



CMF / CRF Details

CMF ID: 3519

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: 0.96

Adjusted Standard Error:

Unadjusted Standard Error: 0.0842

Crash Reduction Factor (CRF)

Value: 4 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 8.42

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:

Road Division Type: Divided by Median

Speed Limit:

Area Type: Rural

Traffic Volume: 6777 to 37112 *Average Daily Traffic (ADT)*

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, 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).

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

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