

CMF / CRF Details

CMF ID: 8714

Widen shoulder

Description:

Prior Condition: Roadway with narrower shoulders

Category: Shoulder treatments

Study: [*Evaluation of Safety Effectiveness of Multiple Cross Sectional Features on Urban Arterials, Park and Abdel-Aty, 2016*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value:

$$CMF = \exp \{-0.0324 \times (SW - Base_{SW})\}$$

Where:

SW = Shoulder Width (feet)

$Base_{SW}$ = Baseline Shoulder Width (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

Crash Type: All

Crash Severity:

Roadway Types: Principal Arterial Other

Number of Lanes: 2-8

Road Division Type: All

Speed Limit: 20-65

Area Type: Urban

Traffic Volume: 1000 to 94500 *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:	2008 to 2012
Municipality:	
State:	FL
Country:	USA
Type of Methodology Used:	7
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-06-2017
Comments:	The CMF is for KA crashes. CMF applies to urban arterials.

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