

1. INTRODUCTION

1.1 Background

The State Road (SR) 8/Interstate 10 (SR 8/I-10) with SR 103/Lane Avenue serves as an important access point to the City of Jacksonville. Freight traffic utilizes the SR 8/I-10 as a vital route to key destinations such as the Southeastern Freight Distribution Center to the north. This section of SR 103/Lane Avenue is an important link in Duval County's transportation network and provides major west-east connectivity. The Florida Department of Transportation (FDOT) District Two evaluated several enhancements to improve traffic operations and safety at this key interchange as part of this project. The project includes a segment of SR 103/Lane Avenue near the SR 8/I-10 interchange, between the Home Depot Shopping Plaza intersection and Stuart Avenue.

The FDOT District Two requests the Federal Highway Administration (FHWA) approval of an Interchange Operations Analysis Report (IOAR) for the operational modifications proposed to the SR 103/Lane Avenue at SR 8/I-10 interchange area in Duval County, Florida. This IOAR has been developed in accordance with FDOT Policy No. 000-525-015 (Approval of New or Modified Access to Limited Access Highways on Strategic Intermodal System (SIS)), FDOT Procedure No. 525-030-160 (Approval of New or Modified Interchange Access to Limited Access Facilities on SIS), Interchange Access Request User's Guide, and the FDOT Project Traffic Forecasting Handbook.

A Project Development and Environment (PD&E) study will be completed in Fall 2017. The proposed SR 8/I-10 from I-295 to I-95 PD&E Study is included in the current 2040 North Florida Transportation Planning Organization's (TPO) Long Range Transportation Plan (LRTP) with an anticipated design-build letting in 2018.

1.2 Purpose

The purpose of the SR 8/I-10 from I-295 to I-95 PD&E Study is to add capacity, improve travel time reliability, provide long term mobility options, and improve operations on the SR 8/I-10 corridor from the I-295 interchange to the I-95 interchange. Improvements must be made to the SR 103/Lane Avenue at SR 8/I-10 interchange to enhance traffic operations and safety benefits within the study area by adding appropriate turning lanes and adjusting storage bay lengths to ensure queue spillbacks at ramp terminal intersections will not adversely impact mainline SR 8/I-10 operations.

The segment of SR 8/I-10 between I-295 and I-95 currently experiences peak hour congestion and speeds well below the posted speed limits during the peak period. Not only are immense delays experienced at the intersections within the SR 103/Lane Avenue study area, queue lengths along the SR 8/I-10 off ramps exceed existing available storage. This problem is expected to worsen in the future as the state of Florida and Jacksonville area grow. The University of Florida's Bureau of Economic and Business Research (BEER) projects Duval County's 2045-future population to be 1,164,600 (medium projection). This represents an increase of approximately 259,026 residents from year 2015, which is a 29 percent anticipated growth over the next 30 years. This facility is currently operating at or below the minimum desirable Level of Service (LOS) D between I-295 and I-95.

In 2014, this segment of SR 8/I-10 carried an average annual daily traffic (AADT) volume that ranged from 94,000 vehicles between I-295 and SR 103/Lane Avenue at the western end of the project to 120,000 vehicles are approximately between McDuff Avenue and US 17 at the eastern end of the project. Existing AADT volumes along SR 103/Lane Avenue is, approximately 26,800 vehicles to the south of the Home Depot parking lot intersection and 19,400 vehicles to the north of the Stuart Avenue intersection. The SR 8/I-10 eastbound off- and westbound on-ramps experience AADT volumes of 7,700 vehicles and the SR 8/I-10 westbound off- and eastbound on-ramps experience AADT volumes of, on average, approximately 8,800 vehicles.

If no capacity improvements are made to this facility, congestion within the corridor will progressively worsen with the periods of congestion extending beyond the peak periods of travel, increasing the number of crashes, and further deteriorating the travel time reliability of the users. Because the corridor has limited existing right of way and purchasing new right of way is cost prohibitive in this area, it is important that the added capacity be accommodated within the existing right of way and that it provides long-term benefits.

1.3 Project Location

The project is located in the central region of the City of Jacksonville in Duval County, Florida. The SR 103/Lane Avenue interchange study area is at approximately mile marker (MM) 357 along SR 8/I-10. The closest interchange is SR 111/Cassat Avenue, approximately 0.9 miles to the east, and I-295, approximately 0.5 miles to the west. The study area is shown in Figure 1.1.

1.4 Applicant Information

David Tyler, P.E.
Interchange Review Coordinator
Florida Department of Transportation – District 2
1109 S. Marion Avenue
Lake City, FL 32025-5874
Phone: (386) 961-7842
Email: david.tyler@dot.state.fl.us