

A Project Development and Environment (PD&E) study for the proposed Central Polk Parkway (CPP) was completed in 2011 by the Florida Department of Transportation (FDOT) District One (FPID: 423601-1-22-01). The original alignment was 44 miles long, forming a loop around Polk County, starting from Polk Parkway (S.R. 570) on the west and ending at Interstate 4 (I-4), near the Polk/Osceola county line. The 2011 PD&E study was then advanced to design but placed on hold by District One. The preferred alignment for CPP was divided into eight segments.

The FTE conducted a PD&E re-evaluation study and a design project of the westernmost portion of the CPP (FPID: 440897-2), starting at Polk Parkway to S.R. 35 (U.S. 17), a 6.7-mile section. This section was previously within Segment One of the 2011 PD&E study preferred alignment. This project will include modification of the existing partial interchange at Polk Parkway and Winter Lake Road (S.R. 540) ramps to and from the east to create a system to system interchange at Polk Parkway and a diamond interchange at S.R. 540. This project will terminate the CPP as a partial interchange at U.S. 17 with ramps to and from the west. This Interchange Modification Report (IMR) documents traffic operations analysis and safety evaluations for the proposed Polk Parkway and S.R. 540 interchange modification. The Methodology Letter of Understanding (MLOU) for the IMR was approved by FTE, the Requestor, FDOT District 1 Review Coordinator and FDOT Central Systems Implementation Office in October 2018.

The FTE is also conducting a PD&E study (FPID: 440897-4) and design project (FPID: 440897-3) to extend CPP from U.S. 17 to S.R. 60, a 2.1-mile section. This will be a realignment and a reconfiguration of the 2011 PD&E study concept. A full interchange will be added at U.S. 17 and the CPP will terminate at S.R. 60 as a T-intersection. The entire CPP will be designated as S.R. 570B.

The CPP is anticipated to accommodate increased future travel demand expected from projected residential and employment growth within the county and throughout the entire region. The facility will also provide a new multi-lane limited access freeway that will improve connectivity to the regional transportation network, enhance freight mobility and economic competitiveness, and improve emergency evacuation capabilities. The addition of an alternative route to the existing network will reduce traffic congestion on several corridors in central Polk County and redistribute truck traffic in the region.

The analysis showed that the Polk Parkway mainline operated acceptably in the 2018 existing conditions and the interchange ramps within the study limits had adequate capacity. Crash data analysis for the most recent five years (2012 – 2016) showed that most of the crashes resulted in property damage only and injury. The analysis showed that there is currently no safety deficiency within the Area of Influence (AOI).

The CPP project study evaluated various Build alternatives for the CPP, Polk Parkway and S.R. 540 interchange modification. The Preferred Build interchange configuration selected reduced bridge and ramp lengths compared to the other alternatives, while allowing all ramps to be designed with a speed of 50 mph. It also minimized right of way and wetland impacts. This IMR only documents traffic analysis for the No Build and the Preferred Build (referred to Build herein) alternatives. The No Build

Executive summary

assumed that existing lane geometry will remain the same in the future, since there are no programmed capacity improvements within the AOI. The Build included the CPP facility and proposed interchanges and connections. Future lane requirement analysis showed that additional capacity will be required along Polk Parkway for both No Build and Build, towards year 2040. The Build showed the need a few years sooner than the No Build, since trips will be diverted and attracted to the proposed CPP facility. The proposed two lanes for the CPP mainline and single lane ramps will be adequate through the 2045 design year.

It is anticipated that most of the S.R. 540 intersections within the study limits will be over capacity by the 2025 opening year under No Build conditions and the operations are expected to degrade by the 2045 design year. However, operations are expected to improve with the construction of the CPP facility. It is estimated that cumulative intersection control delay within the AOI will reduce by 69 and 67 percent in 2045 AM and PM peak hours, respectively. The CPP facility is anticipated to relieve congestion by redistributing traffic, thereby improving operations on S.R. 540 and U.S. 98. Intersection turn lane improvements and three lanes per direction along S.R. 540 will be required in the future, with or without the CPP project.

Future safety analysis indicated that predicted crashes and associated costs will be lower with the Build CPP project compared to No Build at the existing intersections, ramps and arterials within the analysis area such as U.S. 98, S.R. 540 and U.S. 92. This is due to traffic diversion from the existing facilities to the proposed CPP facility. The S.R. 98 interchange ramps and intersections will experience the highest reduction in traffic within the analysis AOI and thus, experience the highest reduction in crashes and associated costs of approximately 27 and 32 percent, respectively. Reduction in predicted crashes and costs on S.R. 540 and U.S. 92 is expected to range from two to five percent. The CPP will relieve traffic congestion on U.S. 98 and S.R. 540 by providing a more direct and faster route for trips originating from Lakeland and I-4, to the regions east or northeast of Bartow. As a result, potential crashes along U.S. 98 south of Polk Parkway to Bartow are also expected to be lower with the Build alternative compared to the No Build. With the addition of the proposed CPP ramps along Polk Parkway, new conflict points will be created. However, the design of the ramps and gores follows FDOT standards to provide features that mitigate potential crashes such as long acceleration and deceleration lanes, adequate sight distances, gentle cross-slopes, superelevation, wide curve radii, wide shoulders, signing, among others. Overall, it is expected that future Build conditions will not create adverse safety concerns along Polk Parkway.

SECTION ONE

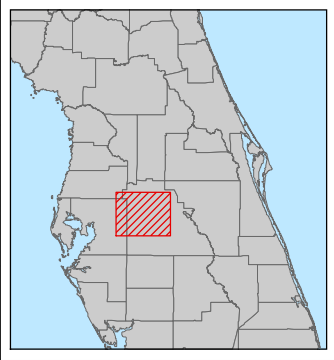
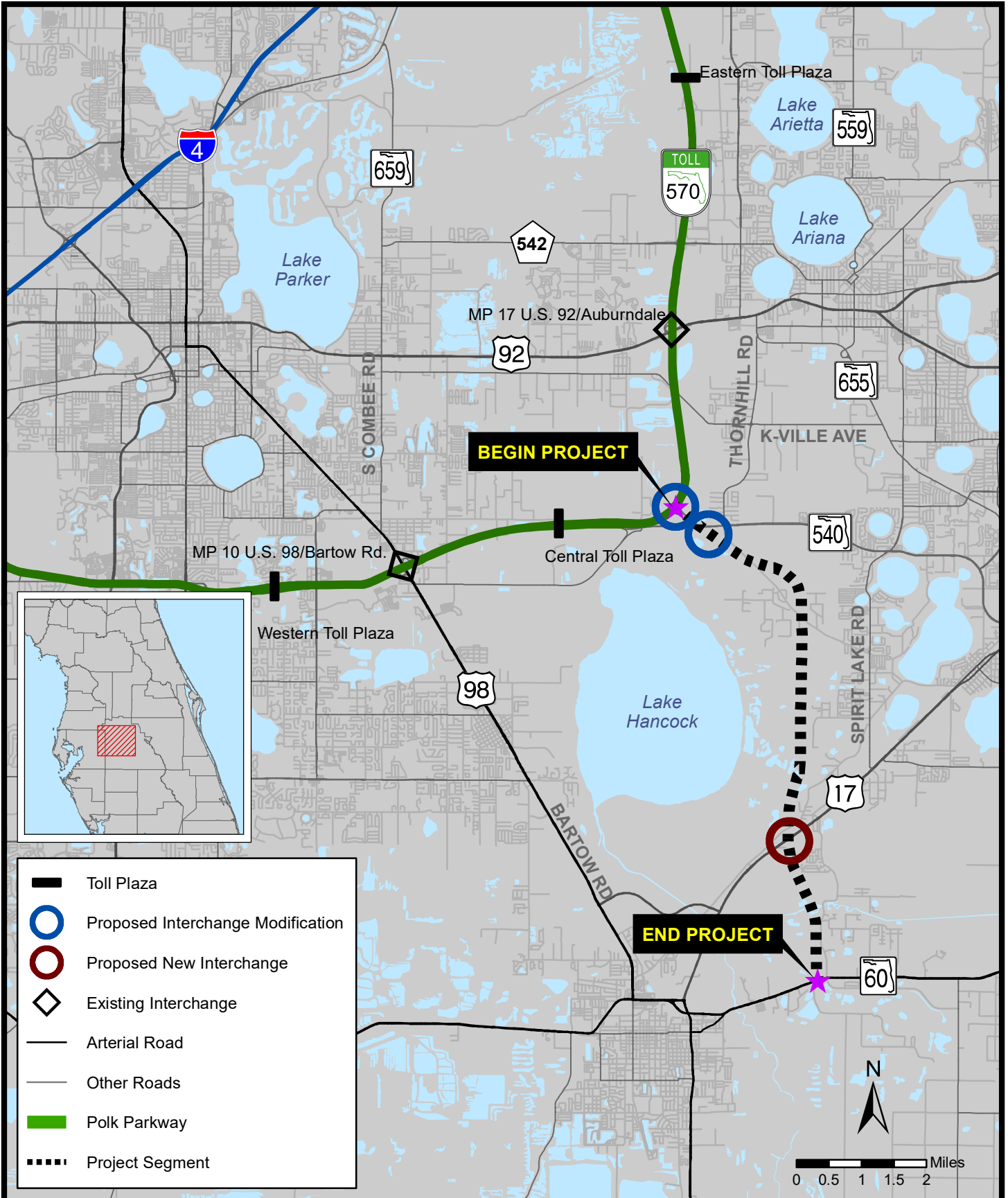
Introduction

The Central Polk Parkway (CPP) is a new limited access expressway that was originally planned to be 44 miles, forming a loop around the Polk County communities of Winter Haven, Auburndale, Eagle Lake, Dundee, Lake Hamilton, Haines City, and Davenport. It would connect on the west with Polk Parkway (S.R. 570) and on the east with Interstate 4 (I-4), near the Polk/Osceola county line. The Project Development and Environment (PD&E) study for the original alignment was completed in 2011 by the Florida Department of Transportation (FDOT) District One (FPID: 423601-1-22-01). Along its length, the proposed Parkway would include interchanges with several major crossroads. The 2011 PD&E study was then advanced to design but placed on hold by District One. The preferred alignment for CPP was divided into eight segments.

The FTE conducted a PD&E re-evaluation study and a design project of the westernmost portion of the CPP (FPID: 440897-2), starting at Polk Parkway to S.R. 35 (U.S. 17), a 6.7-mile section. This section was previously within Segment One of the 2011 PD&E study preferred alignment. This project will include modification of the existing partial interchange at Polk Parkway and Winter Lake Road (S.R. 540) ramps to and from the east, to create a system to system interchange at the western terminus of the CPP and Polk Parkway, and a diamond interchange at S.R. 540. The eastern terminus of this project (FPID: 440897-2) will be a partial interchange at U.S. 17, with ramps to and from the west.

This Interchange Modification Report (IMR) documents traffic operations analysis and safety evaluations for the proposed Polk Parkway and S.R. 540 interchange modification. The IMR has been developed in accordance with the FDOT *Policy No. 000-525-015-h, Approval of New or Modified Access to Limited Access Highways on the State Highway System (SHS)*; 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 IMR was approved by FTE, the Requestor, FDOT District 1 Review Coordinator and FDOT Central Systems Implementation Office in October 2018. A copy of the executed MLOU is provided in **Appendix A**. Per the MLOU, the analysis years for the IMR are 2018 (existing), 2025 (opening) and 2045 (design).

FTE is also conducting a PD&E study (FPID: 440897-4) and design project (FPID: 440897-3) to extend the CPP from S.R. 35 (U.S. 17) to S.R. 60, a 2.1-mile section. This will be a realignment and a reconfiguration of the 2011 PD&E study concept. A full interchange will be added at U.S. 17 and the CPP will terminate at S.R. 60 as a T intersection. The project location and study limits for the entire CPP project from Polk Parkway to S.R. 60 are shown on **Figure 1.1**. The CPP will be designated as S.R. 570B.



**Central Polk Parkway (Polk Parkway to S.R. 60)
Polk Parkway and S.R. 540
Interchange Modification Report (IMR)**

Project Location

Figure 1.1