



CMF / CRF Details

CMF ID: 8991

Provide 2-ft paved shoulders (both sides)

Description: Provide 2-ft paved shoulders on both sides of 2-lane rural roads

Prior Condition: *No Prior Condition(s)*

Category: Shoulder treatments

Study: [Estimating Crash Modification Factors Using Cross-Sectional and Case-Control Methods for Rumble Strips and Paved Shoulders, Galgamuwa and Dissanayake, 2017](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.93

Adjusted Standard Error:

Unadjusted Standard Error: 0.038

Crash Reduction Factor (CRF)

Value: 7 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:	3.8
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Applicability

Crash Type:	Head on,Run off road,Sideswipe
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Not specified
Number of Lanes:	2
Road Division Type:	Undivided
Speed Limit:	
Area Type:	Rural
Traffic Volume:	50 to 8550 <i>Annual Average Daily Traffic (AADT)</i>
Time of Day:	All

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:	2009 to 2014
Municipality:	
State:	KS

Country:	USA
Type of Methodology Used:	7
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-17-2017
Comments:	Horizontal curve segments; Lane departure crashes

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