



# CMF / CRF Details

CMF ID: 3401

**Install edgeline rumble strips on roadways with a shoulder width less than 5 feet**

**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](#)**

<b>Star Quality Rating:</b>	
<input type="text" value="8 Stars"/>	<a href="#">[View score details]</a>

<b>Crash Modification Factor (CMF)</b>	
<b>Value:</b>	0.53
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	0.2339

<b>Crash Reduction Factor (CRF)</b>	
<b>Value:</b>	47 (This value indicates a <b>decrease</b> in crashes)
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	23.39

## Applicability

**Crash Type:** Run off road

**Crash Severity:** K (fatal),A (serious injury),B (minor injury),C (possible injury)

**Roadway Types:** Not Specified

**Number of Lanes:** 2

**Road Division Type:** Undivided

**Speed Limit:**

**Area Type:** Rural

**Traffic Volume:** 180 to 12776 *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:** MN, MO, PA

**Country:** 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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