

Luther King Jr. Parkway westbound. These improvements are proposed to increase the efficiency of I-95, Martin Luther King Jr. Parkway and the ramps by improving interchange operations, congestion and safety.

This SIMR documents traffic operational analysis and safety evaluations for the proposed improvements along the I-95 corridor and at the interchanges listed below. The pair of interchange ramps along the I-95 mainline which allow reciprocating movements are listed as one interchange.

- Forest Street
- Forsyth Street/Bay Street
- Monroe Street/Adams Street
- Union Street
- Church Street/ W Beaver Street
- Kings Road
- 8th Street

The interchanges of I-95 at I-10 and I-95 at Martin Luther King Jr. Parkway, south and north of the project limits respectively, are included within the AOI to understand their impacts to the mainline and other adjacent interchanges. These ramps include the I-10 eastbound to I-95 northbound off ramp, the I-95 southbound to I-10 westbound/southbound C-D road, the I-95 at Martin Luther King Jr. Parkway northbound to eastbound off ramp and the I-95 at Martin Luther King Jr. Parkway southbound on ramp. No improvements are recommended at these two (2) interchanges under this SIMR.

1.2 Purpose and Need

The purpose of this study is to add capacity on I-95 from north of I-10 to the south of the Martin Luther King Jr. Parkway interchange to provide better travel time reliability, improve safety and enhance operations along the I-95 study corridor and interchanges.

The need for this project is driven by current peak hour congestion and forecasted volumes along this segment of the interstate with periods of congestion extending the peak periods of travel. Congestion is expected to get worse in the future as the state of Florida and Jacksonville area continue to grow. The University of Florida's Bureau of Economic and Business Research (BEBR) has a Duval County 2020 population of 982,080. The BEBR data also projects Duval County's 2045 estimated population to be

1,192,500 (medium projection). This represents an increase of approximately 210,420 (21.4%) residents from 2020 to 2045.

Mobility

In 2019, this segment of I-95 carried Annual Average Daily Traffic (AADT) volume of 151,000 vehicles north of the I-10 interchange at the beginning of the study corridor, 133,000 north of Kings Road, and 131,500 north of W 8th Street interchange which is towards the northern end of the study corridor. Based on existing year analysis, the I-95 southbound mainline segments from Kings Road entrance to the C-D road exit (Kings Road entrance to Church Street exit in the AM peak hour) and Kings Road exit to Union Street exit (AM peak hour), currently operate below the LOS D target. Many merge/diverge segments along the corridor also operate at lower speeds.

Downtown arterials comprise of one-way streets and roadways with one to two lanes in each travel direction. In 2019, Forest Street carried an AADT of 2,600 vehicles, Bay Street carried an AADT of 10,400 vehicles, Union Street carried an AADT of 7,600 vehicles, Adams Street carried an AADT of 5,700 vehicles, Monroe Street carried an AADT of 3,1600 vehicles, Church Street carried an AADT of 700 vehicles, Beaver Street carried an AADT of 11,900 vehicles, Union Street carried an AADT of 28,500 vehicles, Kings Road carried an AADT of 26,000 vehicles and 8th Street carried an AADT of 18,700 vehicles.

The 2045 AADT forecast estimate for I-95 is 181,000 vehicles north of I-10 at the beginning of the study corridor, 168,000 north of Kings Road, and 160,000 north of W 8th Street interchange which is towards the northern end of the study corridor.

If no capacity improvements are made to the facilities, congestion within the corridor and at the interchanges will get progressively worse, with the periods of congestion extending the peak periods of travel, increasing the number of crashes and deteriorating the travel time reliability for the users.

Social/Economic Demand

I-95 is a major north-south corridor in central Jacksonville. Within the study limits, I-95 serves as the main entryway to the Jacksonville Central Business District (CBD) and connects suburban residential areas throughout the corridor to office, commercial, recreational and industrial areas. The communities of Brooklyn, LaVilla, Mixon Town, New Town, Hogan's Creek and Springfield are located adjacent to I-95 in

SYSTEMS INTERCHANGE MODIFICATION REPORT (SIMR)

I-95 (SR 9) from north of I-10 to south of
Martin Luther King Jr. Parkway (SR 115/US 1)
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the study area. Major employers are in the CBD such as CSX Corporation, TIAA Bank, Bank of America and Haskell. There are also tourism attractors downtown including but not limited to TIAA Bank Field (home of the Jacksonville Jaguars), the Baseball Grounds of Jacksonville, Jacksonville Veterans Memorial Arena, Prime F. Osborn III Convention Center and the Times-Union Center for the Performing Arts. North of the CBD and adjacent to the study area, UF Heath's Jacksonville complex attracts significant traffic from the surrounding areas.

The population of Duval County is expected to increase by approximately 29% and employment is expected to increase by 43% from 2015 to 2045 (Source: North Florida Transportation Planning Organization (North Florida TPO) 2045 Long Range Transportation Plan (LRTP)). This increase in population and employment will result in higher traffic volumes on I-95. Without any additional improvements, I-95 will begin to operate below FDOT target LOS D.

Modal Interrelationships

I-95 serves as a key transportation element in linking the major ports, airports and railways that handle Florida's passenger and freight traffic throughout the region. Additionally, I-95 is a National Highway on FDOT's SIS, which is Florida's high-priority network of transportation facilities important to the state's economy and mobility. SIS facilities are the workhorses of Florida's transportation system and account for a dominant share of the people and freight movement to, from and within Florida.

I-95 provides direct access to JAXPORT's Talleyrand Marine Terminal (SIS Seaport) via Martin Luther King Jr. Parkway and the Hart Expressway (Talleyrand Connector is currently under construction) and is used to transport cargo to/from the Jacksonville International Airport and other intermodal facilities. Once the Talleyrand Connector is constructed and enhanced Intelligent Transportation System (ITS) infrastructure along Martin Luther King Jr. Parkway is implemented, freight flow and accessibility to and from the Talleyrand Port District from I-95 will be improved.

In addition, connections from I-95 to W Forsyth Street and W Adams Street are designated SIS Strategic Growth Highway Connectors for the Jacksonville Greyhound bus station located on W Forsyth Street.

Safety

Crash data from 2013-2017 shows that a total of 2,061 crashes were reported over the five-year period resulting in 544 injury crashes and ten fatal crashes. The predominant collision type was rear end crashes in the study area. Common factors that contribute to rear end crashes are congestion, inadequate gaps in traffic, tailgating and driver distractions. Most of the congestion occurs during the morning and afternoon peak periods, which although accounting for only four-five hours, serve the highest volume of traffic in a day. Therefore, the number of crashes on I-95 within the study area may be closely related to the level of congestion caused by various attractions throughout the corridor. Without any improvements, the congestion on I-95 during the morning and afternoon peak hours will worsen and may lead to an increasing number of crashes.

The spacing of interchanges has a significant effect on the operations and safety of any corridor. The close spacing of the interchanges is a result of construction of this segment as part of the Jacksonville Expressway System prior to the development of these standards. The spacing between ramps at several of the interchanges does not meet current standards. Also, several exit and entrance ramps are located on the left side of the mainline travel lanes in the segment between Myrtle Avenue and Kings Road which also effect the operations and safety. This SIMR will consider safe connections to the interstate. Additionally, the capacity modifications will aid in reducing the number of crashes within the project limits.

The project is anticipated to improve emergency evacuation capabilities by enhancing connectivity and accessibility to major arterials designated on the state evacuation route. I-95 serves as part of the emergency evacuation route network designated by the Florida Division of Emergency Management and Duval County. I-95 is critical in facilitating traffic during emergency evacuation periods as it connects to other major arterials and highways of the state evacuation route network such as I-10, SR 9B and I-295. Without any improvements to I-95, evacuation clearance times will continue to increase and may discourage residents from evacuating, thus jeopardizing public safety.

FDOT has initiated this SIMR to investigate alternatives for the I-95 facility that will help alleviate congestion and enhance safety and operations at the study interchanges to improve safety and operations throughout the study area.