



CMF / CRF Details

CMF ID: 8351

Install w-beam guardrail and concrete barrier

Description: Install w-beam guardrail and concrete barrier

Prior Condition: No roadside barrier

Category: Roadside

Study: [Evaluation of the Safety Effectiveness of Installing Roadside Barriers with Different Driver, Vehicle, Weather, and Time of Day Conditions](#), Park et. al., 2016

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.92

Adjusted Standard Error:

Unadjusted Standard Error: 0.08

Crash Reduction Factor (CRF)

Value: 8 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:

8

Applicability

Crash Type:

Run off road,Other

Crash Severity:

Fatal,Serious injury,Minor injury

Roadway Types:

Principal Arterial Other Freeways and Expressways

Number of Lanes:

2 to 5

Road Division Type:

Speed Limit:

50-70 mph

Area Type:

Not specified

Traffic Volume:

35000 to 104600 *Annual Average Daily Traffic (AADT)*

Time of Day:

All

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:

2003 to 2011

Municipality:

State:

FL

Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jan-17-2017
Comments:	CMF is for run off road crashes involving only passenger vehicles

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