



## CMF / CRF Details

CMF ID: 1433

Improve visibility of signal heads


Description:

**Prior Condition:** Improvements included one or more of the following: signal lens size upgrade, installing new backboards, adding reflective tapes to existing backboards, and installing additional signal heads.

Category: Intersection traffic control

Study: [\*Evaluating the Safety Impacts of Improving Signal Visibility at Urban Signalized Intersections\*, Sayed et al., 2007](#)

Star Quality Rating:

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

### Crash Modification Factor (CMF)

Value: 0.94

Adjusted Standard Error:

Unadjusted Standard Error:

### Crash Reduction Factor (CRF)

Value: 6 (This value indicates a **decrease** in crashes)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Applicability

**Crash Type:**

All

**Crash Severity:**

All

**Roadway Types:**

Not specified

**Number of Lanes:**

**Road Division Type:**

**Speed Limit:**

50 km/h (30 mph)

**Area Type:**

Urban

**Traffic Volume:**

**Time of Day:**

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:**

1999 to 2004

**Municipality:**

City of Burnaby, City of Coquitlam, City of Kelowna, City of New Westminister, City of North Vancouver, City of Surrey

<b>State:</b>	
<b>Country:</b>	
<b>Type of Methodology Used:</b>	2
<b>Sample Size Used:</b>	Sites
<b>Before Sample Size Used:</b>	171 Sites
<b>After Sample Size Used:</b>	171 Sites

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Dec-01-2009
<b>Comments:</b>	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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