

## 1.2 Purpose and Need

The purpose and need of the PD&E study is provided below, from the March 23, 2020 ETDM Summary Report for Project 1442 which was developed to support this IMR.

### Purpose

The purpose for improving the interchange on Interstate 95 at US 1 is to enhance operational and safety needs. Interchange improvements will reduce congestion and better serve regional trips.

### Need

The need for the project is based on safety, transportation demand, and economic development.

### Safety

Between 2012-2016, there were 797 crashes, with 20 fatalities at the interchange. Currently, the interchange is a partial cloverleaf with loop ramps in the northwest and northeast quadrants. The existing loop ramps have extremely tight and inconsistent radii, necessitating a low design speed. The low design speed causes issues northbound when diverging from the interstate to exit, and southbound when merging onto the interstate. The historic rollover and off-road crashes on the loop ramps are consistent with the design issues associated with the existing interchange configuration.

### Transportation Demand

In the existing condition, the Annual Average Daily Traffic (AADT) on the southbound ramp is approximately 6,700 daily trips. The AADT on the northbound ramps is approximately 7,400 daily trips. Currently, the I-95 mainline, ramps, and northbound ramp intersection appear to operate at acceptable level of service (LOS); however, in the no-build condition the interchange the ramp terminal intersections will fail by the 2045 design year.

### Economic Development

This interchange is located in a strategic area of Volusia County and provides access to a major regional tourist destination. Destination Daytona is one of the major destinations for year-round and special events related to Biketoberfest, Bike Week, Daytona International Speedway events and other outdoor entertainment activities. Additionally, there are planned mixed-use developments adjacent to the interchange which will place increased demands on the transportation network along the US 1 corridor and on the interchange. There is a total of 4,870,000 square feet of non-residential land uses and 2,950 residential dwelling units in the Ormond Crossings Master Development Plan.