



CMF / CRF Details

CMF ID: 5413

Convert lane width from 12 ft to 11 ft, with a total shoulder of X ft

Description: The cmf is for a combination of lane width and shoulder width. The total shoulder width includes paved and unpaved shoulder width and X is in ft

Prior Condition: 12 ft lane width with 6 ft shoulder width

Category: Roadway

Study: [Safety Effects of Cross Section Design on Urban and Suburban Roads, Le and Porter, 2012](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value:

$$CMF = 1.142 * e^{-0.0335 * totshld}$$

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value:

$$CRF = 100 * \left(1 - \left(1.142 * e^{-0.0335 * totshld} \right) \right)$$

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:

Road Division Type:

All

Speed Limit:

Area Type:

Urban and suburban

Traffic Volume:

1183 to 47067 *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:	2007 to 2009
Municipality:	
State:	IL
Country:	USA
Type of Methodology Used:	7
Sample Size Used:	2004 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jan-09-2014
Comments:	The function includes an interaction between lane width and shoulder width

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