



CMF / CRF Details

CMF ID: 5213

Modify paved shoulder width on rural frontage roads

Description: The average paved shoulder width represents the sum of the left and right paved shoulder widths divided by two.

Prior Condition: *No Prior Condition(s)*

Category: Shoulder treatments

Study: [Highway Safety Manual, 1st Edition, Various, 2010](#)

Star Quality Rating:

Crash Modification Factor (CMF)

Value:

$$CMF = e^{-0.070(SW_{new} - SW_{existing})}$$

Where:

SW_{new} = new (or proposed) average paved shoulder width in feet

$SW_{existing}$ = existing average paved shoulder width in feet

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value:

(This value indicates an **increase** in crashes)

Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
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Crash Type:	All
Crash Severity:	All
Roadway Types:	Minor Collector
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Rural
Traffic Volume:	100 to 6200 <i>Annual Average Daily Traffic (AADT)</i>
Time of Day:	

<i>If countermeasure is intersection-based</i>	
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Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
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Date Range of Data Used:	
Municipality:	

State:	
Country:	
Type of Methodology Used:	
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	
Date Added to Clearinghouse:	
Comments:	Both one-way and two-way frontage roads were considered in the development of the CMF. Development of this CMF was limited to shoulder widths ranging from 0 to 9 ft.

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

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