



## CMF / CRF Details

**CMF ID: 10570**

**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:**

$$CMF = e^{0.307(E n_1 - 4.2)}$$

Where  $E n_1$  is the entry width on the major approach (m)

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

### Crash Reduction Factor (CRF)

|                                   |  |
|-----------------------------------|--|
| <b>Value:</b>                     | (This value indicates an <b>increase</b> in crashes) |
| <b>Adjusted Standard Error:</b>   |  |
| <b>Unadjusted Standard Error:</b> |  |

### Applicability

|                            |   |
|----------------------------|---|
| <b>Crash Type:</b>         | All   |
| <b>Crash Severity:</b>     | K (fatal),A (serious injury),B (minor injury),C (possible injury) |
| <b>Roadway Types:</b>      | Not specified   |
| <b>Number of Lanes:</b>    |   |
| <b>Road Division Type:</b> |   |
| <b>Speed Limit:</b>        |   |
| <b>Area Type:</b>          | Not specified   |
| <b>Traffic Volume:</b>     |   |
| <b>Time of Day:</b>        |   |

### *If countermeasure is intersection-based*

|                                   |   |
|-----------------------------------|---|
| <b>Intersection Type:</b>         | Roadway/roadway (not interchange related)         |
| <b>Intersection Geometry:</b>     | No values chosen.                                 |
| <b>Traffic Control:</b>           | Roundabout  |
| <b>Major Road Traffic Volume:</b> | 1288 to 16071 Annual Average Daily Traffic (AADT) |
| <b>Minor Road Traffic Volume:</b> | 1200 to 10002 Annual Average Daily Traffic (AADT) |

### Development Details

|                                 |              |
|---------------------------------|--------------|
| <b>Date Range of Data Used:</b> | 2010 to 2015 |
|---------------------------------|--------------|

|                                  |                |
|----------------------------------|----------------|
| <b>Municipality:</b>             | 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 entry width on the major approach (m) |

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