



## CMF / CRF Details

**CMF ID: 6659**

**Widen shoulder**

**Description:**

**Prior Condition: Original shoulder width 4-12 ft**

**Category: Shoulder treatments**

**Study:** [\*Exploration and comparison of crash modification factors for multiple treatments on rural multilane roadways, Park et al., 2014\*](#)

**Star Quality Rating:**



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

### Crash Modification Factor (CMF)

**Value:** 0.607

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.164

### Crash Reduction Factor (CRF)

**Value:** 39.3 (This value indicates a **decrease** in crashes)

**Adjusted Standard Error:**

<b>Unadjusted Standard Error:</b>	16.4
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### Applicability

<b>Crash Type:</b>	Run off road,Single vehicle
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<b>Crash Severity:</b>	All
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<b>Roadway Types:</b>	Not specified
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<b>Number of Lanes:</b>	multi
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<b>Road Division Type:</b>	
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<b>Speed Limit:</b>	
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<b>Area Type:</b>	Rural
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<b>Traffic Volume:</b>	2000 to 50000 <i>Annual Average Daily Traffic (AADT)</i>
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<b>Time of Day:</b>	
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### *If countermeasure is intersection-based*

<b>Intersection Type:</b>	
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<b>Intersection Geometry:</b>	
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<b>Traffic Control:</b>	
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<b>Major Road Traffic Volume:</b>	
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<b>Minor Road Traffic Volume:</b>	
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### Development Details

<b>Date Range of Data Used:</b>	2003 to 2012
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<b>Municipality:</b>	
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<b>State:</b>	FL
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<b>Country:</b>	
<b>Type of Methodology Used:</b>	2
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Jun-22-2015
<b>Comments:</b>	Before condition shoulder width between 4-12 ft 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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