

Traffic Study Methodology

210-052 Prelude Commercial-Residential Development

City/County: Green Cove Springs, Clay County

Jurisdiction(s): City of Green Cove Springs

1.0 Project Description

A multi-use development anticipated to include 42 apartments, 8,064 square feet (SF) retail and 7,181 SF restaurants (open air and enclosed) is proposed for construction on a parcel east of US 17 between Bay Street, Cove Street and Magnolia Avenue with a buildout of 2023. Access to the proposed development will be provided via Bay Street and Magnolia Avenue with a drop off lane on Bay Street to allow for mail and other delivery trucks.

2.0 Trip Generation

Source: *Institute of Transportation Engineers Trip Generation Manual, 11th Edition*

LUC	Description	Size	PM Trips		
			Entering	Exiting	Total
220	Multifamily House (Low-Rise)	42 DU	24	15	39
822	Strip Retail Plaza (<40K)	8,074 SF	58	49	107
975	Drinking Place	7,181 SF	76	36	112
Total Gross Trips			158	100	258

Internal Capture and/or Pass-by Trips may be evaluated

3.0 Study Area

Intersection	Signalized	Unsignalized	Project Access
US 17 (Orange Avenue) at Bay Street		X	
Magnolia Avenue at Bay Street		X	
Magnolia Avenue at Cove Street		X	
US 17 (Orange Avenue) at Cove Street		X	
Bay Street at North Project Access			X
Magnolia Avenue at East Project Access			X

4.0 Traffic Data Collection

- A. *AM and PM Peak turning movement counts*
 - US 17 (Orange Avenue) at Bay Street
 - Magnolia Avenue at Bay Street
 - Magnolia Avenue at Cove Street
 - US 17 (Orange Avenue) at Cove Street
- B. *Historical Traffic Data*
 - 2010-2019 Clay Local Road Traffic Counts

5.0 Traffic Forecasting

- A. *Project Traffic Distribution and Assignment based on:*
 - Travel Demand Model(s):

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Existing traffic patterns

B. Background Traffic Projections Growth Rate(s)

- Travel Demand Model
- FDOT Trends Spreadsheet Program
- FDOT LOS Report
- Local Report

6.0 Analysis Years

- Existing year: 2021
- Background year: 2023
- Buildout year: 2023

7.0 Traffic Operational Analysis

Software	Project Access			Intersections		
	Existing	Background	Buildout	Existing	Background	Buildout
LOSPLAN						
HCS/HCM						
Synchro	X	X	X	X	X	X
SimTraffic						

8.0 Turn Lane Analysis

Criteria	Left Turn Lane			Right Turn Lane		
	State	Local	Private	State	Local	Private
Turn Lane Length						
▪ <i>FDM Exhibit 212-1</i>						
▪ <i>Florida Greenbook</i>						
▪ <i>Local guidelines/requirements</i>		X			X	
Warrants/Requirements						
▪ <i>FDOT Access Management Guidebook</i>						
▪ <i>NCHRP / Harmelink</i>		X			X	