



## CMF / CRF Details

**CMF ID: 3403**

**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 of 5 feet or greater**

**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:** 0.75

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.1569

### Crash Reduction Factor (CRF)

**Value:** 25 (This value indicates a **decrease** in crashes)

<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	15.69

### Applicability

<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>	Principal Arterial Other Freeways and Expressways
<b>Number of Lanes:</b>	
<b>Road Division Type:</b>	Divided by Median
<b>Speed Limit:</b>	
<b>Area Type:</b>	Rural
<b>Traffic Volume:</b>	11539 to 37112 <i>Average Daily Traffic (ADT)</i>
<b>Time of Day:</b>	All

### *If countermeasure is intersection-based*

<b>Intersection Type:</b>	
<b>Intersection Geometry:</b>	
<b>Traffic Control:</b>	
<b>Major Road Traffic Volume:</b>	
<b>Minor Road Traffic Volume:</b>	

### Development Details

<b>Date Range of Data Used:</b>	1997 to 2006
<b>Municipality:</b>	

<b>State:</b>	MO
<b>Country:</b>	U.S.A.
<b>Type of Methodology Used:</b>	Regression cross-section
<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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