



CMF / CRF Details

CMF ID: 5265

Install centerline and shoulder rumble strips

Description: Milled or rolled rumble strips.

Prior Condition: No centerline or rumble strips present

Category: Roadway

Study: [Rumble Strips in North Dakota: A Comparison of Road Segments, Safety, and Crash Patterns, A. Kubas, P. Kayabas, K. Vachal, and M. Berwick, 2013](#)

Star Quality Rating:	
<input type="text" value="✘ Star"/>	[View score details]

Crash Modification Factor (CMF)	
Value:	0.95
Adjusted Standard Error:	
Unadjusted Standard Error:	0.108

Crash Reduction Factor (CRF)	
Value:	5 (This value indicates a decrease in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	10.8

Applicability

Crash Type:

All

Crash Severity:

0 (property damage only)

Roadway Types:

Not specified

Number of Lanes:

2

Road Division Type:

Undivided

Speed Limit:

Area Type:

Rural

Traffic Volume:

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:

2007 to 2011

Municipality:

State:

ND

Country:

Type of Methodology Used:

3

Sample Size Used:	Crashes
Before Sample Size Used:	159 Crashes
After Sample Size Used:	183 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-02-2013
Comments:	Traffic volume was reported in VMT. VMT before was 86,522,040 vehicle-miles and 104,286,686 after.

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