



## CMF / CRF Details

**CMF ID: 4578**

**Change left-turn phase from permissive to protected/permissive or permissive/protected phasing on one or more approaches**

**Description: Change from permissive to protected/permissive or permissive/protected phasing on one or more approaches at urban signalized intersection**

**Prior Condition: Permitted phasing**

**Category: Intersection traffic control**

**Study: [Highway Safety Manual, 1st Edition, Various, 2010](#)**

**Star Quality Rating:**



### Crash Modification Factor (CMF)

**Value:** 0.84

**Adjusted Standard Error:**

**Unadjusted Standard Error:** 0.02

### Crash Reduction Factor (CRF)

**Value:** 16 (This value indicates a **decrease** in crashes)

<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	2

<b>Applicability</b>	
<b>Crash Type:</b>	Left turn
<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>	Urban
<b>Traffic Volume:</b>	
<b>Time of Day:</b>	

<b><i>If countermeasure is intersection-based</i></b>	
<b>Intersection Type:</b>	Roadway/roadway (not interchange related)
<b>Intersection Geometry:</b>	4-leg
<b>Traffic Control:</b>	Signalized
<b>Major Road Traffic Volume:</b>	3000 to 77000 Annual Average Daily Traffic (AADT)
<b>Minor Road Traffic Volume:</b>	1 to 45500 Annual Average Daily Traffic (AADT)

<b>Development Details</b>	
<b>Date Range of Data Used:</b>	
<b>Municipality:</b>	

<b>State:</b>	
<b>Country:</b>	
<b>Type of Methodology Used:</b>	Before/after using empirical Bayes or full Bayes
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	
<b>Date Added to Clearinghouse:</b>	
<b>Comments:</b>	

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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

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