



## CMF / CRF Details

CMF ID: 1880

**Install a combination of chevron signs, curve warning signs, and/or sequential flashing beacons**

**Description:** Along a curve with a small radius, large deflection angle, available sight distance smaller than stopping sight distance, and superelevation smaller than demanded at design and operating speed

**Prior Condition:** No curve delineation treatment. Deflection angle is less than 60 gon.

**Category:** Signs

**Study:** [\*Safety Evaluation of Curve Delineation Improvements An Empirical Bayes Observational Before-After Study, Montella, 2009\*](#)

Star Quality Rating:



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

### Crash Modification Factor (CMF)

Value: 0.638

Adjusted Standard Error:

Unadjusted Standard Error: 0.12

### Crash Reduction Factor (CRF)

<b>Value:</b>	36.2 (This value indicates a <b>decrease</b> in crashes)
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	12

### Applicability

<b>Crash Type:</b>	All
<b>Crash Severity:</b>	All
<b>Roadway Types:</b>	Principal Arterial Other Freeways and Expressways
<b>Number of Lanes:</b>	4
<b>Road Division Type:</b>	
<b>Speed Limit:</b>	
<b>Area Type:</b>	Not specified
<b>Traffic Volume:</b>	7400 to 13975 Annual Average Daily Traffic (AADT)
<b>Time of Day:</b>	Day

### *If countermeasure is intersection-based*

<b>Intersection Type:</b>	
<b>Intersection Geometry:</b>	
<b>Traffic Control:</b>	
<b>Major Road Traffic Volume:</b>	
<b>Minor Road Traffic Volume:</b>	

### Development Details

<b>Date Range of Data Used:</b>	2001 to 2005
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<b>Municipality:</b>	Trans European Road Network, Italy
<b>State:</b>	
<b>Country:</b>	
<b>Type of Methodology Used:</b>	Before/after using empirical Bayes or full Bayes
<b>Sample Size Used:</b>	
<b>Before Sample Size Used:</b>	9
<b>After Sample Size Used:</b>	9

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Dec-01-2009
<b>Comments:</b>	

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