

8.7 Safety

The accident data evaluated in **Section 3.3.3** showed that the crash rates along I-95 and 45th Street within the area of influence are lower than the statewide averages. The predominant crash type along I-95 in Palm Beach County is rear end crashes accounting for 37.5% of the crashes. The predominant crash type along 45th Street in Palm Beach County is rear end crashes accounting for 48.3% of the crashes. From a safety perspective, the recommendations of this study will not have a negative impact and will actually help in reducing the crashes. The dominant crash types are representative of urban congested conditions along arterials and intersections. The DDI and adjacent intersection improvements proposed along 45th Street will provide better signal operations reducing congestion and queue lengths, thereby improving safety. According to the FHWA Diverging Diamond Interchange Informational Guide from August 2014, DDIs not only reduced total number of crashes at the interchange but also left turn crashes and injury crashes.

The Build Alternatives evaluated for this PD&E Study will adequately address the predominant crash types observed within the study area and will reduce them significantly. **Table 8-15** summarized the potential countermeasures identified for the study area crash types in **Section 3.3.3** and identifies the Build Alternatives that address them.

Table 8-15: Potential Countermeasures Addressed by Build Alternatives

Crash Type	Potential Countermeasures	Build Alternatives
Rear End	Improve signal visibility (e.g. replace signal bulbs, install advanced warning signs/flashers, etc.)	This should be incorporated into the recommended alternative during the design stage
	Improve roadway surface	This should be incorporated into the recommended alternative during the design stage
	Modify signal timing patterns (e.g. phasing, all red and clearance interval timings, etc.)	All Build Alternatives
Angle	Improve signal visibility (e.g. replace signal bulbs, install advanced warning signs/flashers, etc.)	This should be incorporated into the recommended alternative during the design stage
	Increase capacity and enhance intersection operations	All Build Alternatives
Sideswipe	Improve lane alignment and markings	All Build Alternatives
	Increase capacity and enhance intersection operations	All Build Alternatives

8.8 Alternatives Comparison

The No-Build Alternative and the Build Alternatives were compared and a summary is provided in the sections below.

8.7.1 Planning and Environmental Comparison

This section provides a comparison of planning and environmental impacts associated with the No-Build, TSM&O and Build Alternatives. The modified interchange will provide better and safer traffic operations leading to better roadway connectivity.

The Build Alternatives are in conformance with the Palm Beach County MPO. The No-Build Alternative is not in conformance with these plans.

The No-Build Alternative will have no environmental impacts and the TSM&O will have few impacts. Special considerations were taken in developing and evaluating the Build Alternatives to avoid and minimize the environmental impacts associated with this project to the greatest extent possible.