

1.0 INTRODUCTION

1.1 Background

The Florida Department of Transportation (FDOT), District One, requests the Florida Department of Transportation Systems Implementation Office approval of an Interchange Operational Analysis Report (IOAR) for the improvement of the Interstate 75 (I-75) interchange at Corkscrew Road (County Road 850) in Lee County. This IOAR has been developed in accordance with FDOT Policy No. 000-525-015: Approval of New or Modified Access to Limited Access Highways on the Strategic Intermodal System (SIS), FDOT Procedure No. 525-030-160: Approval of New or Modified interchange access to limited facilities on SIS, the Interchange Access Request User's Guide (2015) and the FDOT's 2014 Project Traffic Forecasting Handbook (Procedure No. 525-030-120).

The I-75 Project Development and Environment (PD&E) Study and the accompanying Systems Interchange Modification Report (SIMR) for this segment of I-75 (completed in 2002) identified the need for interchange improvements at the I-75/Corkscrew Road interchange. The ultimate concept recommended in the SIMR for this interchange was the Single Point Urban Interchange (SPUI). In March 2006, FDOT launched the I-75 Road Expansion Project (IROX) in southwest Florida to provide relief to commuters on I-75. As part of the IROX project, improvements at the I-75/Corkscrew Road interchange included widening the bridges to the inside.

The PD&E Study completed in 2002 produced the last document (Type 2 Categorical Exclusion) that was approved by FHWA for this interchange. It was approved on December 30, 2002, which was the date of Location and Design Concept Acceptance (LDCA) by FHWA. Later, a design change reevaluation was prepared in 2010 as part of the design phase, but the project was put on hold prior to FHWA approval.

A Design Traffic Technical Memorandum (DTTM) was completed in March 2011 and was updated in January 2015, both of which re-evaluated the ultimate concept recommended in the PD&E and SIMR studies along with other alternatives which included an Improved Diamond Interchange, a Tight Urban Diamond Interchange (TUDI), and a Diverging Diamond Interchange (DDI). This study was initially intended to further evaluate and compare the various alternatives using updated traffic data and microsimulation.

The recent assessment of various improvement alternatives has demonstrated that relatively minor capacity and operational enhancements (rather than a reconfiguration to SPUI or DDI) are expected to extend the service life of the existing interchange until at least the year 2029. Therefore, the District has elected to move forward with the implementation of interim improvements for this interchange. This document presents the results of the evaluation of an interim improvement alternative (Build Alternative) and the No-Build Alternative.

1.2 Purpose and Need

I-75, a north/south facility, is an integral part of the Strategic Intermodal System (SIS) providing for high-speed, high-volume traffic movements within the State. The 2002 I-75 PD&E Study and accompanying SIMR recommended improvements to the Corkscrew Road interchange. The 2015

traffic study evaluated the previously proposed SPUI interchange alternative along with several other build alternatives; the result of this study was the recommendation of additional detailed analysis including microsimulation to determine the preferred concept for the I-75/Corkscrew Road interchange. In 2016, a traffic study was initiated with the intent to further evaluate the “ultimate” interchange improvements (evaluating SPUI, DDI and improved diamond alternatives) using a Design Year of 2044 and an Opening Year of 2024. During the course of that study, a determination was made by the District to consider relatively minor “interim” improvements to determine how many years of serviceable life could be gained. A series of interim improvements were evaluated and they were shown to provide acceptable operations through the year 2029. Therefore, a determination was made to move forward with interim improvements at this interchange.

The purpose of this IOAR is to evaluate the future traffic operations at the I-75/Corkscrew Road interchange based on the revised population/traffic growth projections, to evaluate the need for the improvements recommended by previous studies, and to determine the preferred configuration for the subject interchange using detailed microsimulation-based analysis.

The need for this IOAR is to identify and evaluate the most suitable interchange configuration to meet the demands of future travelers while minimizing project costs and impacts. Traffic analysis from the 2002 PD&E Study as well as the subsequent traffic studies indicate that traffic operations along Corkscrew Road are expected to deteriorate as demand increases within the project study area. The most recent traffic forecast and preliminary analysis indicate that without improvements to the ramp junctions, at least one of the ramp merge/diverge points is expected to fall below LOS D as soon as the year 2025; without ramp terminal intersection improvements, peak hour queues are expected to consistently exceed available storage before the year 2024. Based on existing field observations and the conclusions of the previous traffic studies, it is evident that interchange improvements are needed to accommodate future travel demand.

1.3 Project Location

The project study area is located in Lee County, Florida at the junction of I-75 and Corkscrew Road (Milepoint 8.370/mile marker 123). The study area extends along I-75 from south of the southbound on-/northbound off-ramps to north of the southbound off-/northbound on-ramps. Along Corkscrew Road, the study area extends from west of Three Oaks Parkway to east of Ben Hill Griffin Parkway, a distance of approximately 1.9 miles. The project location map is shown in **Figure 1-1** and the study area map is shown in **Figure 1-2**.