



## CMF / CRF Details

**CMF ID: 2425**

**Install centerline and shoulder rumble strips**

**Description:** Milled or rolled rumble strips.

**Prior Condition:** *No Prior Condition(s)*

**Category:** Roadway

**Study:** [Impact of Rumble Strips on Collision Reduction on BC Highways: A Comprehensive Before and After Safety Study, Sayed et al., 2010](#)

**Star Quality Rating:**



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

### Crash Modification Factor (CMF)

**Value:** 0.79

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Crash Reduction Factor (CRF)

**Value:** 21.4 (This value indicates a **decrease** in crashes)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Applicability

**Crash Type:**

Cross median,Frontal and opposing direction sideswipe,Head on,Run off road

**Crash Severity:**

All

**Roadway Types:**

Principal Arterial Other

**Number of Lanes:**

2

**Road Division Type:**

Undivided

**Speed Limit:**

**Area Type:**

**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:**

2000 to 2006

**Municipality:**

British Columbia

**State:**

<b>Country:</b>	
<b>Type of Methodology Used:</b>	2
<b>Sample Size Used:</b>	Site-years
<b>Before Sample Size Used:</b>	34 Site-years
<b>After Sample Size Used:</b>	102 Site-years

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	
<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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