



CMF / CRF Details

CMF ID: 8953

Implement systemic signing and visibility improvements at signalized intersections

Description: Replace all signal heads. Replace pedestrian signal heads, pushbuttons, and signs. Install backplates with retroreflective borders on all signal heads. Re-stripe stop lines. Re-stripe crosswalks. Install advance warning signs. Install overhead signs (e.g., R1012, R35L, R35R in the MUTCD(4)). Install curb ramps.

Prior Condition: Signalized intersection without systemic signing and visibility improvements

Category: Intersection traffic control

Study: [*Safety Effects of Low-Cost Systemic Safety Improvements at Signalized and Stop-Controlled Intersections, Le et al., 2017*](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.911

Adjusted Standard Error:

Unadjusted Standard Error: 0.049

Crash Reduction Factor (CRF)

Value:	8.9 <i>(This value indicates a decrease in crashes)</i>
Adjusted Standard Error:	
Unadjusted Standard Error:	4.9

Applicability

Crash Type:	All
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	All
Number of Lanes:	2,4
Road Division Type:	
Speed Limit:	
Area Type:	All
Traffic Volume:	
Time of Day:	All

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	4272 to 41100 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	111 to 20000 Annual Average Daily Traffic (AADT)

Development Details

Date Range of Data Used:	2005 to 2014
Municipality:	
State:	SC
Country:	
Type of Methodology Used:	2
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-17-2017
Comments:	CMF for 4 mainline lanes and 2 cross street lanes intersections. The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a benefit of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggregate dataset used for CMF development.

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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