



CMF / CRF Details

CMF ID: 8731

Install Variable Speed Limits

Description: The VSL system generally displayed information on dynamic speed limits, lane closures, merge arrows and other warning information through the overhead gantries. Speed adjustments in the system are automated based on real-time traffic conditions.

Prior Condition: Roadway without variable speed limits

Category: Advanced technology and ITS

Study: [*Evaluating Safety Effects of Variable Speed Limit System using Empirical Bayesian Before-After Analysis, Pu et al., 2017*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.75

Adjusted Standard Error:

Unadjusted Standard Error: 0.07

Crash Reduction Factor (CRF)

Value: 25 (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 Interstate
Number of Lanes:	8
Road Division Type:	Divided by Median
Speed Limit:	>40
Area Type:	Urban
Traffic Volume:	
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:	2007 to 2012
Municipality:	Seattle

State:	WA
Country:	USA
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:	Nov-17-2017
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.