



## CMF / CRF Details

**CMF ID: 8989**

**Provide 2-ft paved shoulders (both sides)**

**Description: Provide 2-ft paved shoulders on both sides of 2-lane rural roads**

**Prior Condition: *No Prior Condition(s)***

**Category: Shoulder treatments**

**Study: [Estimating Crash Modification Factors Using Cross-Sectional and Case-Control Methods for Rumble Strips and Paved Shoulders, Galgamuwa and Dissanayake, 2017](#)**

**Star Quality Rating:**



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

### Crash Modification Factor (CMF)

**Value:** 0.94

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.021

### Crash Reduction Factor (CRF)

**Value:** 6 (This value indicates a **decrease** in crashes)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

2.1

### Applicability

**Crash Type:**

Head on,Run off road,Sideswipe

**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:**

30 to 15900 *Annual Average Daily Traffic (AADT)*

**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:**

2009 to 2014

**Municipality:**

**State:**

KS

<b>Country:</b>	USA
<b>Type of Methodology Used:</b>	7
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Nov-17-2017
<b>Comments:</b>	Tangent segments; Lane departure crashes

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