



CMF / CRF Details

CMF ID: 1859

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:	
<input type="text" value="4 Stars"/>	[View score details]

Crash Modification Factor (CMF)	
Value:	0.51
Adjusted Standard Error:	
Unadjusted Standard Error:	0.07

Crash Reduction Factor (CRF)	
Value:	49 (This value indicates a decrease in crashes)
Adjusted Standard Error:	

Unadjusted Standard Error:

7

Applicability

Crash Type:

All

Crash Severity:

0 (property damage only)

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:

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:	2
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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