MEMORANDUM

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From: Thuha Nguyen Lyew, PE and Chriss Ruiz, EIT

Subject: SR 7 Extension Alternative Corridor Evaluation Traffic Assessment

The Florida Department of Transportation (FDOT) has requested a traffic analysis to be performed as part of the exploration of other north-south corridors as an alternate to the current alignment in the SR 7 Corridor Extension Project Development and Environmental (PD&E) Study.

The purpose of this memorandum is to document the traffic volume projections and associated intersection lane geometry, needed to maintain an acceptable level-of-service of D, related to the evaluation of alternate corridors to the current SR 7 Extension corridor.

CORRIDOR DESCRIPTIONS

Currently, SR 7 between 50th Street and 60th Street is in the final stages of construction as a two-lane divided roadway. The recommendation from the PD&E Study is to extend SR 7 from Okeechobee Boulevard to Northlake Boulevard as a four-lane cross-section, as documented in the adopted Palm Beach MPO's 2035 Long Range Transportation Plan (LRTP). This project includes the widening of the existing two-lane segments between Okeechobee Boulevard and 60th Street as well as Ibis Golf Club and Northlake Boulevard. The alignment is depicted in red in Figure 1.

As part of this evaluation, two alternative corridors were considered, as described below:

- 130th Avenue Corridor: 130th Avenue as a four-lane roadway between 60th Street and Northlake Boulevard connected to SR 7 via 60th Street also as four-lane roadway. Currently, 130th Avenue is not directly connected to Northlake Boulevard. This alignment is depicted in blue in Figure 1.
- 140th Avenue Corridor: 140th Avenue as a four-lane roadway between 60th Street and Northlake Boulevard connected to SR 7 via 60th Street also as four-lane roadway. This alignment is depicted in purple in Figure 1.
DAILY TRAFFIC PROJECTIONS AND DIVERSIONS

The 2035 Southeast Regional Planning Model (SERPM 6.5), consistent with the PD&E study, was used to estimate the daily traffic demand for each of the corridor alternatives. This travel demand model takes into account the growth in population and employment, cost-feasible roadway improvements, available roadway capacity and other factors, to estimate the vehicles assignment on the roadway network. To estimate the 2040 design year projection, the same areawide growth rate (per PD&E study) is applied.

By the year 2040, it is estimated that 21,600 vehicles per day would travel on the SR 7 extension (for the alignment proposed in the PD&E study) south of Northlake Boulevard. If the extension was relocated to 130th Avenue or 140th Avenue, approximately 15,500 and 15,400 vehicles would be expected to travel on the four-lane 130th Avenue or 140th Avenue, respectively. Figure 2 illustrates the anticipated daily volumes along relevant links for the corridors evaluated. The model indicates that the remaining number of vehicles that wish to travel north-south between Okeechobee Boulevard and Northlake Boulevard would be diverted to other north-south roadways; including Seminole Pratt Whitney Road, Jog Road, the Florida’s Turnpike, Haverhill Road, Military Trail, and as far east as Interstate 95.

Another noteworthy finding is regarding the trips’ origins and destinations. The currently-proposed alignment of SR 7 extension appears to serve more regional trips, particularly in a southwest to northeast orientation. On the other hand, both alternative 130th Avenue and 140th Avenue corridors appear to serve more local trips, particularly from the southeast to northwest orientation.

TURNING MOVEMENT PROJECTIONS

To gain a better understanding of the roadway configurations needed under the 130th Avenue and 140th Avenue corridor alternatives, turning movement volume projections were estimated. The daily volumes were converted into an equivalent peak hour directional volumes.

For the 130th Avenue corridor alternative, the two intersections of interest are 60th Street and Northlake Boulevard. Similarly, for the 140th Avenue corridor alternatives, the two intersections of interest are 60th Street and Northlake Boulevard. As expected, the major movements are between the north leg of 130th Avenue or 140th Avenue and the east leg of 60th Street.

ANTICIPATED INTERSECTION CONFIGURATIONS

The intersection configurations shown in Figure 3 and 4 are found to adequately accommodate the anticipated future traffic volumes during the peak hour conditions at the intersections described above.
Figure 1: Corridors Evaluated
Figure 2: 2040 Daily Volume Projections
Figure 3: 130th Avenue Corridor Intersection Configurations
Figure 4: 140th Avenue Corridor Intersection Configurations