1	16.7				
Green Ext Time (p_c), s	0.1	6.2	0.1	5.6	0.3	5.1	1.1	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			40.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	8	661	640	4
Future Vol, veh/h	4	7	8	661	640	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	510	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	7	8	696	674	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1040	339	678	0	-	0
Stage 1	676	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	226	657	910	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	224	657	910	-	-	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	910	-	347	657	-	-
HCM Lane V/C Ratio	0.009	-	0.012	0.011	-	-
HCM Control Delay (s)	9	-	15.5	10.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Queues
2: Barclay Ave & Elgin Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	105	461	382	104	344	141	486	100	411
v/c Ratio	0.51	0.51	0.56	0.34	0.43	0.41	0.65	0.49	0.51
Control Delay	53.9	34.4	6.8	49.1	31.9	48.4	39.0	52.4	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	34.4	6.8	49.1	31.9	48.4	39.0	52.4	35.0
Queue Length 50th (ft)	61	127	0	31	85	42	137	58	112
Queue Length 95th (ft)	142	214	76	71	154	89	236	133	192
Internal Link Dist (ft)		1128			726		866		1726
Turn Bay Length (ft)	545		175	465		430		530	
Base Capacity (vph)	280	1347	839	544	1315	854	1707	398	1658
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.34	0.46	0.19	0.26	0.17	0.28	0.25	0.25
Intersection Summary									

HCM 6th Signalized Intersection Summary

2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Project AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	438	363	99	242	85	134	386	76	95	342	48
Future Volume (veh/h)	100	438	363	99	242	85	134	386	76	95	342	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1781	1841	1870	1589	1856	1870	1870
Adj Flow Rate, veh/h	105	461	236	104	255	69	141	406	41	100	360	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	8	4	2	21	3	2	2
Cap, veh/h	137	910	406	209	689	183	234	631	63	131	604	82
Arrive On Green	0.08	0.26	0.26	0.06	0.25	0.25	0.07	0.19	0.19	0.07	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	3456	2778	737	3401	3261	328	1767	3146	425
Grp Volume(v), veh/h	105	461	236	104	161	163	141	220	227	100	202	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1738	1700	1777	1811	1767	1777	1794
Q Serve(g_s), s	4.2	8.1	9.4	2.1	5.4	5.6	2.9	8.3	8.4	4.0	7.5	7.6
Cycle Q Clear(g_c), s	4.2	8.1	9.4	2.1	5.4	5.6	2.9	8.3	8.4	4.0	7.5	7.6
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.18	1.00		0.24
Lane Grp Cap(c), veh/h	137	910	406	209	441	431	234	344	350	131	341	344
V/C Ratio(X)	0.77	0.51	0.58	0.50	0.37	0.38	0.60	0.64	0.65	0.76	0.59	0.60
Avail Cap(c_a), veh/h	368	1762	786	714	896	876	1124	1175	1198	523	1101	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	23.1	23.6	33.0	22.6	22.6	32.8	27.0	27.0	33.0	26.7	26.8
Incr Delay (d2), s/veh	8.7	0.9	2.8	1.8	1.1	1.2	2.5	2.8	2.8	8.8	2.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.1	3.4	0.9	2.1	2.2	1.2	3.4	3.5	1.9	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	24.0	26.4	34.9	23.7	23.8	35.3	29.8	29.8	41.8	29.1	29.2
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		802			428			588			509	
Approach Delay, s/veh		27.0			26.4			31.1			31.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	25.4	12.9	21.3	12.4	26.0	13.0	21.2				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	36.6	21.5	* 48	15.0	36.0	24.0	* 45				
Max Q Clear Time (g_c+I1), s	6.2	7.6	6.0	10.4	4.1	11.4	4.9	9.6				
Green Ext Time (p_c), s	0.1	3.4	0.2	3.7	0.2	7.1	0.4	3.3				

Intersection Summary

HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	74	27	514	447	17
Future Vol, veh/h	47	74	27	514	447	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	510	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	3	2
Mvmt Flow	49	78	28	541	471	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	807	245	489	0	0
Stage 1	480	-	-	-	-
Stage 2	327	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	319	755	1070	-	-
Stage 1	588	-	-	-	-
Stage 2	703	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	311	755	1070	-	-
Mov Cap-2 Maneuver	427	-	-	-	-
Stage 1	573	-	-	-	-
Stage 2	703	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1070	-	427	755	-	-
HCM Lane V/C Ratio	0.027	-	0.116	0.103	-	-
HCM Control Delay (s)	8.5	-	14.5	10.3	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.3	-	-

Queues
2: Barclay Ave & Elgin Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	324	360	159	709	560	758	96	582
v/c Ratio	0.53	0.36	0.54	0.52	0.79	0.86	0.67	0.56	0.73
Control Delay	71.7	41.8	7.4	64.2	50.8	65.4	40.5	70.1	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	41.8	7.4	64.2	50.8	65.4	40.5	70.1	51.1
Queue Length 50th (ft)	66	115	0	66	276	237	282	78	237
Queue Length 95th (ft)	132	184	85	114	407	#407	393	148	314
Internal Link Dist (ft)		1128			726		866		1726
Turn Bay Length (ft)	545		175	465		430		530	
Base Capacity (vph)	210	1011	709	407	1008	652	1316	301	1239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.32	0.51	0.39	0.70	0.86	0.58	0.32	0.47

Intersection Summary

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

HCM 6th Signalized Intersection Summary

2: Barclay Ave & Elgin Blvd

Hillpointe Multi-Family
Project PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	308	342	151	525	148	532	545	175	91	478	75
Future Volume (veh/h)	77	308	342	151	525	148	532	545	175	91	478	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826
Adj Flow Rate, veh/h	81	324	239	159	553	137	560	574	107	96	503	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	5
Cap, veh/h	104	868	387	227	726	179	642	1006	187	123	669	97
Arrive On Green	0.06	0.24	0.24	0.07	0.26	0.26	0.19	0.34	0.34	0.07	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	3456	2824	697	3456	2991	556	1781	3116	450
Grp Volume(v), veh/h	81	324	239	159	347	343	560	340	341	96	286	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1745	1728	1777	1770	1781	1777	1789
Q Serve(g_s), s	4.8	8.0	14.2	4.8	19.1	19.3	16.7	16.7	16.8	5.6	16.0	16.1
Cycle Q Clear(g_c), s	4.8	8.0	14.2	4.8	19.1	19.3	16.7	16.7	16.8	5.6	16.0	16.1
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.31	1.00		0.25
Lane Grp Cap(c), veh/h	104	868	387	227	457	449	642	597	595	123	381	384
V/C Ratio(X)	0.78	0.37	0.62	0.70	0.76	0.76	0.87	0.57	0.57	0.78	0.75	0.76
Avail Cap(c_a), veh/h	252	1206	538	489	613	602	782	804	801	361	754	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	33.3	35.7	48.5	36.4	36.4	42.0	28.9	28.9	48.6	39.0	39.0
Incr Delay (d2), s/veh	11.6	0.6	3.4	3.9	6.3	6.6	9.1	1.2	1.2	10.2	4.2	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.4	5.6	2.1	8.6	8.6	7.6	6.8	6.9	2.7	7.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	33.9	39.1	52.4	42.7	43.0	51.1	30.1	30.2	58.8	43.2	43.3
LnGrp LOS	E	C	D	D	D	D	D	C	C	E	D	D
Approach Vol, veh/h		644			849			1241			672	
Approach Delay, s/veh		39.2			44.6			39.6			45.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	34.7	14.8	43.0	15.0	33.3	27.7	30.1				
Change Period (Y+Rc), s	7.4	7.4	7.5	* 7.3	8.0	7.4	8.0	* 7.3				
Max Green Setting (Gmax), s	15.0	36.6	21.5	* 48	15.0	36.0	24.0	* 45				
Max Q Clear Time (g_c+I1), s	6.8	21.3	7.6	18.8	6.8	16.2	18.7	18.1				
Green Ext Time (p_c), s	0.1	6.0	0.2	5.8	0.3	5.0	1.0	4.7				

Intersection Summary

HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	39	58	661	640	37
Future Vol, veh/h	25	39	58	661	640	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	510	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	41	61	696	674	39
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1164	357	713	0	0	
Stage 1	694	-	-	-	-	
Stage 2	470	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	188	639	883	-	-	
Stage 1	457	-	-	-	-	
Stage 2	595	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	175	639	883	-	-	
Mov Cap-2 Maneuver	303	-	-	-	-	
Stage 1	425	-	-	-	-	
Stage 2	595	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s	13.7	0.8	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	883	-	303	639	-	-
HCM Lane V/C Ratio	0.069	-	0.087	0.064	-	-
HCM Control Delay (s)	9.4	-	18	11	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.2	-	-