



# CMF / CRF Details

CMF ID: 10406

Install shoulder rumble strips

Description:

Prior Condition: *No Prior Condition(s)*

Category: Shoulder treatments

Study: [Evaluation of the safety effectiveness of lane departure countermeasures on two-lane undivided roadways using crash modification factors, Dissanayake and Galgamuwa, 2019](#)

Star Quality Rating:

4 Stars

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

## Crash Modification Factor (CMF)

Value: 0.85

Adjusted Standard Error:

Unadjusted Standard Error: 0.036

## Crash Reduction Factor (CRF)

Value: 15 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 3.6

**Applicability**

<b>Crash Type:</b>	Run off road
<b>Crash Severity:</b>	All
<b>Roadway Types:</b>	Not specified
<b>Number of Lanes:</b>	2
<b>Road Division Type:</b>	Undivided
<b>Speed Limit:</b>	
<b>Area Type:</b>	Rural
<b>Traffic Volume:</b>	30 to 15900 <i>Annual Average Daily Traffic (AADT)</i>
<b>Time of Day:</b>	Not specified

***If countermeasure is intersection-based***

<b>Intersection Type:</b>	
<b>Intersection Geometry:</b>	
<b>Traffic Control:</b>	
<b>Major Road Traffic Volume:</b>	
<b>Minor Road Traffic Volume:</b>	

**Development Details**

<b>Date Range of Data Used:</b>	2009 to 2014
<b>Municipality:</b>	
<b>State:</b>	KS
<b>Country:</b>	USA

<b>Type of Methodology Used:</b>	7
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Jun-01-2020
<b>Comments:</b>	CMF for lane departure crashes on tangent road segments

---

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.*