



CMF / CRF Details

CMF ID: 8939

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: 0.822

Adjusted Standard Error:

Unadjusted Standard Error: 0.075

Crash Reduction Factor (CRF)

Value: 17.8 *(This value indicates a **decrease** in crashes)*

Adjusted Standard Error:

Unadjusted Standard Error: 7.5

Applicability

Crash Type: Rear end

Crash Severity: All

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

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:	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.

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