

6.3. Predictive Safety Analysis

A predictive quantitative safety analysis was performed to determine if the proposed improvements addressed the existing safety concern. The safety analysis performed follows the guidelines developed in the 2018 IARUG for an IOAR.

Table 6-5 shows the existing number of crashes, reduction in crashes and the total number of predicted crashes if the Build Alternative is implemented. Crash modification factors (CMF) that were available were used to help predict the reduction in crashes.

The CMFs for this analysis were determined using the CMF Clearinghouse funded by FHWA. If more than one CMF was used at an intersection, the CMFs were multiplied together to get one CMF for the study intersection. Not every improvement recommended has a CMF that correlates with it. Due to this, quantitative safety analysis can only be performed for specific improvements, described below. A qualitative safety analysis can then be performed for all other recommendations. The three CMFs used to quantify the benefits of the project include:

- Clearinghouse CMF 4203: Increase yellow interval and all red interval = 0.99 (applied to all intersections)
- Clearinghouse CMF 288: Provide right-turn lane on one major-road approach = 0.91 (applied to SR 26 at NW 75th Street intersection)
- Clearinghouse CMF 340: Change from permitted-protected to protected on major approach (applied to SR 26 at Southbound Ramps intersection)

Table 6-5: Reduction in Crashes

Intersection	Existing Crashes	CMF 1	CMF 2	CMF	Predicted Crashes	Reduction in Crashes
SR 26 at NW 75th Street	114	0.99	0.91	0.90	103	11
SR 26 at Southbound Ramps	106	0.99	0.58	0.57	61	45
SR 26 at Northbound Off-Ramp	125	0.99	-	0.99	124	1
SR 26 at Northbound On-Ramp	23	0.99	-	0.99	23	0
SR 26 at NW 69th Terrace	114	0.99	-	0.99	113	1
Total	482	-	-	-	423	59

By implementing the proposed modifications, a total expected crash reduction of 59 crashes a year is expected.

In addition, some of the proposed improvements cannot be analyzed as part of a quantitative safety analysis, but based on the safety analysis performed and the reduction in delay and queues safety should improve with all the recommended improvements.