



# CMF / CRF Details

CMF ID: 2995

Increase roadway width (lanes and shoulders in meters)

Description: Increase the roadway width (i.e., lanes plus shoulders) in meters

Prior Condition: rural two-lane road with mountainous terrain with a roadway width of X (meters)

Category: Roadway

Study: [Safety Performance Functions for Low-Volume Roads, Acqua and Russo, 2010](#)

Star Quality Rating:

8 Stars

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

## Crash Modification Factor (CMF)

Value:

$$e^{-7.150(Y-X)}$$

Adjusted Standard Error:

Unadjusted Standard Error:

## Crash Reduction Factor (CRF)

Value:

$$100 * (1 - e^{-7.150(Y-X)})$$

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Applicability

**Crash Type:**

All

**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:**

35mph

**Area Type:**

Rural

**Traffic Volume:**

1000 *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:**

2003 to 2005

**Municipality:**

<b>State:</b>	
<b>Country:</b>	Italy
<b>Type of Methodology Used:</b>	7
<b>Sample Size Used:</b>	49 Crashes

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Jul-15-2011
<b>Comments:</b>	

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