



CMF / CRF Details

CMF ID: 1857

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

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: 0.715

Adjusted Standard Error:

Unadjusted Standard Error: 0.17

Crash Reduction Factor (CRF)

Value: 28.5 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:	
Unadjusted Standard Error:	17

Applicability

Crash Type:	Angle,Fixed object,Head on,Rear end,Rear to rear,Sideswipe,Single vehicle
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 <i>Annual Average Daily Traffic (AADT)</i>
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:	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:	14
After Sample Size Used:	14

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

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