
1.3 Purpose and Need

Interstate 4 (I-4) is an integral part of the Strategic Intermodal System (SIS) providing for high speed high volume traffic movements within the State of Florida. The purpose for conducting the IMR study is to document the impacts and evaluation of the operational traffic conditions that the proposed modifications to determine if the diamond interchange configuration as originally approved by FHWA in 2010 and modified with roundabout ramp termini as proposed by FDOT District One remains viable as the preferred interchange Build Alternative.

The need for this IMR study was primarily originated to replace the existing SR 557 bridge structure and facilitate the mainline realignment to accommodate the future I-4 Beyond the Ultimate configuration. The existing exit loop ramps providing access from I-4 eastbound to SR 557 and from I-4 westbound to SR 557 feature a tight turning radius posted at 25 mph speed with no mainline deceleration lanes and are determined to not meet safety and design standards. In addition to the exit loop ramps, the entrance ramp connections were also considered for replacement. The IMR approved in 2010, proposed a diamond interchange configuration with spread out eastbound and westbound mainline travel lanes to accommodate the proposed HSR corridor (which has been replaced by the future I-4 Beyond the Ultimate configuration). The design year 2035 analysis presented in the 2010 IMR showed the freeway segments operating at LOS D or better, ramps operating at LOS D or better, and ramp terminal intersections with signalization operating at LOS C or better conditions.

1.4 Methodology

The methodology used for the development of this IMR is based on the Methodology Letter of Understanding (MLOU) submitted by the FDOT District One to the FDOT Systems Implementation Office (SIO). The MLOU that has been submitted to the FDOT SIO describes the preparation of the updated IMR for the Interstate 4 (I-4) interchange with SR 557 in Polk County, and was developed in accordance with the FDOT Policy No. 000-525-015-H and FDOT Procedure 525-030-160-I. A copy of the MLOU document is included as **Appendix A. Figure 2** provides a brief summary of the methodology used for the development of this IMR.