



CMF / CRF Details

CMF ID: 3505

Install shoulder rumble strips

Description:

Prior Condition: *No Prior Condition(s)*

Category: Shoulder treatments

Study: [NCHRP Report 641: Guidance for the Design and Application of Shoulder and Centerline Rumble Strips, Torbic et al., 2009](#)

Star Quality Rating:

3 Stars

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

Crash Modification Factor (CMF)

Value: 0.63

Adjusted Standard Error:

Unadjusted Standard Error: 0.1579

Crash Reduction Factor (CRF)

Value: 37 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 15.79

Applicability

Crash Type: Run off road

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:

Area Type: Rural

Traffic Volume: 910 to 10177 *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: 1997 to 2006

Municipality:

State: PA

Country: U.S.A.

Type of Methodology Used: 7

Sample Size Used:	Crashes
--------------------------	---------

Other Details

Included in Highway Safety Manual?	No
---	----

Date Added to Clearinghouse:	Mar-21-2011
-------------------------------------	-------------

Comments:	The authors collected data on thru lanes and speed limits but did not provide those data in the report (see p. 50).
------------------	---

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

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.