



CMF / CRF Details

CMF ID: 3515

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:

3 Stars

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

Crash Modification Factor (CMF)

Value: 1.18

Adjusted Standard Error:

Unadjusted Standard Error: 0.1028

Crash Reduction Factor (CRF)

Value: -18 (This value indicates an **increase** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 10.28

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:

180 to 10386 *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 2005

Municipality:

State:

MN

Country:

U.S.A.

Type of Methodology Used:

7

Sample Size Used:	Crashes
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Other Details

Included in Highway Safety Manual?	No
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Date Added to Clearinghouse:	Mar-21-2011
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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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