



CMF / CRF Details

CMF ID: 5306

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](#)

Star Quality Rating:	
<input type="text" value="2 Stars"/>	[View score details]

Crash Modification Factor (CMF)	
Value:	0.625
Adjusted Standard Error:	
Unadjusted Standard Error:	0.148

Crash Reduction Factor (CRF)	
Value:	37.5 (This value indicates a decrease in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	14.8

Applicability

Crash Type:

Head on,Run off road,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:

Not specified

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:	42 Crashes
After Sample Size Used:	31 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-02-2013
Comments:	Exposure is presented as VMTBefore MVMT = 196.26After MVMT = 231.34Crash type is total lane departure crashes

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