

2. GENERAL PROJECT INFORMATION

2.1. Introduction

The Florida Department of Transportation (FDOT) District Five has prepared an Interchange Operational Analysis Report (IOAR) for the proposed signalization and widening of the eastbound Interstate 4 (I-4) to eastbound Saxon Boulevard off-ramp at the I-4 and Saxon Boulevard interchange located in Volusia County, Florida. A Methodology Letter of Understanding (MLOU) was prepared in June 2017, prior to the initiation of this study, and is included in **Appendix A**. The project location is illustrated in **Figure 1**.

The I-4/Saxon Boulevard interchange in Deltona, Volusia County, is one of three (3) interchanges providing access to the City of Deltona, with an estimated population of 89,000 as of 2016. Deltona consists of mostly residential development and serves as a bedroom community, meaning most residents work elsewhere. Primarily, residents of Deltona commute to Orlando, Sanford and other employment centers along the I-4 corridor, making their commutes dependent on I-4.

2.2. Purpose and Need

The purpose of this project is to provide operational and safety improvements at the interchange at I-4 and Saxon Boulevard. Currently, the interchange is a partial cloverleaf, with loop ramps in the NE, NW and SW quadrants. A collector/distributor road exists on I-4 westbound to safely accommodate the weave movement between the NW and SW loop ramps. All of the off-ramps are single lane ramps operating as free-flow movements, except the westbound I-4 to westbound Saxon Boulevard off-ramp, which is stop-controlled.

During the existing PM peak, congestion is present on the eastbound I-4 to eastbound Saxon Boulevard off-ramp, as well as at the Saxon Boulevard/Finland Drive intersection immediately downstream. Eastbound queues form along Saxon Boulevard and impact the operations of the eastbound off-ramp. The eastbound off-ramp is a free-flow ramp with approximately 1,300 feet of storage, but has a merge distance of approximately 250' onto Saxon Boulevard. Although it is free flow, the merge distance prevents vehicles from making this movement freely when eastbound volumes on Saxon Boulevard are high. This is especially true during the PM peak, when the ramp terminal essentially operates as stop-controlled. The congestion on Saxon Boulevard and subsequent congestion on the I-4 eastbound off-ramp causes queuing back to the I-4 mainline gore point, creating a substantial safety concern.

The purpose of this project is to provide operational and safety improvements at the eastbound I-4 to eastbound Saxon Boulevard off-ramp intersection to relieve congestion and mitigate the risk of queuing on the off-ramp back to the I-4 mainline.