



CMF / CRF Details

CMF ID: 7754

Widen shoulder

Description:

Prior Condition: Roadways with narrow shoulders

Category: Shoulder treatments

Study: [*Validation and Application of Highway Safety Manual \(Part D\) in Florida, Abdel-Aty et al., 2014*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.82

Adjusted Standard Error:

Unadjusted Standard Error: 0.09

Crash Reduction Factor (CRF)

Value: 18 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:

9

Applicability

Crash Type:

All

Crash Severity:

All

Roadway Types:

Not specified

Number of Lanes:

>2

Road Division Type:

All

Speed Limit:

45-70

Area Type:

Rural

Traffic Volume:

2000 to 50000 *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:

2005 to 2010

Municipality:

State:

FL

Country:	USA
Type of Methodology Used:	1
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Mar-08-2016
Comments:	CMFs of widening shoulder width on rural multi-lane highways The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a benefit of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggregate dataset used for CMF development.

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