



CMF / CRF Details

CMF ID: 4240

Decrease inside paved shoulder width from 4ft to 2ft

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

Prior Condition: 4-ft paved inside shoulder and 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:	
3 Stars	[View score details]

Crash Modification Factor (CMF)	
Value:	0.728
Adjusted Standard Error:	
Unadjusted Standard Error:	0.1

Crash Reduction Factor (CRF)	
Value:	27.2 (This value indicates a decrease in crashes)
Adjusted Standard Error:	

Unadjusted Standard Error:

10

Applicability

Crash Type:

All

Crash Severity:

K (fatal),A (serious injury),B (minor injury),C (possible injury)

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:	6151 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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