

1. INTRODUCTION

1.1. Background

The Interstate 75 (I-75) at State Road (SR) 121/331 (Williston Road) interchange serves as an important access point to the City of Gainesville in Alachua County. The I-75 at SR 121/331 interchange also provides primary access to commuters as well as a key access point for trucks serving the area communities. The Florida Department of Transportation (FDOT) District Two evaluated an alternative concept to improve traffic operations and safety at this key interchange. The project covers a portion of the SR 121/331 roadway near the I-75 at SR 121/331 interchange, between SW 41st Boulevard and SW 34th Street. The existing SR 121/331 roadway consists of a four lane urban typical section within the project limits.

The project is included in the Gainesville Metropolitan Transportation Planning Organization (MTPO) Long Range Transportation Plan (LRTP).

The purpose of this Interchange Modification Report (IMR) is to seek approval from the Chief Engineer and FDOT Central Office for the proposed modifications to the access point of I-75 at SR 121/331 in Gainesville, Florida. This IMR has been developed in accordance with the FDOT Policy No. 000-525-015 (Approval of New or Modified Access to Limited Access Highways on the State Highway System (SHS)), FDOT Procedure No. 525-030-160 (New or Modified Interchanges and Procedure No. 525-030-120 (Project Traffic Forecasting).

1.2. Purpose and Need

The purpose of this project is to add capacity and improve traffic operations and safety at the I-75 at SR 121/331 interchange in Alachua County.

The SR 121/331 interchange is a Partial Cloverleaf (Par-Clo) configuration with loop ramps in the northeast (northbound off) and northwest (southbound on) quadrants. FDOT has initiated this study to investigate improvements for the I-75 at SR 121/331 interchange that will help alleviate congestion and improve safety and mobility in the area. It is the last (southernmost) interchange of the four interchanges providing access to the City of Gainesville.

In the year 2019, The I-75 mainline within the project study area carried an estimated Annual Average Daily Traffic (AADT) of 68,000 vehicles south of SR 121/331 interchange and 74,436 vehicles north of SR 121/331 on a six-lane facility. SR 121/331 within the project study area carried an approximate AADT of 10,000 this same year according to Florida Traffic Online (FTO) data. Due to potential traffic volume impacts caused by covid, these volumes were checked against previous years for reasonableness.

If no improvements are made to the interchange, traffic operations and safety within the interchange area will continue to deteriorate as traffic and freight movement to and from the City of Gainesville increases as predicted by regional traffic models and historical trend data.

1.3 Project Location and Area of Influence

The subject interchange is located in Alachua County on the southwestern limits of Gainesville, Florida at Milepost 9.72. The I-75 at SR 121/331 interchange is located approximately 1.3 miles south of the I-75 and Archer Road (SR 24) interchange. The project location of the I-75 at SR 121/331 interchange and the area of influence are shown in **Figure 1-1**. The area of influence for the project includes the following (as shown in **Figure 1-1**):

Mainline I-75:

- 1) Southbound On and Northbound Off Ramps from I-75 at SR 24
- 2) Study Interchange: I-75 at SR 121/331

Arterials:

- 1) SR 121/SR 331 – from SW 41st Boulevard to SW 34th street

4. NEED

As a major north-south intercity and regional SIS route, I-75 serves as an integral part of Florida's transportation network. I-75 extends from the Florida-Georgia State line to Southwest Florida. SR 121/331 connects commuters to Gainesville, Florida and is an important arterial.

An increase in traffic demand on I-75 and SR 121/331 interchange is anticipated in future due to planned growth in the area. As a result, additional traffic demand on major arterials within the study area will need to be addressed. **Table 4-1** summarizes the anticipated growth within the study area.

Table 4-1: Forecasted Growth in Traffic Volumes

Segment	Existing (2020)	Opening (2025)	Design (2045)
I-75, north of SR 121/331	74,436	78,630	87,200
I-75, south of SR 121/331	68,000	71,840	95,400

The study area has a high volume of heavy trucks. For the purpose of this study, it was assumed that trucks would increase proportionally with overall traffic volumes. The corridor experiences a 21.0% daily truck percentage along I-75. The truck volume will increase proportionally to the vehicular traffic and will result in further deteriorated conditions.

SR 121/331 at SW 34th Street is a major intersection along SR 121/331. It currently is operating at LOS D which is nearing a failing LOS target for an urban area. This intersection needs to be improved to accommodate future traffic that is predicted to grow which would result in degrading operations.

Existing crash data was reviewed from 2014 to 2018 from the FDOT Safety Office. This area experienced a total of 533 crashes, of which 2 were fatal and 176 were severe injury crashes. Of these crashes, 66 percent (355 crashes) involved property damage. Most of the crashes, approximately 47 percent, were rear-end collisions. The high number of rear-end crashes can be attributed to the congestion and stop-and-go conditions experienced by the study area during the peak hours. Other (23 percent), Angle crashes (14 percent) and sideswipe crashes (14 percent) are the second and third most predominant crash types within the study area. Angle crashes are result of failure to yield right of way at a STOP sign or a signal. Sideswipe crashes are a result of lane changing near merge or diverge locations. Other crashes are the result of careless and negligent driver behavior. Modifications to geometry of this interchange will result in improved traffic operations and will result in safer conditions throughout the project study area.