

The Florida's Turnpike Enterprise (FTE) conducted a Project Development and Environment (PD&E) study (FPID: 438547-1-22-01) for the Florida's Turnpike (SR 91) and Beachline Expressway (SR 528) interchange (Orlando South) in Orange County, Florida. The Orlando South interchange is located at milepost (MP) 254 along the Florida's Turnpike and mainly provides a system-to-system connection with SR 528. It also provides access to and from Orange Blossom Trail (US 17/92/441) and Consulate Drive. Traffic operational deficiencies exist within the interchange.

1.1 PROJECT BACKGROUND

A PD&E study for SR 528 from Interstate 4 (I-4) to McCoy Road was completed in 2003, which included evaluation of the Orlando South interchange. The PD&E study proposed addition of direct-access ramps connecting the Florida's Turnpike, SR 528, and US 17/92/441. An Interchange Access Request (IAR) document was not prepared during the 2003 PD&E study. Improvements have been made in the past within the Orlando South interchange, but congestion persists.

The PD&E study (FPN: 438547-1-22-01) evaluated concepts for the ultimate configuration of the Orlando South interchange, which include system-to-system ramp connections between the Florida's Turnpike, SR 528 and US 17/92/441. New service interchanges are also being evaluated along SR 528 at Voltaire Drive Extension and along the Florida's Turnpike at Taft Vineland Road to provide access to local streets and further relief congestion at the systems interchange. In this regard, a Systems Interchange Justification Report (SIJR) is being developed.

The SIJR documents traffic operations analysis and safety evaluations for the Orlando South interchange reconfiguration and proposed reliever interchanges. The SIJR has been developed in accordance with Florida Department of Transportation (FDOT) *Policy Topic No. 000-525-015-h, Approval of New or Modified Access to Limited Access Highways on the State Highway System (SHS)*; the FDOT *Interchange Access Request User's Guide (IARUG)*; FDOT *Procedure No. 525-030-160-l, New or Modified Interchanges*; and FDOT *Procedure No. 525-030-120-j, Project Traffic Forecasting*.

The Methodology Letter of Understanding (MLOU) for the SIJR was approved by FTE, the Requestor, FDOT District Five and FDOT Central Systems Implementation Office in February 2018. A copy of the signed MLOU is provided in **Appendix A**. Per the MLOU, the analysis years for the SIJR are 2017 (existing), 2025 (opening) and 2045 (design).

1.2 PROJECT PURPOSE AND NEED

The purpose for this project is to address existing traffic congestion and related safety issues within the Orlando South interchange footprint. Traffic congestion on the interchange ramps and freeway mainline generally originates from the intersections within the interchange, including ramp terminals. Since the existing interchange does not provide many of the direct connections needed, motorists utilize US 17/92/441 and Consulate Drive as a pass-through to access numerous destinations. The pass-through traffic exacerbates traffic congestion at the intersections within the interchange. The major congestion spots include the Florida's Turnpike southbound mainline and off-ramp to Consulate Drive, US 17/92/441 intersections at Consulate Drive, Florida's Turnpike ramps and Landstreet Road, and SR 528 westbound mainline and off-

ramp to Florida’s Turnpike/US 17/92/441. The SR 528 eastbound to Consulate Drive off-ramp also backs up, mainly due to downstream congestion effects at the US 17/92/441 intersection and weaving along the arterial. Traffic backups have also been observed within the toll plaza area due to weaving and ramp capacity deficiencies.

The need for the project is to provide direct-access ramps between the Florida’s Turnpike and SR 528 and improve access to the surface streets to enhance traffic operations. The direct-access ramps between the freeways will not only alleviate congestion related to pass-through trips at the intersections but will also provide faster travel for system movements. Additional and improved access points are also needed along the Florida’s Turnpike and SR 528 to further relief congestion at the arterials and intersections within the vicinity of the Orlando South interchange. Relief in congestion at adjacent interchanges is also expected, as traffic will be shifted to the improved Orlando South interchange and proposed reliever interchanges.

1.3 PROJECT LOCATION AND AREA OF INFLUENCE

The Orlando South interchange is located at MP 254 along the Florida’s Turnpike in Orange County, Florida. **Figure 1.1** shows the project location. The project study limits (construction improvements) extend from south of the Taft Vineland Road to south of SR 482 on Florida’s Turnpike and from west of CR 423 to the Beachline West Toll Plaza on SR 528. The traffic operations analysis Area of Influence (AOI) extends from Central Florida GreeneWay (SR 417) at MP 251 to I-4 at MP 259 along the Florida’s Turnpike, and from CR 423 at MP 3 to McCoy Road at MP 8 along SR 528. **Table 1.1** shows the existing adjacent interchange spacing from Orlando South and descriptions of the interchanges.

Table 1.1
Interchange Spacing and Description

Interchange	RCI Milepost	Spacing from Orlando South (Miles)	Description
Florida’s Turnpike			
I-4	10.399	4.747	Trumpet – Ramps to/from north tolled
Consulate Drive	6.690	1.038	Partial Diamond Tolled southbound off-ramp
SR 417	1.451	4.201	Partial Cloverleaf Tolled northbound on-ramp
SR 528			
CR 423	3.120	1.167	Partial Clover Leaf
McCoy Road/Jetport Drive	8.143	3.857	Partial Diamond

RCI – Roadway Characteristics Inventory