

1.2 PURPOSE AND NEED

According to US Census Bureau, from 2016 to 2018 the population of Boynton Beach has grown at a rate of 14.4 percent compared to 7.9 percent county-wide growth. The Boynton Beach Boulevard interchange is the only direct access to and from Florida's Turnpike in Boynton Beach, leading to future demand increase than the existing weaving segment capacity. The Boynton Beach Boulevard interchange is a partial cloverleaf configuration with three loop ramps and a slip ramp. The existing interchange configuration creates a short weave zone between southbound off-ramp and on-ramp traffic within a short distance (about 1,300 feet). The weaving segment between the southbound ramps is a one-sided weaving type, with a single on-ramp lane closely followed by a single off-ramp lane. The weaving maneuver occurs within a two-lane segment where the southbound on-ramp and off-ramp traffic converge before joining or exiting the mainline.

Modification of the Boynton Beach Boulevard interchange is being proposed to address existing traffic congestion and related capacity deficiencies caused by the short weaving section which is currently operating at LOS F during AM peak hour. As traffic demand increases in the future, traffic operations are expected to deteriorate within the interchange weaving section and thus impacting the freeway mainline.

1.3 PLANNED AND PROGRAMMED TRANSPORTATION PROJECTS

Applicable Master Plans, Florida Department of Transportation's (FDOT's) Five (5) Year Work Program, interchange planning and safety studies performed by FDOT District Four and future projects identified in the Palm Beach Metropolitan Planning Organization (MPO) Transportation Improvement Program (TIP), FDOT Florida Intrastate Highway System (FIHS)/Strategic Intermodal System (SIS) Plan, Palm Beach MPO 2040 Long Range Transportation Plan (LRTP), local government comprehensive plans, and active Development of Regional Impact (DRI) applications were reviewed to identify any planned and programmed improvements within the study limits of the Interchange Modification Report (IMR). The IMR improvements will be developed to be consistent with these plans or steps will be taken to achieve consistency. The key planned improvements include:

- Florida's Turnpike Mainline Design and Widening (FPID: FPN 417169-1) is being evaluated for the widening to 10 lanes south of Boynton Beach and 8 lanes north of the interchange. This project extends from Atlantic Avenue in Delray Beach at MP 81 to Boynton Beach Boulevard interchange at MP 86. The interchange will be modified to eliminate the weave.
- Transportation System Management and Operations (TSM&O) strategies for safety and congestion management such as addition of turn lanes and storage length at northbound off ramp have been programmed under the Work Program for construction in FY 2023. This project is within FTE'S system and will be funded by FTE.