

divided into five segments in the I-4 BtU PD&E study, as illustrated in **Figure 1** and **Figure 2**. The project limits for the I-4 BtU PD&E segments are listed below.

- Segment 1: I-4 from West of CR 532 (Polk/Osceola County Line) to West of SR 528 (Beachline Expressway).
- Segment 2: I-4 from West of SR 528 (Beachline Expressway) to West of SR 435 (Kirkman Road).
- Segment 3: I-4 from 1 mile East of SR 434 to East of US 17/92 (Seminole/Volusia County Line).
- Segment 4: I-4 from East of SR 15/600/US 17/92 (Seminole/Volusia County Line) to 1/2 mile East of SR 472.
- Segment 5: I-4 from West of SR 25/US 27 to West of CR 532 (Polk/Osceola County Line).

Segment 5 was added to the I-4 BtU PD&E study later in order to extend the western limit of express lanes to US 27, as requested by FHWA due to logical termini. This segment is located to the west of Segment 1, thus the reason Segment 5 is adjacent to Segment 1.

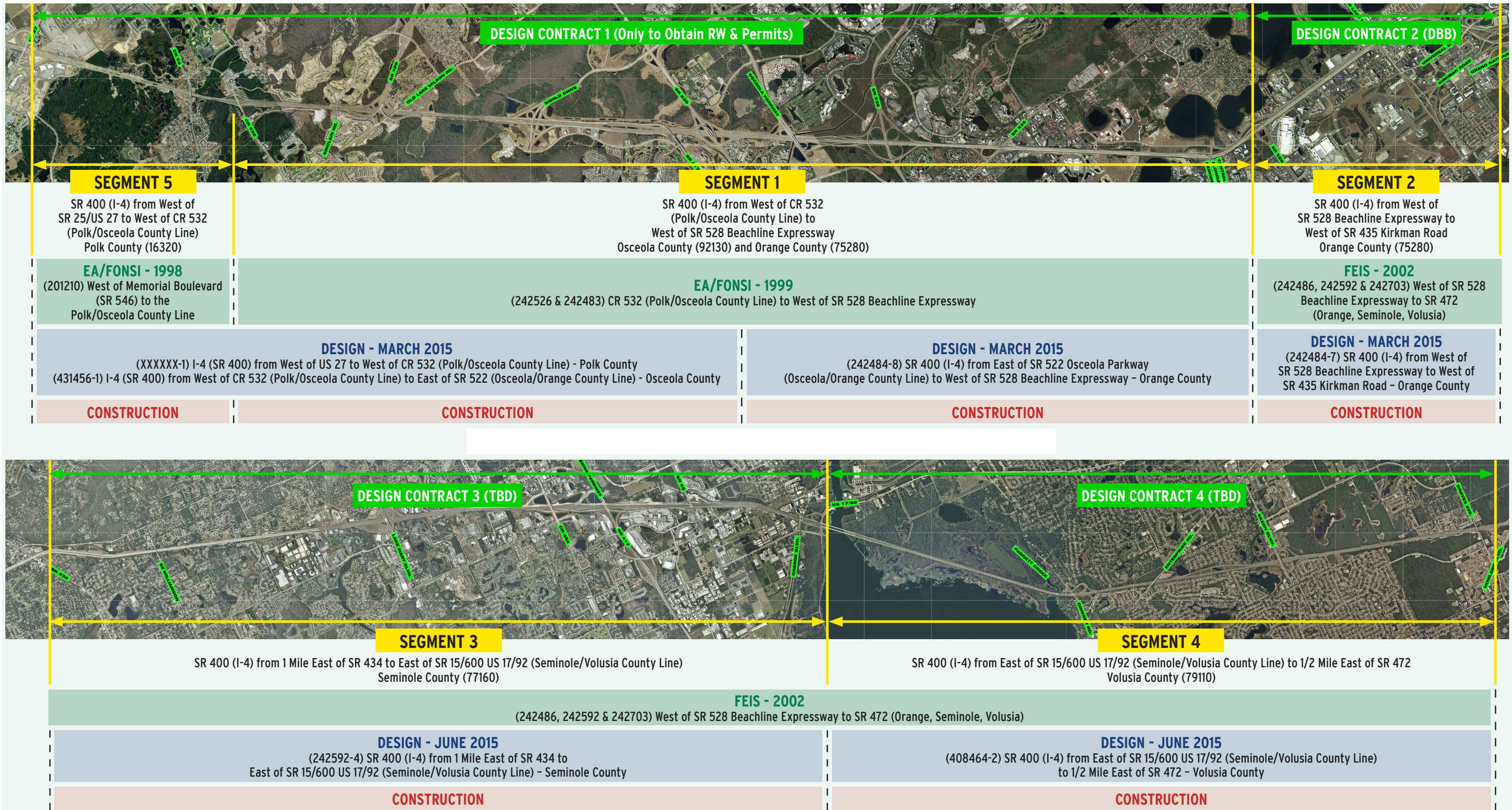
## 1.2. Purpose and Need

The purpose of the I-4 BtU project is to improve traffic operations, enhance connectivity, and improve safety on I-4 and the interchange cross-streets in the immediate vicinity of I-4. Without improvements to I-4, congestion will continue to increase and travel times and potential crashes will continue to increase for the residents, employees, freight carriers, and visitors of the region. This will negatively impact the economy and quality of life of the region. Improvements to the operation and safety of I-4 and the interchange areas will better accommodate future population increases, improve mobility, and support economic growth in the region.

The I-4 BtU SAMR re-evaluation is needed due to changes proposed in the Modified Build scenario as compared to the previously approved Original Build scenario. The changes include:

- A proposed change in the project typical sections: The proposed change is to the inside median of the I-4 corridor from US 27 in Polk County to SR 472 in Volusia County. The design change is to switch from HOV (High Occupancy Vehicle) lanes in the median (number of HOV lanes varied from one to two in each direction), to four express lanes, two in each direction. The conversion from HOV lanes to Express Lanes (ELs) is consistent with the I-4 Ultimate project. The conversion to ELs is consistent with statewide FDOT policy (Topic No. 525-030-020-a) and what is being implemented in the I-4 Ultimate section. The HOV to EL conversion was identified as a minor change in the Project Reevaluation Form for the ROW acquisition phase for a portion of the I-4 Ultimate.
- Proposed changes to interchange configurations: Several interchange configurations have been modified to better accommodate traffic volumes and improve interstate and cross-street operations.







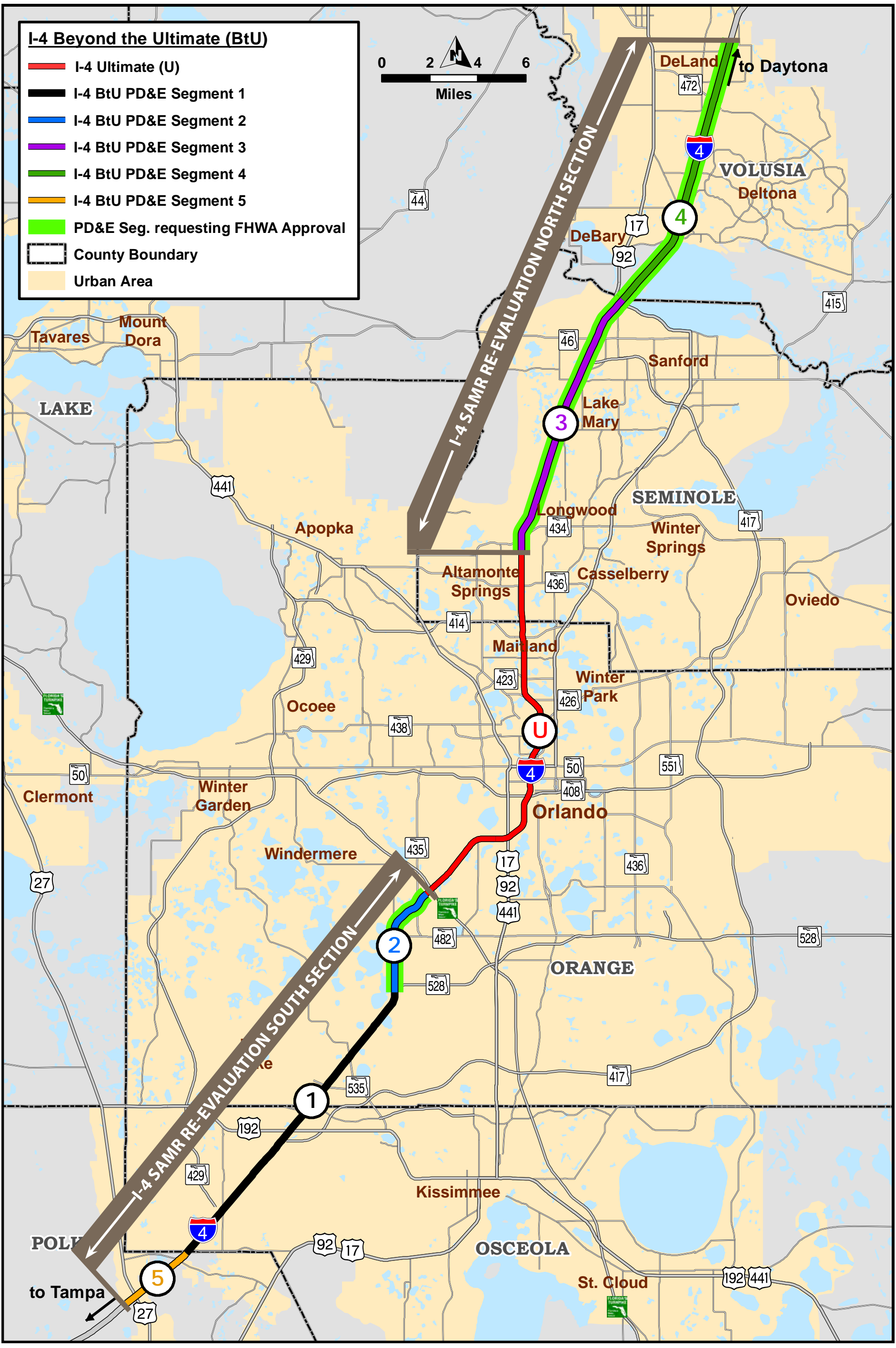


Figure 3 and Figure 4 show the Original Build and Modified Build typical sections for the North Section, and Figure 5 shows the Original and Modified Build network changes. The Original Build alternative was initially approved using a 2020 horizon year. However, some of the Original Build interchange configurations do not adequately serve the higher traffic volumes associated with the revised 2040 horizon year. EL connections also had to be accommodated with the change in cross-section.

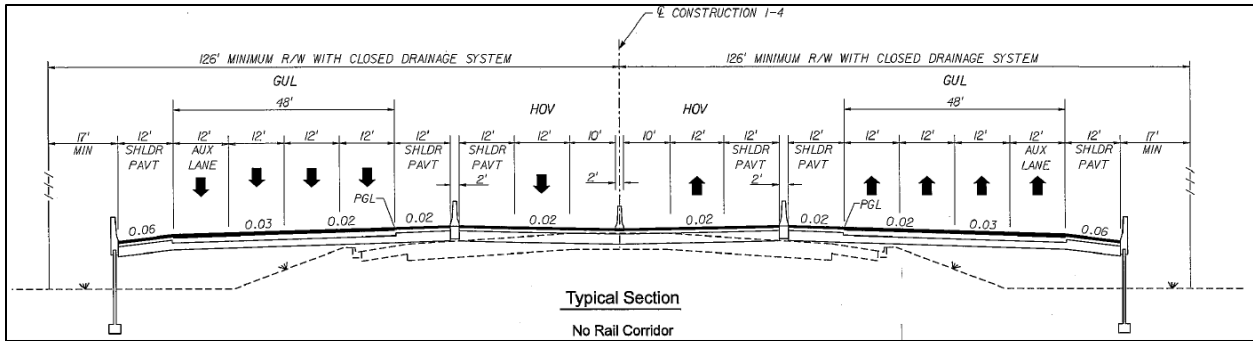


Figure 3 Original Build Typical Section (North Section)

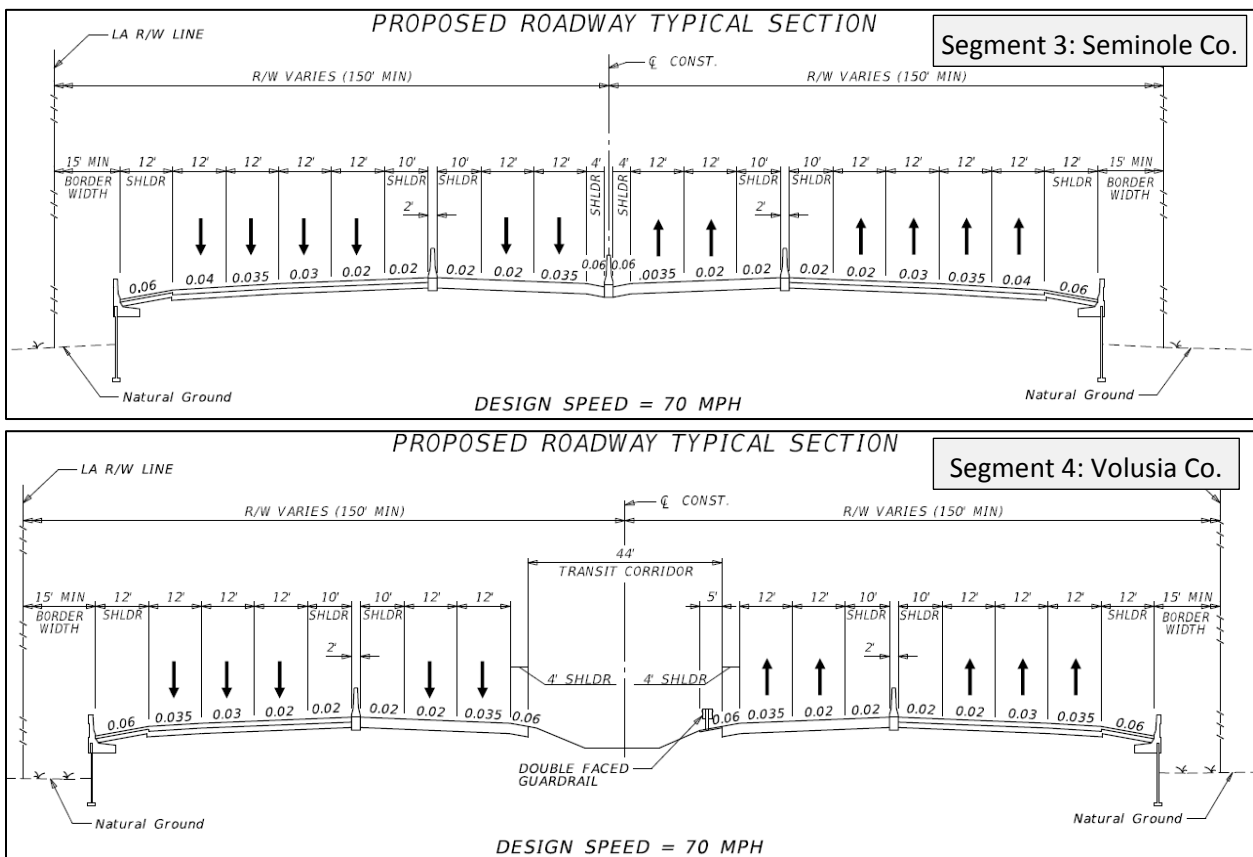
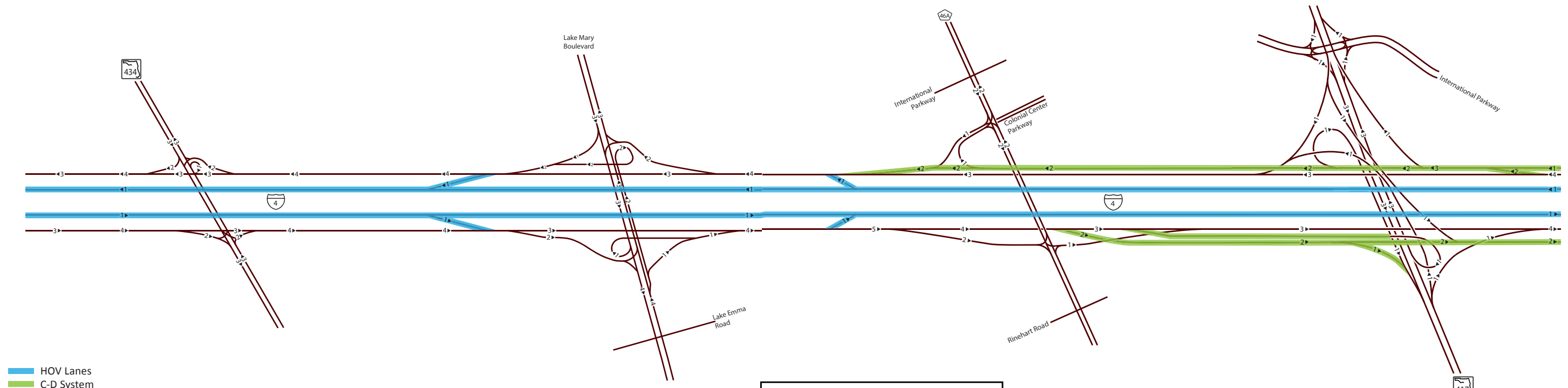


Figure 4 Modified Build Typical Sections (North Section)

ORIGINAL BUILD

NOT TO SCALE

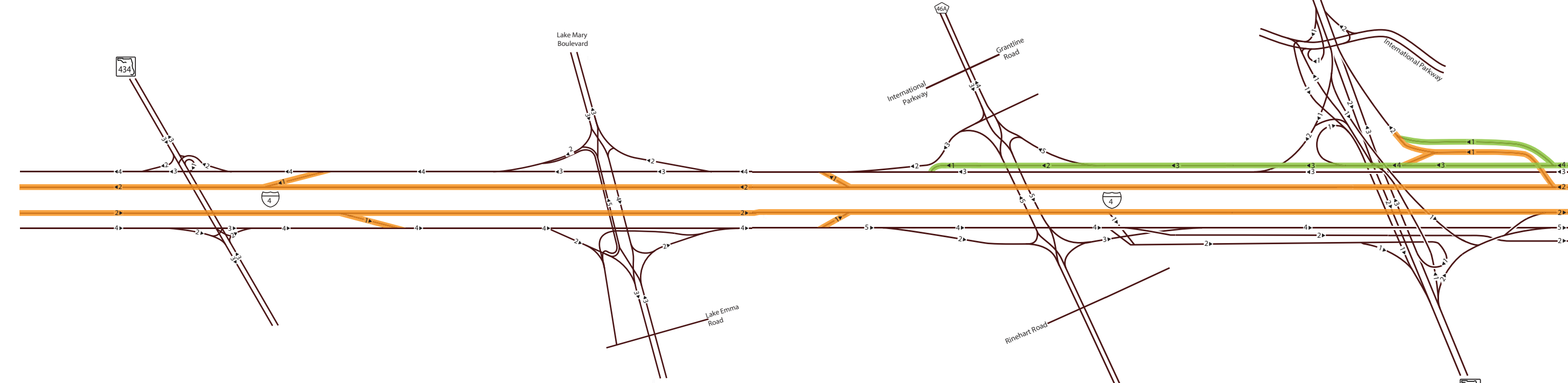


Lake Mary Blvd interchange modified to Diverging Diamond interchange with the addition of ramp access at Lake Emma Rd

CR 46A interchange modified to Diverging Diamond interchange with corridor and intersection improvements at Rinehart Rd

Express lane connections were added to the SR 417 interchange

MODIFIED BUILD



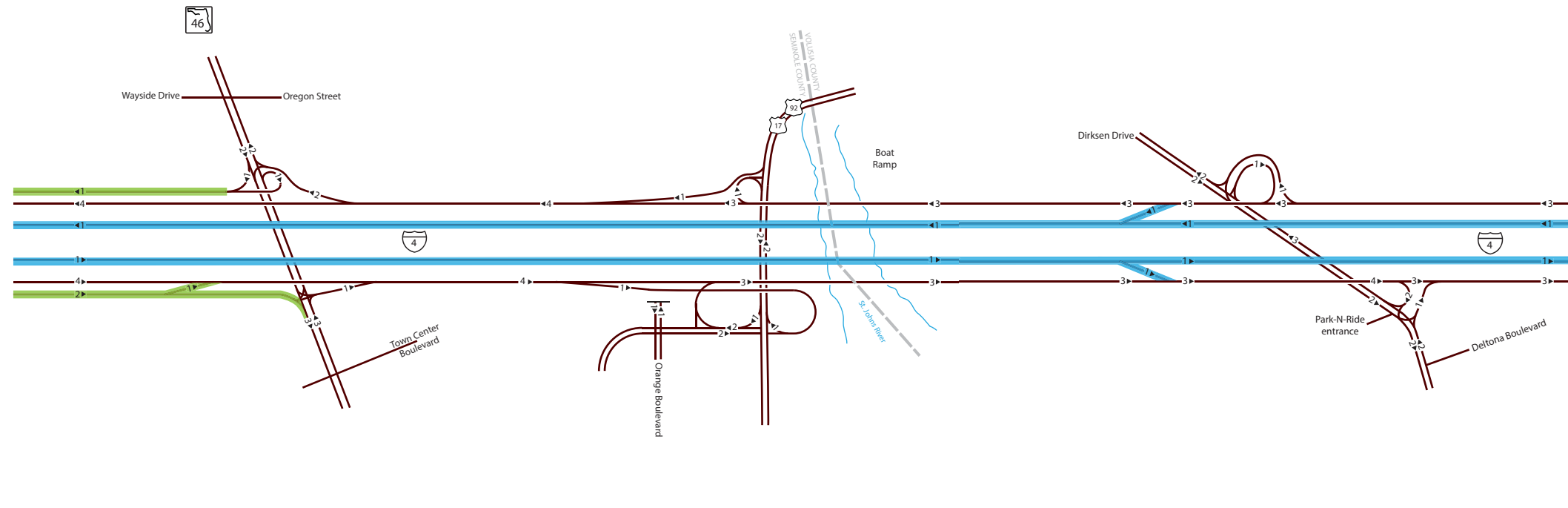
Express Lanes  
C-D System

Date: 8.26.2016



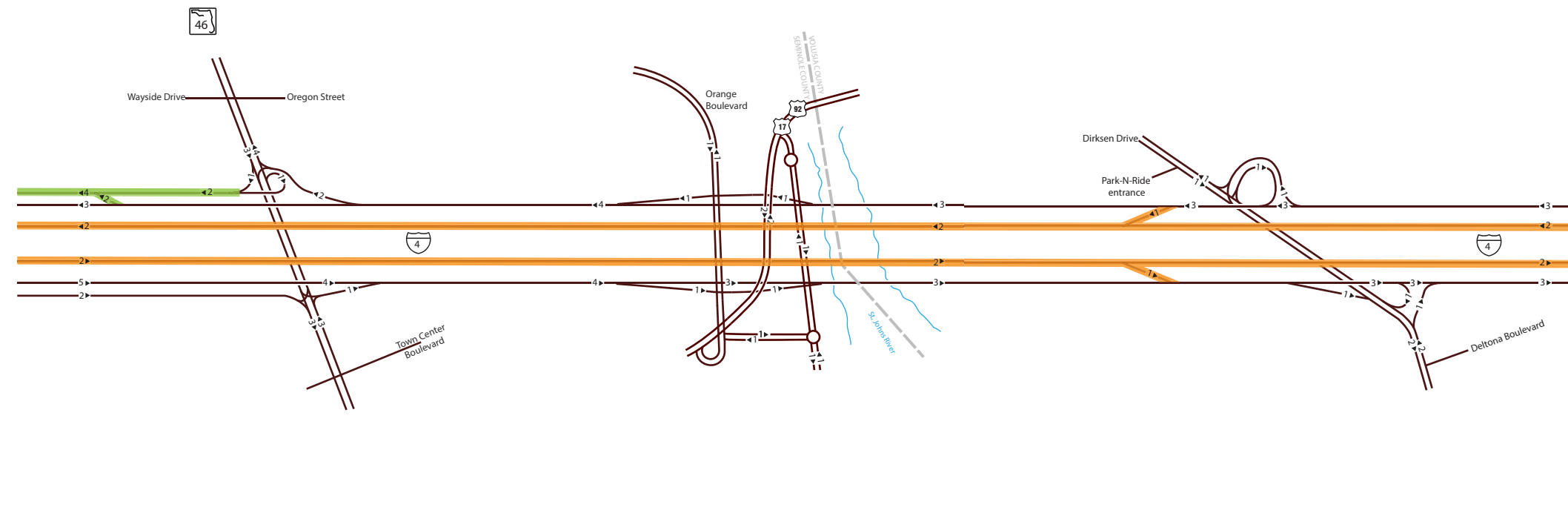
# I-4 SAMR Re-Evaluation

Figure 5 (1 of 3) - Original and Modified Build Transportation Networks (North Section)



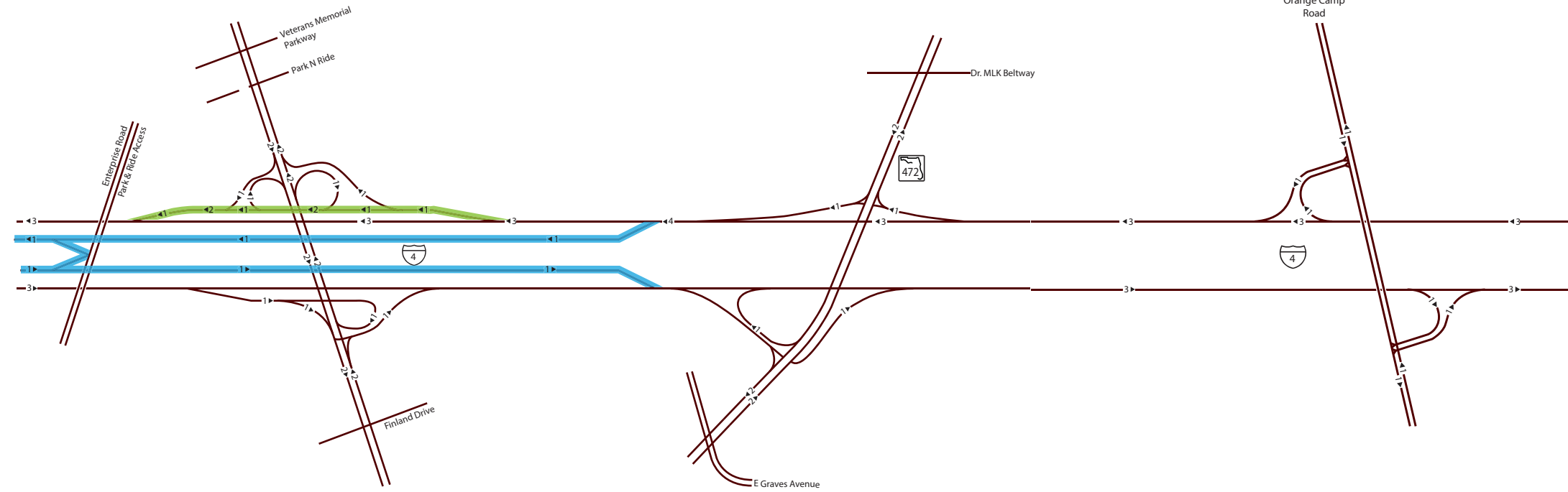
US 17-92 interchange modified to full access diamond interchange

Dirksen Drive interchange modified to add an Eastbound-to-Eastbound ramp.



ORIGINAL BUILD

NOT TO SCALE



— HOV Lanes  
— C-D System

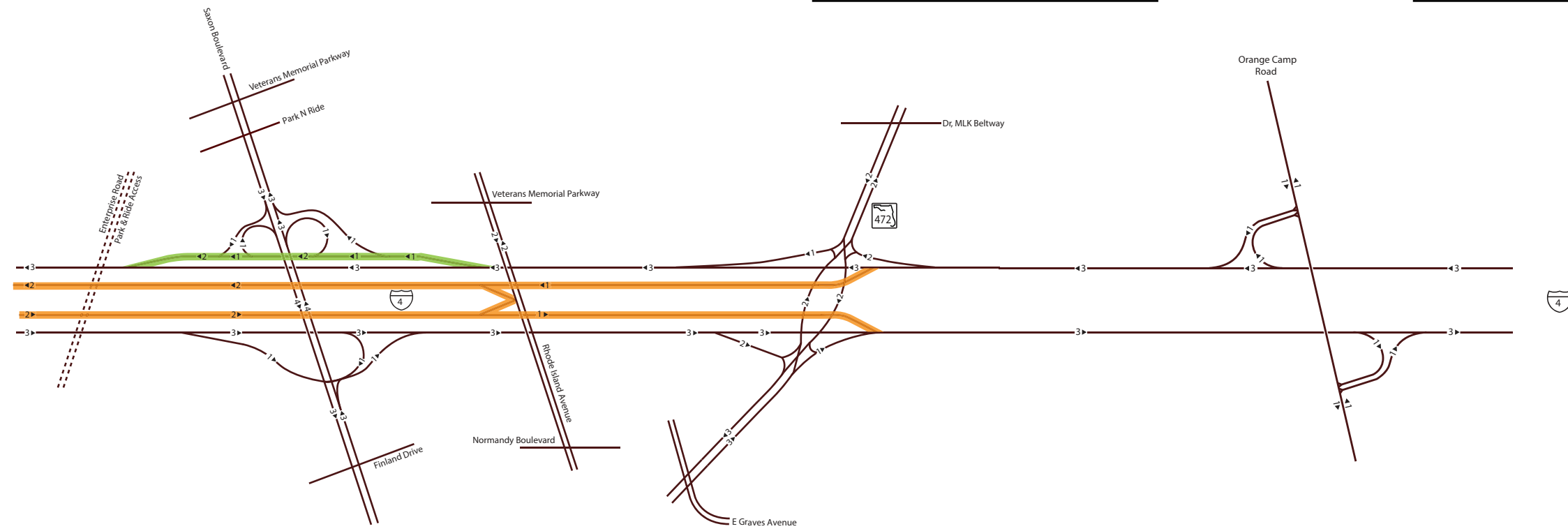
HOV access at Enterprise Rd replaced with Express Lane access to Rhode Island Ave

Saxon Blvd widened to six lanes through the interchange area

SR 472 interchange modified to Diverging Diamond interchange, with Express Lane access relocated east of SR 472

Orange Camp Rd ramp intersections were signalized in the modified build

MODIFIED BUILD



— Express Lanes  
— C-D System

Date: 8.26.2016



# I-4 SAMR Re-Evaluation

Figure 5 (3 of 3) - Original and Modified Build Transportation Networks (North Section)



This reevaluation also addresses the operational impacts of converting the HOV lanes to tolled express lanes. The express lanes will be separated from the general use travel lanes by two shoulders with a barrier wall between the shoulders. A variable pricing tolling plan is proposed for the express lanes. The tolls will vary by time of day and day of week to maintain acceptable levels of service in the express lanes.

The tolls will be collected electronically through existing E-Pass, SunPass and other systems currently in place in the Orlando metropolitan area. The conversion to express lanes will maintain the same right of way limits as documented previously and will not change the impacts to the social, natural or physical environment.

The I-4 SAMR Re-Evaluation Study documents the travel demand modeling, traffic forecasting, and operational analysis for all five I-4 BtU PD&E segments. This report documents the findings of the North Section analysis. The findings of the South Section analysis are documented in a separate report.

### **1.3. Request for Approval and Commitments**

Approval of the I-4 SAMR Re-evaluation Study (all segments) is needed before requesting final approval of the environmental studies through the I-4 widening project. An approved Interchange Access Request document (for this project the North and South SAMR) is needed to obtain the Record of Decision to meet the National Environmental Policy Act (NEPA) requirements for Segments 2, 3, and 4 as those segments are part of the same EIS. Approval of the SAMR reevaluation for Segments 5 and 1 is needed to obtain acceptance for the EA re-evaluation study that includes Segments 5 and 1.

With this submittal, the FDOT is seeking approval of the I-4 SAMR Re-evaluation Study (all segments) to support the NEPA studies and is seeking approval of the Daryl Carter Parkway interim interchange improvement to support construction of the interim interchange alternative that is currently programmed.

The FDOT has committed to re-evaluating the traffic impacts of each segment during the design phase. This will allow for updates to be made to key tools such as the regional travel demand model, the use of state-of-the-art analysis procedures, and the collection and analysis of current traffic conditions. The FDOT is also committed to continuing to work with FHWA in defining a methodology and following an agreed to review process for future re-evaluation studies. The FDOT has made the following commitments to support future re-evaluations:

- The regional macroscopic travel demand model, referred to as the Central Florida Regional Planning Model (CFRPM) version 6.1, has been updated to include time of day capabilities, include all of Polk County, and update land use and network data;
- An updated version of the CFRPM, referred to as version 6.2, which includes an update to a 2015 base year and a 2045 horizon year including an emphasis on theme park and attractions data and expanded validation metrics. This work is on-going;
- The use of a mesoscopic dynamic traffic assignment model (VISUM SBA) to evaluate route choice decisions. This work is on-going; and
- The use of a microscopic model (VISSIM) to evaluate express lanes operations and overall traffic operations.