



CMF / CRF Details

CMF ID: 3453

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:



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

Crash Modification Factor (CMF)

Value: 0.8

Adjusted Standard Error:

Unadjusted Standard Error: 0.5695

Crash Reduction Factor (CRF)

Value: 20 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:	56.95
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Applicability

Crash Type:	Run off road
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Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
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Roadway Types:	Not Specified
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Number of Lanes:	
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Road Division Type:	Divided by Median
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Speed Limit:	
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Area Type:	Rural
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Traffic Volume:	9653 to 17018 <i>Average Daily Traffic (ADT)</i>
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Time of Day:	All
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If countermeasure is intersection-based

Intersection Type:	
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Intersection Geometry:	
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Traffic Control:	
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Major Road Traffic Volume:	
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Minor Road Traffic Volume:	
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Development Details

Date Range of Data Used:	1997 to 2006
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Municipality:	
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State:	PA
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Country:	U.S.A.
Type of Methodology Used:	2
Sample Size Used:	Crashes
Before Sample Size Used:	13 Crashes
After Sample Size Used:	2 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).

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