



# CMF / CRF Details

CMF ID: 216

Convert to roundabout

Description:

Prior Condition: *No Prior Condition(s)*

Category: Intersection geometry

Study: [\*Safety Effects of Roundabouts in Flanders: Signal Type, Speed Limits, and Vulnerable Road Users, De Brabander and Vereeck, 2007\*](#)

Star Quality Rating:

## Crash Modification Factor (CMF)

Value: 0.83

Adjusted Standard Error:

Unadjusted Standard Error: 0.1

## Crash Reduction Factor (CRF)

Value: 17 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 10

## Applicability

**Crash Type:**

All

**Crash Severity:**

A (serious injury)

**Roadway Types:**

Not specified

**Number of Lanes:**

**Road Division Type:**

**Speed Limit:**

**Area Type:**

Not specified

**Traffic Volume:**

**Time of Day:**

### *If countermeasure is intersection-based*

**Intersection Type:**

Roadway/roadway (not interchange related)

**Intersection Geometry:**

Not specified

**Traffic Control:**

Not specified

**Major Road Traffic Volume:**

**Minor Road Traffic Volume:**

## Development Details

**Date Range of Data Used:**

**Municipality:**

**State:**

**Country:**

**Type of Methodology Used:**

2

**Sample Size Used:**

**Other Details**

**Included in Highway Safety Manual?**

No

**Date Added to Clearinghouse:**

Dec-01-2009

**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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