



## CMF / CRF Details

**CMF ID: 10577**

### Roundabout geometry

**Description:** Various geometric elements of roundabout

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

**Category:** Intersection geometry

**Study:** [Developing crash modification factors for roundabouts using a cross-sectional method, Al-Marafi et al., 2020](#)

**Star Quality Rating:**



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

### Crash Modification Factor (CMF)

**Value:**

$$CMF = e^{0.024(Rx_2 - 60)}$$

Where  $Rx_2$  is the exit radius on the minor approach (m)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Crash Reduction Factor (CRF)

**Value:**

(This value indicates an **increase** in crashes)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Applicability

**Crash Type:**

All

**Crash Severity:**

K (fatal),A (serious injury),B (minor injury),C (possible 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:**

No values chosen.

**Traffic Control:**

Roundabout

**Major Road Traffic Volume:**

1288 to 16071 Annual Average Daily Traffic (AADT)

**Minor Road Traffic Volume:**

1200 to 10002 Annual Average Daily Traffic (AADT)

### Development Details

**Date Range of Data Used:**

2010 to 2015

**Municipality:**

Toowoomba City

<b>State:</b>	
<b>Country:</b>	Australia
<b>Type of Methodology Used:</b>	7
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Dec-17-2020
<b>Comments:</b>	CMFunction for exit radius on the minor approach (m)

---

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

*The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.*