

1 Introduction

Florida Department of Transportation (FDOT) District 4 is seeking to enhance the traffic operation at the interchange of I-95 and Belvedere Road located in the City of West Palm Beach, Florida. An Interchange Concept Development Report (ICDR) was prepared by the Department in 2015 regarding its operations, and a Project Development and Environment (PD&E) study for I-95 and Southern Boulevard interchange to the south began in 2016 and is ongoing. The ICDR identified deficiencies for the northbound exit ramp terminal intersection at Belvedere Road, and in an effort to obtain approval for implementation, FDOT initiated this Interchange Operational Analysis Report (IOAR). The improvements are intended as an ultimate solution to the current and forecasted interchange deficiencies. This IOAR was prepared to document the need, cost and benefits to support the implementation of these operational improvements at the interchange.

1.1 Project Need

It was concluded in the ICDR that the right-turn movement at the I-95 northbound off-ramp terminal would experience excessive delays and queuing during the morning peak hours of operation by 2040. Enhancements to the northbound exit ramp termini are intended to add capacity and vehicular storage for the right-turn movement to mitigate future operational deficiencies.

Based on turn lane improvements to the northbound exit ramp termini intersection, FDOT determined that an IOAR was required to evaluate the proposed improvements. This document is consistent with the requirements outlined in the FDOT Interchange Access Request User's Guide. The purpose of this IOAR is to provide the necessary documentation to obtain approval for the proposed improvements at the interchange's northbound ramp termini intersection. These improvements were evaluated assuming an opening year of 2020 with a design year of 2040. Preliminary engineering plans were developed to address operational deficiencies within existing right-of-way to minimize impacts and costs. Conceptual design plans were prepared for the proposed improvements and are provided in Appendix A.

Proposed improvements are noted below.

- a) Add a second right-turn lane at the I-95 northbound exit ramp termini intersection with Belvedere Road. The two right-turn lanes would operate under signal control at the ramp termini intersection, and vehicular storage on the northbound exit ramp would be increased.