



# CMF / CRF Details

**CMF ID: 9888**

**Change permissive left-turn phasing to protected only or protected/permissive**

**Description:** Treatment group includes intersections where signal phases were changed from permissive to protected-only or protected/permissive.

**Prior Condition:** Intersections with permissive left-turn signal phasing.

**Category:** Intersection traffic control

**Study:** [\*Safety Evaluation of Protected Left-Turn Phasing and Leading Pedestrian Intervals on Pedestrian Safety, Goughnour et al., 2018\*](#)

<b>Star Quality Rating:</b>	
<input type="text" value="4 Stars"/>	<a href="#">[View score details]</a>

<b>Crash Modification Factor (CMF)</b>	
<b>Value:</b>	1.136
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	0.146

<b>Crash Reduction Factor (CRF)</b>	
<b>Value:</b>	-13.6 (This value indicates an <b>increase</b> in crashes)
<b>Adjusted Standard Error:</b>	
<b>Unadjusted Standard Error:</b>	14.6

## Applicability

**Crash Type:** Vehicle/pedestrian

**Crash Severity:** All

**Roadway Types:** All

**Number of Lanes:**

**Road Division Type:**

**Speed Limit:**

**Area Type:**

**Traffic Volume:**

**Time of Day:** All

### *If countermeasure is intersection-based*

**Intersection Type:** Roadway/roadway (not interchange related)

**Intersection Geometry:** Not specified

**Traffic Control:** Signalized

**Major Road Traffic Volume:** 9912 to 36500 Annual Average Daily Traffic (AADT)

**Minor Road Traffic Volume:** 4133 to 26148 Annual Average Daily Traffic (AADT)

## Development Details

**Date Range of Data Used:** 2005 to 2014

**Municipality:** Chicago

**State:** IL

**Country:**

<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>	Mar-11-2019
<b>Comments:</b>	Crash Type = Vehicle-Pedestrian Crashes

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