



# CMF / CRF Details

**CMF ID: 5309**

**Install shoulder rumble strips on roads with existing centerline rumble strips**

**Description: Install shoulder rumble strips on roads with existing centerline rumble strips**

**Prior Condition: Existing Centerline Rumble Strips**

**Category: Shoulder treatments**

**Study: [Performance Analysis of Centerline and Shoulder Rumble Strips Installed in Combination in Washington State, D. Olson, M. Sujka, and B. Manchas, 2013](#)**

<b>Star Quality Rating:</b>	
<input type="text" value="✘ Star"/>	<a href="#">[View score details]</a>

<b>Crash Modification Factor (CMF)</b>	
<b>Value:</b>	0
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	

<b>Crash Reduction Factor (CRF)</b>	
<b>Value:</b>	100 <i>(This value indicates a <b>decrease</b> in crashes)</i>
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	

**Applicability**

<b>Crash Type:</b>	Head on,Sideswipe
<b>Crash Severity:</b>	K (fatal),A (serious injury)
<b>Roadway Types:</b>	Not specified
<b>Number of Lanes:</b>	2
<b>Road Division Type:</b>	
<b>Speed Limit:</b>	
<b>Area Type:</b>	Rural
<b>Traffic Volume:</b>	
<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>	2002 to 2010
<b>Municipality:</b>	
<b>State:</b>	WA
<b>Country:</b>	

<b>Type of Methodology Used:</b>	3
<b>Sample Size Used:</b>	
<b>Before Sample Size Used:</b>	1
<b>After Sample Size Used:</b>	0

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Dec-02-2013
<b>Comments:</b>	Exposure is presented as VMTBefore MVMT = 196.26After MVMT = 231.34Crash type is fatal and injury crossover crashes

---

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.*