



CMF / CRF Details

CMF ID: 1417

Add signal (additional primary head)

Description:

Prior Condition: Intersection has one primary signal head per approach

Category: Intersection traffic control

Study: [Safety Benefits of Additional Primary Signal Heads, Felipe et al., 1998](#)

Star Quality Rating:



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

Crash Modification Factor (CMF)

Value: 0.72

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value: 28 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:

Applicability

Crash Type:	Rear end
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	
Municipality:	Richmond, British Columbia
State:	
Country:	Canada

Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Sites
Before Sample Size Used:	8 Sites
After Sample Size Used:	8 Sites

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-01-2009
Comments:	The authors state that "three year of data were used for this analysis" (p. 7). This statement does not indicate if the before period was 3 years, the after period was 3 years, both were 3 years, or the total time period was 3 years (i.e. 1.5 years for before period and 1.5 years for after period).

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