



## CMF / CRF Details

**CMF ID: 5506**

**Decrease paved outside shoulder width from 10ft to 8ft**

**Description: Decrease paved outside shoulder width from 10ft to 8ft**

**Prior Condition: 10 ft paved outside shoulder width**

**Category: Shoulder treatments**

**Study: [Using multivariate adaptive regression splines \(MARS\) to develop crash modification factors for urban freeway interchange influence areas, Haleem et al., 2013](#)**

**Star Quality Rating:**



[\[View score details\]](#)

### Crash Modification Factor (CMF)

**Value:** 1.081

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.131

### Crash Reduction Factor (CRF)

**Value:** -8.1 (This value indicates an **increase** in crashes)

**Adjusted Standard Error:**

|                                   |      |
|-----------------------------------|------|
| <b>Unadjusted Standard Error:</b> | 13.1 |
|-----------------------------------|------|

### Applicability

|                            |   |
|----------------------------|---|
| <b>Crash Type:</b>         | All   |
| <b>Crash Severity:</b>     | All   |
| <b>Roadway Types:</b>      | Principal Arterial Other Freeways and Expressways         |
| <b>Number of Lanes:</b>    | 4 to 6+   |
| <b>Road Division Type:</b> | Divided by Median   |
| <b>Speed Limit:</b>        |   |
| <b>Area Type:</b>          | Urban   |
| <b>Traffic Volume:</b>     | 5700 to 309000 <i>Annual Average Daily Traffic (AADT)</i> |
| <b>Time of Day:</b>        | All   |

### *If countermeasure is intersection-based*

|                                   |  |
|-----------------------------------|--|
| <b>Intersection Type:</b>         |  |
| <b>Intersection Geometry:</b>     |  |
| <b>Traffic Control:</b>           |  |
| <b>Major Road Traffic Volume:</b> |  |
| <b>Minor Road Traffic Volume:</b> |  |

### Development Details

|                                 |              |
|---------------------------------|--------------|
| <b>Date Range of Data Used:</b> | 2007 to 2010 |
| <b>Municipality:</b>            |              |
| <b>State:</b>                   | FL           |

|                                  |               |
|----------------------------------|---------------|
| <b>Country:</b>                  | USA           |
| <b>Type of Methodology Used:</b> | 7             |
| <b>Sample Size Used:</b>         | 40008 Crashes |

| <b>Other Details</b>                      |   |
|---|---|
| <b>Included in Highway Safety Manual?</b> | No                                      |
| <b>Date Added to Clearinghouse:</b>       | Apr-30-2014                             |
| <b>Comments:</b>                          | CMF for urban freeway interchange areas |

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