



## CMF / CRF Details

**CMF ID: 3409**

**Install edgeline rumble strips on roadways with a shoulder width of 5 feet or greater**

**Description:**

**Prior Condition: Roadway with no rumble strips and a shoulder width less than 5 feet**

**Category: Roadway**

**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:** 1.11

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.5314

### Crash Reduction Factor (CRF)

**Value:** -11 (This value indicates an **increase** in crashes)

<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	53.14

<b>Applicability</b>	
<b>Crash Type:</b>	Run off road
<b>Crash Severity:</b>	K (fatal),A (serious injury),B (minor injury),C (possible injury)
<b>Roadway Types:</b>	Not Specified
<b>Number of Lanes:</b>	2
<b>Road Division Type:</b>	Undivided
<b>Speed Limit:</b>	
<b>Area Type:</b>	Rural
<b>Traffic Volume:</b>	180 to 10386 <i>Average Daily Traffic (ADT)</i>
<b>Time of Day:</b>	All

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

<b>Development Details</b>	
<b>Date Range of Data Used:</b>	1997 to 2005
<b>Municipality:</b>	

<b>State:</b>	MN
<b>Country:</b>	U.S.A.
<b>Type of Methodology Used:</b>	7
<b>Sample Size Used:</b>	Crashes

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Mar-21-2011
<b>Comments:</b>	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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