



## CMF / CRF Details

**CMF ID: 8369**

**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:** 0.9

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.1

### Crash Reduction Factor (CRF)

**Value:** 10 (This value indicates a **decrease** in crashes)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

10

### Applicability

**Crash Type:**

Run off road,Wet road

**Crash Severity:**

K (fatal),A (serious injury),B (minor injury),C (possible 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

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

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Jan-17-2017
<b>Comments:</b>	

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