



# CMF / CRF Details

CMF ID: 10578

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:

Stars

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

## Crash Modification Factor (CMF)

Value:

$$CMF = e^{-0.052F}$$

Where F is the indicator for fixed object presence on central island (F=1 if fixed object present, =0 otherwise)

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 presence of fixed object on central island

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