



CMF / CRF Details

CMF ID: 3526

Install shoulder rumble strips

Description:

Prior Condition: *No Prior Condition(s)*

Category: Shoulder treatments

Study: [*NCHRP Report 641: Guidance for the Design and Application of Shoulder and Centerline Rumble Strips, Torbic et al., 2009*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.86

Adjusted Standard Error:

Unadjusted Standard Error: 0.1156

Crash Reduction Factor (CRF)

Value: 14 (*This value indicates a **decrease** in crashes*)

Adjusted Standard Error:

Unadjusted Standard Error:	11.56
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Applicability	
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Crash Type:	All
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:	180 to 12776 <i>Average Daily Traffic (ADT)</i>
Time of Day:	All

<i>If countermeasure is intersection-based</i>	
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Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
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Date Range of Data Used:	1997 to 2006
Municipality:	
State:	MN, MO, PA

Country:	U.S.A.
Type of Methodology Used:	7
Sample Size Used:	Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Mar-21-2011
Comments:	The authors collected data on thru lanes and speed limits but did not provide those data in the report (see p. 50).

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