

2. INTRODUCTION

2.1 Background

The applicant, the City of Daytona Beach, is requesting approval from an IOAR for ramp improvements to the I-95 interchange at LPGA Boulevard (CR 4019) located in Volusia County. FDOT Policy No. 000-525-0015 (Approval of New or Modified Access to Limited Access Highways on the Strategic Intermodal System/SIS), FDOT Procedure No. 525-030-160 (Approval of New or Modified Interchange Access to Limited Access Facilities on SIS, the Interchange Access Request User's Guide 2015), and FDOT Procedure No. 525-030-120 (FDOT Traffic Forecasting Handbook) have been utilized in this report.

Preparation of this IOAR results from traffic impact analyses conducted for planned commercial land developments in the immediate area east of the I-95 and LPGA Boulevard interchange. Analyses results and agency input regarding these traffic impact analyses have identified northbound off-ramp modification as viable mitigation. This modification primarily consists of removing the current northbound ramp's channelized free-flow lane terminating in a merge onto eastbound LPGA Boulevard and adding two northbound right-turn lanes under the existing signal that services two northbound left-turn lanes. Per FDOT's Interchange Access Request User's Guide section 1.5.4, an IOAR is required for "Replacing a channelized free-flow right-turn lane with a signalized right-turn lane." As a result, this report has been completed in order to satisfy FDOT guidelines.

2.2 Purpose and Need

The purpose and need of this report is to evaluate safety and operations for the proposed I-95 northbound off-ramp modification due to the installation of a traffic signal at the Technology/Outlet Boulevard intersection as a result of approved development access improvements. The result of the traffic signal installation is the projected westerly extension of queues making the northbound to eastbound ramp merge unsafe, as the merge terminates well east of the projected maximum eastbound queues. In order to sufficiently address the impact of the proposed ramp modification, the analyses of existing year, opening year, and design year conditions of the influence area intersections are required. Analysis elements include LOS, delay, queues, and merge and weave modeling. Respective technical documentation pertaining to these analyses are to be provided for approval of the proposed ramp modification.

I-95 accommodates the heavy peak-hour traffic due to daily commuters and also provides non-local drivers passage to and from their destination. The interchange serves as an access point to LPGA Boulevard for eastbound morning rush hour traffic and westbound afternoon rush hour traffic. Furthermore, Volusia County population has shown a growing trend (see Table 1) and is expected to increase through the opening year to the design year with traffic levels that will significantly impact interchange operations.

Table 1
Historical Population Data
I-95 at LPGA Boulevard IOAR

County	1970	1980	1990	2000	2010
Volusia	171,060	258,762	374,200	445,060	494,630

Data per U.S. Census Bureau

2.3 Project Location

The study interchange of I-95 at LPGA Boulevard is located in Daytona Beach, Volusia County, and FDOT District 5. The interchange, marked at County Milepost 32.636 and State Milepost 265.220, is located approximately 3.5 miles north of the I-95/US 92 interchange and approximately 2.7 miles south of the I-95/SR 40 interchange. The location of the study interchange is depicted in Figure 1.