



CMF / CRF Details

CMF ID: 3420

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: 1.4

Adjusted Standard Error:

Unadjusted Standard Error: 0.18

Crash Reduction Factor (CRF)

Value: -40 (This value indicates an **increase** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:	18
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Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	2
Road Division Type:	Undivided
Speed Limit:	
Area Type:	Rural
Traffic Volume:	861 to 6205 <i>Average Daily Traffic (ADT)</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:	1997 to 2006
Municipality:	
State:	MO

Country:	U.S.A.
Type of Methodology Used:	2
Sample Size Used:	Crashes
Before Sample Size Used:	77 Crashes
After Sample Size Used:	73 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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