



CMF / CRF Details

CMF ID: 4226

Decrease inside paved shoulder width from 4ft to 2ft (outside paved shoulder width = 10ft)

Description: Interchange influence area on urban four-lane freeway with a 2-ft inside paved shoulder and a 10-ft outside paved shoulder with warning device.

Prior Condition: 4-ft paved inside shoulder and 10-ft paved outside shoulder within interchange influence area

Category: Shoulder treatments

Study: [Developing Crash Modification Factors for Interchange Influence Areas on Urban Four-Lane Freeways Using Multivariate Adaptive Regression Splines, Haleem, Gan, and Lu, 2012](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.668

Adjusted Standard Error:

Unadjusted Standard Error: 0.1

Crash Reduction Factor (CRF)

| | |
|-----------------------------------|--|
| Value: | 33.2 (This value indicates a decrease in crashes) |
| Adjusted Standard Error: | |
| Unadjusted Standard Error: | 10 |

Applicability

| | |
|----------------------------|---|
| Crash Type: | All |
| Crash Severity: | All |
| Roadway Types: | Principal Arterial Other Freeways and Expressways |
| Number of Lanes: | 4 |
| Road Division Type: | Divided by Median |
| Speed Limit: | |
| Area Type: | Urban |
| Traffic Volume: | |
| Time of Day: | Not specified |

If countermeasure is intersection-based

| | |
|-----------------------------------|--|
| Intersection Type: | |
| Intersection Geometry: | |
| Traffic Control: | |
| Major Road Traffic Volume: | |
| Minor Road Traffic Volume: | |

Development Details

| | |
|---------------------------------|--------------|
| Date Range of Data Used: | 2005 to 2008 |
|---------------------------------|--------------|

| | |
|----------------------------------|---------------|
| Municipality: | |
| State: | FL |
| Country: | United States |
| Type of Methodology Used: | 7 |
| Sample Size Used: | 12078 Crashes |

| Other Details | |
|---|---|
| Included in Highway Safety Manual? | No |
| Date Added to Clearinghouse: | Nov-01-2012 |
| Comments: | Applies only to interchange influence areas. Countermeasure name changed in Jan 2014 to be more consistent with other CMFs from same study. |

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