



CMF / CRF Details

CMF ID: 10021

Implement Active Traffic Management Strategies with Hard Shoulder Running

Description: Implement a mix of advisory variable speed limits, lane use control signals, and hard shoulder running on a segment of interstate.

Prior Condition: Static speed limits, no lane use control signals, and no hard shoulder running.

Category: Advanced technology and ITS

Study: [*Evaluation of the Impact of the I-66 Active Traffic Management System: Phase II, Dutta et al., 2018*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.607

Adjusted Standard Error:

Unadjusted Standard Error: 0.113

Crash Reduction Factor (CRF)

Value: 39.3 (*This value indicates a **decrease** in crashes*)

Adjusted Standard Error:	
Unadjusted Standard Error:	11.3

Applicability

Crash Type:	Rear end
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Principal Arterial Interstate
Number of Lanes:	6-8
Road Division Type:	Divided by Median
Speed Limit:	
Area Type:	Not specified
Traffic Volume:	133000 to 184000 <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:	2011 to 2016
Municipality:	

State:	VA
Country:	United States
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jul-26-2019
Comments:	Applies to a segment with advisory variable speed limits, lane use control signals, and hard shoulder running.

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

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