



# CMF / CRF Details

CMF ID: 9895

**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](#)

Star Quality Rating:	
5 Stars	<a href="#">[View score details]</a>

Crash Modification Factor (CMF)	
Value:	1.025
Adjusted Standard Error:	
Unadjusted Standard Error:	0.011

Crash Reduction Factor (CRF)	
Value:	-2.5 (This value indicates an <b>increase</b> in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	1.1

## Applicability

**Crash Type:** Other

**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:** 4355 to 73697 Annual Average Daily Traffic (AADT)

**Minor Road Traffic Volume:** 886 to 47128 Annual Average Daily Traffic (AADT)

## Development Details

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

**Municipality:** Toronto

**State:**

**Country:** Canada

<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-Vehicle Crashes

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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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