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CMF / CRF DETAILS

CMF ID: 5550

IMPROVE GUARDRAIL

DESCRIPTION:

PRIOR CONDITION: RURAL MOTORWAY WITH GUARDRAILS THAT ARE NOT COMPLYING WITH THE EUROPEAN NORM 1317 STANDARDS

CATEGORY: ROADSIDE

STUDY: [INVESTIGATING THE INFLUENCE ON SAFETY OF RETROFITTING ITALIAN MOTORWAYS WITH BARRIERS MEETING A NEW EU STANDARD, CAFISO ET AL., 2014](#)

Star Quality Rating: [VIEW SCORE DETAILS]

Rating Points Total: 100

Crash Modification Factor (CMF)

Value: 0.78

Adjusted Standard Error:

Unadjusted Standard Error: 0.19

Crash Reduction Factor (CRF)

Value: 22 (This value indicates a *decrease* in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 19

Applicability

Crash Type: All

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

Roadway Types: Not specified

Street Type:

Minimum Number of Lanes: 4

Maximum Number of Lanes: 4

Number of Lanes Direction:

Number of Lanes Comment:

Crash Weather:	Not specified
Road Division Type:	Divided by Median
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Rural
Traffic Volume:	Minimum of 7651 to Maximum of 27001 Annual Average Daily Traffic (AADT)
Average Traffic Volume:	
Time of Day:	All
<i>If countermeasure is intersection-based</i>	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	
Development Details	
Date Range of Data Used:	2002 to 2009
Municipality:	Messina-Catania
State:	notusa
Country:	Italy
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	28 crashes before, 26 crashes after
Sample Size (miles):	47 miles before, 47 miles after
Sample Size (miles):	142 mile-years before, 189 mile-years after
Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Aug 12, 2014
Comments:	CMFs for total fatal and injury crashes of replacing old guardrails with new ones complying with the European Norm standards

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For more information, contact Sarah Weissman Pascual at sara.pascual@unc.edu

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CMF ID: 4124

INSTALL HIGH-VISIBILITY CROSSWALK

DESCRIPTION: HIGH-VISIBILITY CROSSWALKS AIM TO INCREASE AWARENESS OF PEDESTRIANS AT INTERSECTIONS BY USING HIGHLY VISIBLE MARKING PATTERNS. THE MARKINGS USED IN THIS STUDY INCLUDED A SERIES OF LONGITUDINAL STRIPES CONSTRUCTED FROM THERMOPLASTIC MATERIAL.

PRIOR CONDITION: HIGH VISIBILITY CROSSWALKS AIM TO INCREASE AWARENESS OF PEDESTRIANS AT INTERSECTIONS BY USING HIGHLY VISIBLE MARKING PATTERNS. HIGH VISIBILITY CROSSWALKS INSTALLED IN NYC HAVE A SERIES OF WHITE STRIPES THAT ARE CONSTRUCTED FROM THERMOPLASTIC MATERIALS.

CATEGORY: PEDESTRIANS

STUDY: [THE RELATIVE EFFECTIVENESS OF PEDESTRIAN SAFETY COUNTERMEASURES AT URBAN INTERSECTIONS - LESSONS FROM A NEW YORK CITY EXPERIENCE, LI CHEN, CYN AND REID EWING, 2012](#)

IMAGE: [VIEW THE COUNTERMEASURE IMAGE.](#)

Star Quality Rating: [VIEW SCORE DETAILS]

Rating Points Total: 65

Crash Modification Factor (CMF)

Value: 0.81

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value: 19 (This value indicates a decrease in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:

Applicability

Crash Type: Angle,Head on,Left turn,Rear end,Rear to rear,Right turn,Sideswipe

Crash Severity: All

Roadway Types: Not Specified

Street Type:

Minimum Number of Lanes:

Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Crash Weather:	Not specified
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
	<i>If countermeasure is intersection-based</i>
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Not specified
Major Road Traffic Volume:	
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	
Development Details	
Date Range of Data Used:	1998 to 2008
Municipality:	New York City
State:	NY
Country:	USA
Type of Methodology Used:	Simple before/after
Sample Size (crashes):	262 crashes before, 85 crashes after
Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov 01, 2012
Comments:	The treatment intersections included both signalized and unsignalized intersections. The corresponding change in cr comparison group was a 39 percent reduction in pedestrian-vehicle crashes. This could be used to adjust the treatme account for other factors not related to the treatment.

[VIEW THE FULL STUDY DATA](#)

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