

# 1.0 GENERAL PROJECT INFORMATION

## 1.1 Introduction

The Florida Department of Transportation (FDOT) District Five has prepared this Interchange Operational Analysis Report (IOAR) for the proposed improvements at the I-95 and Wickham Road interchange located in Brevard County, Florida. The project location is illustrated in **Figure 1**. The project is currently under design. The construction letting date is currently set for December 2021 with an anticipated opening in year 2023. Two (2) other interchanges providing access to the residential communities and places of work located in the area are adjacent to the I-95 and Wickham Road interchange in Brevard County.

## 1.2 Purpose and Need

The purpose of this project is to provide operational benefits at the interchange of I-95 and Wickham Road. The following operational deficiencies have been observed at the Wickham Road and I-95 ramp terminal intersections:

- Wickham Road at the I-95 Southbound Ramps
  - In the existing peak hours, the intersection operates within the designated target for Level of Service (LOS). However, the eastbound left turn at Wickham Road and the I-95 northbound ramp terminal does back up on Wickham Road.
- Wickham Road at the I-95 Northbound Ramps
  - In the existing PM peak hour, heavy queues (95<sup>th</sup> percentile) have been observed on the I-95 northbound off-ramp.
  - In the existing AM peak hour, queuing beyond the storage was observed on the I-95 northbound off-ramp and the eastbound left turn movements. In addition, significant delays were observed for the eastbound left turn movement and the northbound left turn movement causing these movements to experience failing conditions.
  - While the existing queues do not back onto the I-95 mainline, the delays and queues are anticipated to worsen in the future conditions, which could have an impact on the I-95 mainline operations.

The proposed improvements are expected to improve operating conditions at both ramp terminals and prevent adverse impacts to the I-95 mainline. The proposed improvements are expected to also provide safety benefits.

To address the existing and future needs, the proposed improvements include the following:

- Wickham Road at the I-95 Southbound ramps
  - Additional westbound left turn lane and the corresponding widening of the I-95 southbound on-ramp to accommodate the dual left turn lanes. The two lane on-ramp merges to one lane before the freeway ramp gore, therefore maintaining existing lanes at the gore point.
  - Additional eastbound through lane that serves as storage for the eastbound left turn lane at the downstream northbound ramps intersection.
  - Extension of storage for the eastbound right turn lane on Wickham Road by nearly 80 feet.
- Wickham Road at the I-95 Northbound ramps
  - Additional eastbound left turn lane and the corresponding widening of the I-95 northbound on-ramp to accommodate the dual left turn lanes. The two lane on-ramp merges to one lane before the freeway ramp gore, therefore maintaining existing lanes at the gore point.
  - Additional westbound through lane that serves as storage for the westbound left turn at the downstream southbound ramps intersection and an extension of the storage length by nearly 150 feet.
  - Extension of storage for the northbound left and right turn lanes by nearly 400 feet and 420 feet respectively.