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The purpose of this Interchange Access Request (IAR) is to evaluate current traffic operations, identify operational deficiencies, and recommend operational improvements for the I-4 at Branch Forbes Road interchange.

The need for this project is to improve safety and alleviate existing traffic congestion and excessive vehicle queues at the I-4 at Branch Forbes Road eastbound and westbound off-ramp terminal intersections and the influence area.

The proposed improvements include:

- Installing traffic signals at the I-4 eastbound and westbound ramps terminal intersections.
- Adding a right turn lane at the I-4 eastbound off-ramp; and
- Extending the northbound and southbound left turns lanes on Branch Forbes Road at the ramp terminal intersections.

The proposed improvements at the I-4/Branch Forbes Road ramp terminal intersections will improve the operations of the intersections when compared to the No-Build conditions. The proposed improvements also will improve safety by reducing the off-ramp queues and the impact to the I-4 mainline. Also, the proposed improvements are expected to reduce the intersection total crashes by 39%. The cost estimate for the proposed improvements is \$2,812,893 including design and construction as shown in the FDOT Five-Year Work Program (FY 2021 to FY 2026).

The improvements identified in this IAR meet the Federal Highway Administration (FHWA) two policy points:

- **FHWA Policy Point 1:** *An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, and ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis should, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (Title 23, Code of Federal Regulations (CFR), paragraphs 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, should be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access should include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute, and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a)*

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and 655.603(d)). Each request should also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).

- The operational and safety analysis demonstrate that the proposed improvements identified in this IOAR will improve the safety and operation of the interchange by significantly reducing the queues for the I-4 eastbound and westbound off-ramps when compared to No-build conditions for Opening Year 2025.
- The total number of crashes at the ramp terminal intersections is expected to be reduced by 39%.
- The proposed improvements will improve the operations of the I-4 westbound and eastbound off-ramps as summarized below when compared to no-build conditions:
 - I-4 WB ramps at Branch Forbes Road:
 - Opening year: The LOS of the WB off-ramp will improve from LOS F to LOS D in both AM and PM peak hours. The vehicle queue will be reduced 55% and 52% during the AM and PM peak hour, respectively.
 - Design Year: The vehicle delay and queues will improve significantly compared to the No-Build conditions. Even though the WB off-ramps are expected to operate at LOS F in Design Year 2045, the No-build conditions don't provide results for the AM peak hour meaning the delay threshold was exceeded.
 - I-4 EB Ramps at Branch Forbes Road:
 - Opening year: The LOS of the EB off-ramp will improve from LOS F to LOS D in both AM and PM peak hours. The vehicle queue will be reduced 66% and 83% during the AM and PM peak hour, respectively.
 - Design Year: The LOS of the EB off-ramp will improve from LOS F to LOS E in AM peak hour and LOS D in the PM peak hour. The vehicle queue will be reduced 91% and 92% during the AM and PM peak hour, respectively.
- The safety and operations of the interchange will also improve significantly for Design Year 2045, but other improvements are needed along Branch Forbes Road to improve the operations for the interchange and the study area. Under No-Build conditions, the operations of the intersection will continue to deteriorate, and the I-4 off-ramp queues are expected to impact the I-4 mainline. FDOT is currently working with Hillsborough County for ultimate improvements at the I-4 at Branch Forbes Road interchange and along Branch Forbes Road from I-4 to US 92. A Project Development

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and Environment (PD&E) consultant was recently selected to conduct a PD&E study along Branch Forbes Road to identify the ultimate improvements.

- A conceptual signing plan has been prepared for the IOAR.

- **FHWA Policy Point 2:** *The proposed access connects to a public road only and will provide for all traffic movements. Less than “full interchanges” may be considered on a case-by-case basis for applications requiring special access, such as managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)). In rare instances where all basic movements are not provided by the proposed design, the report should include a full-interchange option with a comparison of the operational and safety analyses to the partial interchange option. The report should also include the mitigation proposed to compensate for the missing movements, including wayfinding signage, impacts on local intersections, mitigation of driver expectation leading to wrong-way movements on ramps, etc. The report should describe whether future provision of a full interchange is precluded by the proposed design*
 - Policy Point 2: The existing I-4 interchange at Branch Forbes Road provides access to public roads only. The proposed improvements at the interchange will maintain full access to Branch Forbes Road and accommodate all movements.