



Florida Department of Transportation

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RE: Bowden Road Redevelopment

Introduction

Bowden Road Redevelopment is a proposed PUD on approximately 4.87 acres. The property is located on the northeast corner of the US-1 (Philips Hwy) and Bowden Road intersection. The proposed PUD incorporates the existing Burger King Restaurant fronting SR-109 (University Blvd) and the land of a former auto dealership that was previously on-site. The applicant is proposing to develop the property as two (2) parcels. According to the site plan provided, Parcel A is proposed to be a WaWa gas station with 16 fueling positions with a 6,119 sq. ft. convenience store and a 33,500 sq. ft. mini-warehouse self-storage. Parcel B is to remain as the existing Burger King restaurant.

Accessibility

Access to the site will be provided by four (4) access points: a proposed right-in/right-out and a proposed full access on Bowden Road, a proposed right-in/right-out on US-1 and the existing Burger King's right-in/right-out on SR-109 (with cross access to the WaWa). The applicant will need to coordinate with FDOT Access Management and Permits for the access points on US-1 and SR-109.

Bicycle and Pedestrian Facilities

There is currently a sidewalk and bicycle lane that fronts the entire length of the property along US-1. In addition, there are sidewalks on both sides of Bowden Rd. The site plan provided shows a pedestrian connection from the gas station to the sidewalks on US-1 and Bowden Road. The FDOT Bicycle and Pedestrian Gap Study, dated April 2015, indicates this section of US-1 has a pedestrian LOS of E and is a Tier 1 Gap Prioritization as well as a bicycle LOS of D.

Programmed Improvements

There are no programmed improvements in the vicinity of the project area.

Trip Generation

Table 1 shows the trip generation based on the proposed plan of development using ITE's *Trip Generation Manual, 9th Edition* and a FDOT study on large gas stations with convenience stores.

Previous studies with Convenience Markets with Gas Pumps implied that newer developments such as WaWa might have trip generation characteristics different from those already included in the *ITE Trip Generation Manual, 9th Edition*. FDOT conducted a study in 2012 for the purpose of representing these modern gas stations which aim to gain more customers by providing larger stores with more amenities, as well as more fueling positions to eliminate waiting or the need to move their vehicles when going to the store. The average square footage and number of fueling stations for the sites in this study are larger than similar land uses found in the *ITE Trip Generation Manual, 9th Edition*. The multi-variable equations used in Table 1 were found to represent the highest level of predictability for these developments.

Table 1

Land Use	ITE Code	Size	Units	Daily Trips	AM Peak Trips	PM Peak Trips
Large Gas Station/Convenience Market (w/ 16 FP)	-	6,119	1,000 Sq. Ft.	3,223	-	292
Mini-Warehouse	151	33,500	1,000 Sq. Ft.	84	5	9

Daily Trip Equation: $256.7*FP-144.5*kft^2$

PM Peak Hour Trips Equation: $12.3*FP+15.5*kft^2$

FP= Fueling Positions

Kft2= 1000 Square Feet

Roadway Capacity

Table 2 shows the peak hour and maximum level of service volumes for US-1 and SR-109 according to FDOT's *2015 Florida State Highway System Level of Service Report*, dated July 2016.

Table 2

County	Road	Map ID	Segment	FDOT LOS Standard	Maximum Service Volume	2015 Peak Hour Volume	2015 LOS
Duval	US-1	493	SR-202 to SR-109	D	3,580	2,484	C
Duval	US-1	494	US-109 to Emerson St	D	3,580	2,034	C
Duval	SR-109	533	Powers Ave to US-1	D	4,500	4,410	D
Duval	SR-109	534	US-1 to I-95	D	5,390	4,095	C

The segment of SR-109 from Powers Ave to US-1 may not have sufficient capacity to accommodate the trips generated from the development. It is recommended that a traffic analysis including trip distribution analysis be completed to identify impacts to state facilities and any potential mitigation.

If you have any questions, please do not hesitate to contact me by email:
Ameera.sayed@dot.state.fl.us or call: (904) 360-5647.

Sincerely,

A handwritten signature in blue ink that reads "Ameera Sayeed". The signature is written in a cursive style.

Ameera Sayeed, AICP, GISP

FDOT D2 Growth and Development/Modeling Supervisor

CC: Tom Cavin, FDOT D2 Jacksonville Studies Engineer
Derek Dixon, FDOT D2 Transportation Systems Coordinator