



CMF / CRF Details

CMF ID: 4245

Increase inside paved shoulder width from 4ft to 11ft

Description: Interchange influence area on urban four-lane freeway with a 11-ft inside paved shoulder and a paved outside 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:



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

Crash Modification Factor (CMF)

Value: 1.173

Adjusted Standard Error:

Unadjusted Standard Error:

0.1

Crash Reduction Factor (CRF)

Value: -17.3 (This value indicates an **increase** 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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