



CMF / CRF Details

CMF ID: 9891

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:



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

Crash Modification Factor (CMF)

Value: 0.718

Adjusted Standard Error:

Unadjusted Standard Error: 0.196

Crash Reduction Factor (CRF)

Value: 28.2 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

| | |
|-----------------------------------|------|
| Unadjusted Standard Error: | 19.6 |
|-----------------------------------|------|

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: | 19114 to 36289 Annual Average Daily Traffic (AADT) |
| Minor Road Traffic Volume: | 3887 to 26564 Annual Average Daily Traffic (AADT) |

Development Details

| | |
|---------------------------------|---------------|
| Date Range of Data Used: | 2001 to 2014 |
| Municipality: | New York City |
| State: | NY |

| | |
|----------------------------------|---|
| Country: | |
| 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-Pedestrian Crashes |

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

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.