



CMF / CRF Details

CMF ID: 5296

Install shoulder rumble strips

Description:

Prior Condition: No Rumble strips present

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](#)

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

Crash Modification Factor (CMF)	
Value:	1.053
Adjusted Standard Error:	
Unadjusted Standard Error:	0.633

Crash Reduction Factor (CRF)	
Value:	-5.3 (This value indicates an increase in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	63.3

Applicability

Crash Type: Head on,Sideswipe

Crash Severity: All

Roadway Types: Not specified

Number of Lanes: 2

Road Division Type:

Speed Limit:

Area Type: Rural

Traffic Volume:

Time of Day:

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: 2002 to 2010

Municipality:

State: WA

Country:

Type of Methodology Used: 3

Sample Size Used:	Crashes
Before Sample Size Used:	4 Crashes
After Sample Size Used:	9 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-02-2013
Comments:	VMT based study VMT before = 27.03 MVMT VMT After = 57.69 MVMT Crash type is crossing centerline crashes

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