

INTERCHANGE OPERATIONAL ANALYSIS REPORT (IOAR)

EASTBOUND NW 138 STREET TO SOUTHBOUND I-75 ON-RAMP

TABLE 5-3: OPENING YEAR (2023) AND DESIGN YEAR (2043) BUILD LEVEL-OF-SERVICE (ACCELERATION LANE MERGE)

Eastbound NW 138 Street to Southbound I-75 On-ramp			
AM		PM	
Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Opening Year (2023)			
11.4	B	13.2	B
Design Year (2043)			
18.3	B	21.1	C

Note: "Freeway" (NW 138 Street EB) Free-flow Speed (FFS) assumed minimum allowable FFS of 45 for C-D roadways.

5.3 BUILD ALTERNATIVE SAFETY ANALYSIS

The change in safety conditions as a result of replacing the yield condition with an acceleration lane was analyzed following the guidance provided in FDOT's Interchange Access Request User's Guide (IARUG). These improvements are mostly targeted at reducing the number of rear-end crashes at the channelized northbound right-turn that is currently controlled by a YIELD sign at the intersection of Hialeah Gardens Boulevard and the Eastbound NW 138 Street On-ramp.

The first step in the evaluation involved estimating the potential crash reduction anticipated by the proposed improvement. The analysis details are documented using FDOT's Safety Office Annual Benefit Cost Analysis worksheet in Appendix D of the 3R Safety Review included in **Appendix 2**, while Table 5-4 provides a summary of the results. The Crash Reduction Factor (CRF) and baseline crash data used in the predictive safety analysis were obtained from the FHWA's Desktop Reference dated September 2008 and FDOT's CARS database, respectively.

TABLE 5-4: ESTIMATED CRASH REDUCTION

Proposed Improvements		CRF	Source	Targeted Crash Type	Number of Crashes Targeted	Reduction in Number of Crashes	Total Reduction in Crashes
1	Improve Gore Area	25%	FHWA Page 60	Rear-end	12	3	3
2	Improve Horizontal and Vertical Alignment	50%			20	10	10
Total Crash Reduction in 5-Years							13
Crash Reduction Per Year							2.6

Source: SR 93/I-75 Ramps at the NW 138 Street Interchange 3R Safety Review (June 2020)

As indicated in the table, the proposed improvements are expected to improve safety conditions, with the potential to reduce crashes on the on-ramp by a rate of 13 crashes in five years, or 2.6 per year.

Furthermore, the proposed improvement at the first gore area replaces the YIELD condition with a MERGE condition downstream of the gore area. As stated in the 3R Safety Review Report, the proposed improvement will be based on Standard Index 000-528, thereby ensuring sufficient distances are provided

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for the transition and merge areas at a design speed of 40 mph. For this reason, it is not anticipated sideswipe crashes will increase provided the improvement is constructed properly.