



CMF / CRF Details

CMF ID: 1888

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 greater 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: 0.265

Adjusted Standard Error:

Unadjusted Standard Error: 0.09

Crash Reduction Factor (CRF)

Value:	73.5 (This value indicates a decrease in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	9

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

<i>If countermeasure is intersection-based</i>	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	2001 to 2005

Municipality:	Trans European Road Network, Italy
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	
Before Sample Size Used:	5
After Sample Size Used:	5

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

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.