



## CMF / CRF Details

**CMF ID: 10573**

### 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:**

$$CMF = e^{-0.005(Ex_2 - 4.2)}$$

Where  $Ex_2$  is the exit width 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 width on the minor approach (m)

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