



CMF / CRF Details

CMF ID: 3611

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: 1.11

Adjusted Standard Error:

Unadjusted Standard Error: 0.2732

Crash Reduction Factor (CRF)

Value: -11 (*This value indicates an **increase** in crashes*)

Adjusted Standard Error:

Unadjusted Standard Error:	27.32
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Applicability

Crash Type:	Run off road
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Crash Severity:	All
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Roadway Types:	Not Specified
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Number of Lanes:	2
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Road Division Type:	Undivided
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Speed Limit:	
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Area Type:	Rural
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Traffic Volume:	180 to 10386 <i>Average Daily Traffic (ADT)</i>
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Time of Day:	Night
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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 2005
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Municipality:	
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State:	MN
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Country:	U.S.A.
Type of Methodology Used:	7
Sample Size Used:	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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