



CMF / CRF Details

CMF ID: 9898

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:	
<input type="text" value="4 Stars"/>	[View score details]

Crash Modification Factor (CMF)	
Value:	1.023
Adjusted Standard Error:	
Unadjusted Standard Error:	0.016

Crash Reduction Factor (CRF)	
Value:	-2.3 (This value indicates an increase in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	1.6

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:

Minor Road Traffic Volume:

Development Details

Date Range of Data Used: 2001 to 2014

Municipality: Chicago, New York City, Toronto

State: notusa, IL, NY

Country: USA, Canada

Type of Methodology Used:	2
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Mar-11-2019
Comments:	Crash Type = Vehicle-Vehicle Crashes

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