

2.2. Purpose and Need

The purpose of this project is to improve traffic operations, enhance connectivity, and improve safety on I-4 and the Sand Lake Road interchange cross-streets in the immediate vicinity of I-4. Improvements to the operation and safety of the Sand Lake Road interchange area will better improve mobility and support economic growth.

The “Tube” provides users of the westbound I-4 Ultimate express lanes desiring to make longer distance trips on I-4 the opportunity to avoid conflicts with local traffic on the general use lanes. The purpose of the “Tube” is to improve the safety and operations on the westbound general use lanes through the interchange areas (Sand Lake Road, SR 528, Central Florida Parkway, Daryl Carter Parkway, SR 535, SR 536, and Osceola Parkway) that are located adjacent to the “Tube” and to improve the safety and operations at the I-4 Ultimate express lane termination point. The “Tube” will allow the longer distance trips on I-4 utilizing the westbound express lanes to bypass existing congestion on the I-4 general use lanes. The improvements to the operation and safety of I-4 will improve mobility and support economic growth.

The I-4 and Sand Lake Road interchange modification project is the first project in a phased approach to implementing the recommendations made in the previously approved I-4 BtU South Section SAMR and PD&E Study. The need for the project is shown by the fact that projections of future population and employment in the region indicate that travel demand will continue to increase well into the future.. Without the improvements, extremely congested conditions are expected to occur for extended periods of time in both the morning and evening peak periods. Due to these congested conditions, user travel times will continue to increase, the movement of goods through the urban area will be slower, and the deliveries of goods within the urban area will be forced to other times throughout the day.

The need for the Tube is to improve the safety and operation of the I-4 general use lanes for the length of the “Tube” project and to improve the safety and operation of the termination area of the westbound I-4 Ultimate express lanes. Congested conditions are currently occurring during peak periods along I-4 downstream of the future terminus of the I-4 Ultimate express lanes. The congestion will increase as shown by the projections of future population and employment increases in the Central Florida region. The congestion will result in bottlenecks on the I-4 general use lanes that create speed differentials on the general use lanes and negatively impact the ability of vehicles using the westbound I-4 express lanes to safely and efficiently merge into the existing general use lanes. The speed differentials will negatively impact the flow of the general use lanes and negatively impact the merge area resulting in safety issues on the general use lanes and at the termination area of the westbound I-4 Ultimate express lanes.

The purpose of this IMR is to document the potential safety and operational impacts of the proposed interchange, typical section, and arterial modifications being proposed as part of the I-4 and Sand Lake Road interchange modification project. It is important to note that future projects in the I-4 BtU South Section will be evaluated as construction funding is identified.