

SYSTEMS INTERCHANGE MODIFICATION REPORT (SIMR)

I-295 from Town Center Parkway to Merrill Road (SR 116)
FPID: 209301-4, 209301-8 and 209301-9

of this SIMR. Changes were considered at the Beach and Atlantic interchanges with I-295, but those could not be accommodated within the right of way. Land use around these interchanges is completely built out and any modifications to improve operations would have resulted in impacts. FDOT will continue to monitor operations at these interchanges and will evaluate improvements under a separate project in future. The operations at Beach and Atlantic interchanges remain the same under No-Build and Build conditions and they do not impact the Build alternative recommended in this SIMR. I-295 mainline is being widened through these interchanges and merge/diverge areas are anticipated to operate at acceptable LOS through design year. The SIMR contains detailed information that fulfills the purpose and need for the project.

1.2 Purpose and Need

The purpose of this project is to add capacity, improve operations and safety to accommodate Duval County's projected growth on the I-295 corridor from SR 202 to Southside Connector (SR 113).

This segment of the interstate currently experiences peak hour congestion and operates at speeds well below the posted speed limits in the peak hour. This problem 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, the study segment of I-295 carried an Annual Average Daily Traffic (AADT) volume that ranged from 111,500 vehicles between SR 202 and Town Center Parkway at the southern end of the project to 77,802 vehicles north of Merrill Road at the northern end of the project. Based on existing year analysis, the I-295 mainline segments from SR 202 to Town Center Parkway, Beach Boulevard to St. Johns Bluff Road, St. Johns Bluff Road to Atlantic Boulevard and Atlantic Boulevard to Monument Road currently operate below the LOS D target. In addition to the mainline, many merge/diverge segments along the corridor also operate below the LOS target. In addition to I-295 carrying heavy traffic, Town Center Parkway in 2019, carried an AADT of 44,000 vehicles in 2019, Beach Boulevard carried an AADT between 53,500 and 56,500 vehicles, St. Johns Bluff Road carried an AADT of 27,500 vehicles, Monument Road carried an AADT of 28,000 vehicles and Merrill Road carried an AADT of 29,000 vehicles.

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The 2045 traffic projections on I-295 utilize the latest planning assumptions on land use, population and employment. If no capacity improvements are made to facilities, congestion within the corridor and at the interchanges will get progressively worse, the entire segment of I-295 within the study limits will operate at LOS F during peak hours by 2045 with the periods of congestion extending the peak periods of travel, increasing the number of crashes and deteriorating the interchange operations. Because the corridor has limited 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.

Social/Economic Demand I-295 is a major north-south corridor around central Jacksonville. Within the study limits, I-295 connects suburban residential areas throughout the corridor to office, commercial, recreational and industrial areas. St. Johns Town Center, a super-regional open-air mall and the University of North Florida are located adjacent to I-295 and regularly attract 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-295. Without any additional improvements, I-295 will begin to operate below FDOT target LOS D.

Model Interrelationships

I-295 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-295 is a designated 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-295 provides direct access to Jacksonville ports (Dames Point and Blount Island) and is used to transport cargo to/from the Jacksonville ports and Jacksonville International Airport. In addition, the ongoing Jacksonville Harbor Channel Project will deepen the Jacksonville shipping channel from its current depth of 40 feet to 47 feet. A deeper channel will allow larger cargo ships transiting the Panama Canal to deliver cargo to Jacksonville ports and increase truck traffic on I-295. Improvements on I-295 are needed to

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ensure reliable cargo delivery to seaports and airports to maintain Jacksonville's competitive edge with surrounding seaports and airports.

Safety

Crash data from 2014-2018 shows that a total of 1,457 crashes were reported over the five-year period resulting in 456 injury crashes and four fatalities. The predominant collision type was "Front to Rear" crashes in the study area. Common factors that contribute to "Front to Rear" crashes are congestion, 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-295 within the study area may be closely related to the level of congestion caused due to various attractions throughout the corridor. Without any improvements, the congestion on I-295 during the morning and afternoon peak hours will worsen and may lead to an increasing number of crashes.

The entirety of I-295 in Duval County is designated as an evacuation route and is used to evacuate residents west and north during hurricane and other emergency evacuations. As the population of Duval County continues to increase, evacuating these residents in a timely manner becomes more challenging. Without any improvements to I-295, 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-295 facility that will help alleviate congestion and enhance safety and operations at the study interchanges to improve safety and operations throughout the study area.

1.3 Project Location

The project is in the eastern area of the City of Jacksonville, in Duval County, Florida. The project begins south of the I-295 at Town Center Parkway interchange and ends north of the Merrill Road interchange. The land use along the project study area is highly urbanized with predominantly residential, commercial and office land uses adjacent to the I-295 corridor. The project location and the study area are shown in **Figure 1-1**.

4. NEED

The purpose of this I-295 SIMR project is to add capacity along I-295 corridor from south of Town Center Parkway to interchange to north of Merrill Road interchange to improve operations and safety. South of this SIMR study limits, two express lanes along with GULs in each direction are currently being constructed along I-295 between SR 9B and SR 202. This ongoing construction will provide six/eight lanes along I-295 in both the northbound and southbound directions south of SR 202.

The need for the project in this SIMR is based on the following factors:

Traffic Volume Growth Due to Recent Developments – The segment of I-295 from south of Town Center Parkway interchange to north of Merrill Road interchange currently experiences heavy peak period congestion with speeds well below the posted speed limits.

In 2019, the segment of I-295 carried an AADT volume that ranged from 111,500 vehicles between SR 202 and Town Center Parkway at the southern end of the project to 77,802 vehicles north of Merrill Road at the northern end of the project. Based on existing year analysis, the I-295 mainline from SR 202 to Town Center Parkway, Beach Boulevard to St. Johns Bluff Road, St. Johns Bluff Road to Atlantic Boulevard and Atlantic Boulevard to Monument Road currently operate below the LOS target, LOS D. Several merge/diverge segments along the corridor also operate below the LOS target. In addition to I-295 carrying heavy traffic, Town Center Parkway carried an AADT of 44,000 vehicles in 2019, Beach Boulevard carried an AADT between 53,500 and 56,500 vehicles, St. Johns Bluff Road carried an AADT of 27,500 vehicles, Monument Road carried an AADT of 28,000 vehicles and Merrill Road carried an AADT of 29,000 vehicles.

The 2045 traffic projections on I-295 utilize the latest planning assumptions on land use, population and employment. If no capacity improvements are made to facilities, congestion within the corridor and at the interchanges will get progressively worse, the entire segment of I-295 within the study limits will operate at LOS F during peak hours by 2045 with the periods of congestion extending the peak periods of travel, increasing the number of crashes and deteriorating the interchange operations. Because the corridor has limited 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.

Social/Economic Demand – I-295 is a major north-south corridor around central Jacksonville. Within the study limits, I-295 connects suburban residential areas throughout the corridor to office, commercial, recreational and industrial areas. St. Johns Town Center, a super-regional open-air mall and the University of North Florida are located adjacent to I-295 and regularly attract 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 TPO 2045 LRTP). This increase in population and employment will result in higher traffic volumes on I-295. Without any additional improvements, I-295 will begin to operate below FDOT target LOS D.

In today's competitive environment, an efficient transportation infrastructure is needed to provide access to employment hubs and improve regional mobility to deliver goods and services. Without any improvements to I-295, the City of Jacksonville will lose its competitive edge over surrounding seaports, airports and other employments hubs.

Model Interrelationships – I-295 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-295 is a designated 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.

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Safety – A crash analysis was conducted as part of the I-295 SIMR. The crash data used in the SIMR was obtained from the FDOT State Safety Office Map Based Query Tool (SSOGis). A total of 1,457 crashes were reported over the five-year period from 2014 to 2018 resulting in 456 injury crashes and four fatalities. The predominant collision type was "Front to Rear" crashes (56%) in the study area. Common factors that

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