INTERCHANGE OPERATIONAL ANALYSIS REPORT (IOAR)



Modified Interchanges, FDOT Procedure No. 525-030-120: Project Traffic Forecasting, Interchange Access Request User's Guide (IARUG), and the FDOT Project Traffic Forecasting Handbook.

1.2 Purpose and Need for Project

The main purpose of this IOAR is to document the safety, operational and engineering acceptability of signalizing the I-10 EB and WB ramp terminal intersections at Ward Basin Road. In this report, both ramp terminal intersections will be analyzed to evaluate the traffic operations at the I-10/Ward Basin Road interchange.

As part of this study, the I-10 EB and WB ramp terminal intersections were studied for operational and safety improvements. The results from the existing operational analysis at the ramp terminal intersections revealed no operational deficiencies at either of the ramp terminal intersections. However, as traffic increases within the vicinity of the interchange, operational deficiencies are expected at the minor movements of the ramp terminal intersections. If no improvement is made by 2045, the future analysis results revealed that the left turn traffic at the I-10 WB ramp terminal intersection will operate at level of service (LOS) F in the PM peak hour. Signalizing the ramp terminal intersections will meter the EB and WB traffic volumes, mitigate the simultaneous release of traffic volume onto Ward Basin Road, and create a platooning effect through the ramp terminals signal controls.

The need for this project derives from the PTAR. As part of this study, the existing and future traffic volumes along Ward Basin Road were studied and utilized in the analysis of existing and future traffic conditions. Recent traffic projections completed in the region identified increased traffic congestion and potential deficiencies in the vicinity of the interchange. Currently, the daily traffic volumes on Ward Basin Road range between 3,800 and 4,300 vehicles per day, with 7.9 percent daily truck traffic in the vicinity of the interchange. By the year 2045, the daily traffic volume is expected to increase to a range between 4,900 to 5,600 vehicles per day. With this increase in traffic along Ward Basin Road, the operating conditions at the intersections are expected to deteriorate.

INTERCHANGE OPERATIONAL ANALYSIS REPORT (IOAR)



A review of the crash data provided in **Section 3.8** shows a total of 4 crashes for the five-year period (2013-2017), of which 3 were injury crashes. No fatal crashes occurred during the five-year period. The crash rate at the I-10 WB ramp terminal intersection is 0.401 crashes per million entering vehicles, which is higher than the average statewide crash rate for similar facilities. Analysis of the crashes revealed the following notable characteristics:

- Rollover type crashes were the predominant crash type (3 crashes), followed by sideswipe crash types (1 crash).
- Rollover crashes were concentrated at the I-10 WB ramp terminal intersection.
- High speed vehicles along the curved ramp is a contributing factor of rollover crashes at I-10 WB on-ramp.

1.3 Project Location

The I-10 at Ward Basin Road interchange is located in Santa Rosa County at Milepost 11.86, Section number 58002000. The nearest interchanges along I-10 are the Garcon Point Road interchange located 2.47 miles to the west and the S.R. 87 interchange located 2.86 miles to the east. The project location and the study area are shown in **Figure 1-1**.