

each direction. Auxiliary lanes are provided in both the northbound and southbound direction within the study area. At the Lantana Road interchange, SR 9/I-95 crosses below an elevated section of Lantana Road. SR 9/I-95 is a SIS designated highway as well as an emergency evacuation route.

Within the project limits, Lantana Road is primarily a four-lane urban principal arterial under the jurisdiction of Palm Beach County, with two through lanes aligned west to east in each direction. At the interchange location, Lantana Road is elevated over SR 9/I-95 and the SFRC/CSX Railroad. There is one dedicated left-turn lane in each direction to access the SR 9/I-95 on-ramps and two through lanes in each direction. A single free-flow right-turn lane is also provided in both eastbound and westbound directions along Lantana Road to serve the SR 9/I-95 on-ramps. Sidewalks are provided along both sides of Lantana Road; however, bicycle lanes do not exist. The segment of Lantana Road from SR 9/I-95 to SR 5/US-1 is designated as an emergency evacuation route.

Land use adjacent to the interchange is predominantly commercial with some industrial, institutional, and residential uses. The adjacent signalized intersections within the project limits are: High Ridge Road west of SR 9/I-95 southbound ramps, and Shopping Center Drive and Andrew Redding Road east of SR 9/I-95 northbound ramps.

The proposed improvements will include operational and safety improvements to the Interchange including capacity improvements along Lantana Road, additional turning lanes at the SR 9/I-95 ramp terminal intersections and signal improvements. The project will also include improvements to sidewalks, ADA ramps, guide signs, and designated bicycle lanes.

1.3 PURPOSE AND NEED

The primary purpose of this interchange project is to improve the local and regional transportation network while also providing enhanced multimodal interrelationships at the SR 9/I-95/Lantana Road interchange. Additional features that will be improved include capacity and transportation demand, safety, and emergency evacuation. The study will evaluate alternatives that eliminate traffic spillback onto SR 9/I-95, enhance interchange operations and safety, reduce congestion, while providing for multimodal accommodations at this interchange location. The study will also consider accommodation for potential extension of I-95 Managed Lanes through Palm Beach County. The needs for this project are further described in the following sections:

1.3.1 Transportation Network

Lantana Road is a county roadway (CR 812) that provides access to the Town of Lantana and Hypoluxo Island via East Ocean Avenue (Lantana) Bridge. To the west, Lantana Road provides access to the Palm Beach County Park/Lantana Airport and the City of Atlantis. Although Lantana Road is not a designated road in the state's SIS, SR 9/I-95 is a part of the SIS system. The SIS includes Florida's important transportation facilities that support the State's economy and mobility. Improved interchange operations at Lantana Road will help to reduce traffic spillback onto I-95 thereby enhancing connectivity among the local and regional network.

1.3.2 Multimodal Interrelationships

The SR 9/I-95 at Lantana Road interchange accommodates east-west sidewalks on the north and south sides of Lantana Road, from High Ridge Road to Shopping Center Drive, extending beyond both intersections. Bicycle lanes are not provided in both directions along Lantana Road within the project limits. The Palm Beach County Transportation Planning Agency (TPA) Master Comprehensive Bicycle Transportation Plan (MCBTP) includes recommendations to improve bicycle facilities throughout Palm Beach County. The MCBTP recommends a "Detailed Corridor Study" along Lantana Road. Additionally, the MCBTP designates segments of High Ridge Road as "Bike Level of Service (LOS) Threshold Met" and "Shoulder Candidate." As part of the study, provision of bike lanes would be evaluated along Lantana Road.

Four schools are located within approximately one mile of the interchange: Barton Elementary School, Lantana Elementary School, Lantana Middle School, and Palm Beach Maritime Academy. There are no Palm Tran transit bus stops within the project limits. However, bus stops are located on Lantana Road west of High Ridge Road and east of Andrew Redding Road. Adding improvements to bicycle and pedestrian facilities at the intersections within the study area will enhance the safety of the local community pedestrian users traveling the corridor.

1.3.3 Capacity and Transportation Demand

The SR 9/I-95 southbound ramps within the study area currently operate at an overall LOS E during the A.M. peak hours, while the northbound ramps operate at a LOS C. During the P.M. peak hours, the southbound ramps operate at LOS D, and the northbound ramps operate at LOS C. If no improvements are made to the SR 9/I-95 at Lantana Road interchange, it is forecasted

that by 2045, both the southbound and northbound ramps will operate at LOS F for both the A.M. and P.M. peak hours.

Due to the current need to increase capacity, the proposed interchange improvements are included in the Palm Beach County TPA 2040 Long Range Transportation Plan (LRTP) as part of the 2020-2040 Desires Plan. Funding for Design (Preliminary Engineering and PD&E) are planned to be available in 2026-2030 and Construction in 2031-2040. The interchange improvements are also included in the SIS Cost Feasible Plan 2024-2040. The interchange is also included in the I-95 Interchange Master Plan.

1.3.4 Safety

Crash data from 2014 to 2018 for SR 9/I-95 (Roadway ID: 93220000) from south of Lantana Road to the north of Lantana Road, SR 9/I-95 Ramps at Lantana Road (Roadway ID: 93220037, 93220038, 93220039, and 93220040), and Lantana Road (Roadway ID: 93530000) from High Ridge Road to Andrew Redding Road (MP 2.80 to MP 3.50) was obtained from the FDOT State Safety Office GIS (SSOGis) Query Tool on the Traffic Safety Web Portal. Based on the crash analysis, 313 crashes occurred on the SR 9/I-95 mainline, 157 crashes occurred on the SR 9/I-95 ramps at Lantana Road interchange and 172 crashes occurred on Lantana Road within the study area from 2014 to 2018. The predominant crash types that occurred within the study area were rear-end collisions, sideswipe collisions, and angled collisions. Crashes of these types are typically attributed to congested conditions along the arterials and interchange ramps and terminals. As such, providing capacity improvements for different modes of transportation within the study area will help to improve safety by alleviating congestion.

1.3.5 Emergency Evacuation

Based on Palm Beach County's Evacuation Routes and Zones Map, Lantana Road is classified as an evacuation route from SR 5/US-1 to SR 9/I-95. Therefore, improvements to the interchange of I-95 and Lantana Road, along with improvements to nearby intersections, will decrease evacuation times by increasing connectivity between eastern and western towns/cities and SR 9/I-95. Additionally, emergency response times will be decreased by the proposed improvements.