

1.2 Purpose and Need

The purpose of this study is to complete an IOAR to determine what improvements can be programmed to improve traffic spillback onto I-95, interchange operations, reduce congestion and improve safety at this interchange location. Improvements are aimed at increasing the efficiency of I-95 at SR 16 interchange and SR 16.

The primary need of the project is to improve existing and future traffic conditions thereby improving safety at the interchange. The interchange of I-95 at SR 16 is a diamond interchange providing full access. It is an important component of the SIS providing access to the City of St. Augustine. Recent traffic projections completed in the region, identified increased traffic congestion and potential operational deficiencies in the vicinity of the study interchange. Currently, I-95 south of SR 16 is carrying approximately an annual average daily traffic (AADT) of 83,000 vehicles and I-95 north of SR 16 is carrying an approximate AADT of 87,800. By year 2043, the AADT along I-95 is expected to increase to 109,800 vehicles daily south of SR 16 and 118,200 vehicles daily north of SR 16. The interchange serves two outlet malls on both sides of the interstate and other establishments in the area. The SR 16 northbound on and southbound off ramps to and from I-95 carries 10,200 vehicles daily which is anticipated to exceed 13,700 AADT by year 2043. The SR 16 northbound off and southbound on ramps to and from I-95 carries 7,800 vehicles daily which is anticipated to exceed 9,500 AADT by year 2043. With this increase in traffic along I-95 and the ramps and the increase in development around the SR 16 interchange, the operating conditions at this interchange is expected to deteriorate.

The available crash data collected from the FDOT State Safety Office Map Based Query Tool (SSOGis) for the years 2012 through 2016 reveal that a total of 443 crashes occurred within the project area, of which 224 (49%) were rear-end crashes and 94 (21%) were angle crashes. These types of crashes can be attributed to the heavy levels of congestion within the project area. A large number (327) of the total crashes occurred on the project segment SR 16, resulting in 318 injuries and one fatality. The remaining crashes include those that occurred on the I-95 on/off-ramps.

If no operational and safety improvements are made within the interchange area, conditions will become progressively worse as traffic volumes continue to increase, thereby, deteriorating access of the interchange.