

WWW.CMFCLEARINGHOUSE.ORG



CRASH MODIFICATION FACTORS CLEARINGHOUSE



U.S. Department of Transportation  
**Federal Highway Administration**

# WHAT IS A CRASH MODIFICATION FACTOR (CMF)?

A CMF is an estimate used to quantify the change in crashes expected after the implementation of a countermeasure and whether it is a decrease in crashes (CMF below 1.0), an increase in crashes (CMF over 1.0), or no change in crashes (CMF of 1.0).

## EXAMPLE

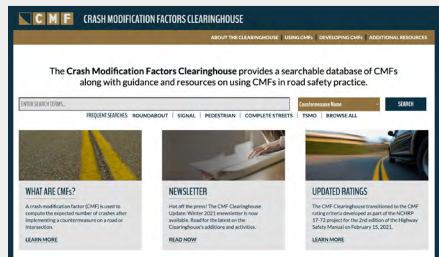
An intersection is experiencing 100 angle crashes and 500 rear-end crashes per year. When you apply a countermeasure that has a CMF of 0.80 for angle crashes, then you can expect to see 80 angle crashes per year following the implementation of the countermeasure ( $100 \times 0.80 = 80$ ). If the same countermeasure also has a CMF of 1.10 for rear-end crashes, then you would also expect to also see 550 rear-end crashes per year following the countermeasure ( $500 \times 1.10 = 550$ ).

## ABOUT THE CMF CLEARINGHOUSE

The CMF Clearinghouse, available at [www.CMFClearinghouse.org](http://www.CMFClearinghouse.org), offers transportation professionals a central, Web-based repository of CMFs, as well as additional information and resources related to using and developing CMFs. The CMF Clearinghouse provides transportation professionals:

- A regularly updated, online repository of CMFs,
- A mechanism for sharing newly developed CMFs, and
- Educational information on proper application and development of CMFs.

Both CMFs and Crash Reduction Factors (CRFs) are presented in the Clearinghouse because both are widely used in the field of traffic safety.



Source: FHWA

## KEY FEATURES

- Use “Search Bar” on the homepage to search by countermeasure name, author name, or CMF ID
- Use “Frequent Search” terms to browse popular CMFs or select “Browse All” to view all CMFs in the Clearinghouse
- Use “Filters” on the “Search Results” page to filter for various parameters, such as star ratings, crash type, crash severity, crash weather condition, crash time of day, roadway type, area type, intersection type, intersection geometry, traffic control, and whether the CMF is included in the Highway Safety Manual
- Learn more about applying CMFs in the “Using CMFs” section and get resources on CMF-related training and publications
- Submit your own CMF studies to be included in the Clearinghouse
- Use the “Compare Tool” on the “Search results” page to compare up to six CMFs in a side-by-side fashion. The comparison page highlights the fields of data where the CMFs are different
- Data Download (API) is available (in the About the Clearinghouse section) for users who would like to use automated routines to regularly ingest data from the Clearinghouse into analytical tools
- Learn about resources to produce the best quality CMFs as well as information on current CMF research needs in the “Developing CMFs” section

## RATING CMF QUALITY

The CMF Clearinghouse uses a star quality rating system to assess the quality or confidence in the results of the study producing the CMF. While the reviewers apply an objective set of criteria accounting for study design, statistical methodology, sample sizes, and statistical significance – the star quality rating results from an exercise in judgment and a degree of subjectivity. The total score for a CMF is calculated by adding the points for the different factors, with a maximum possible score of 150. The star rating is based on a scale (1 to 5), where a 5 indicates the highest or best rating (converted from a rating score of 135 – 150).

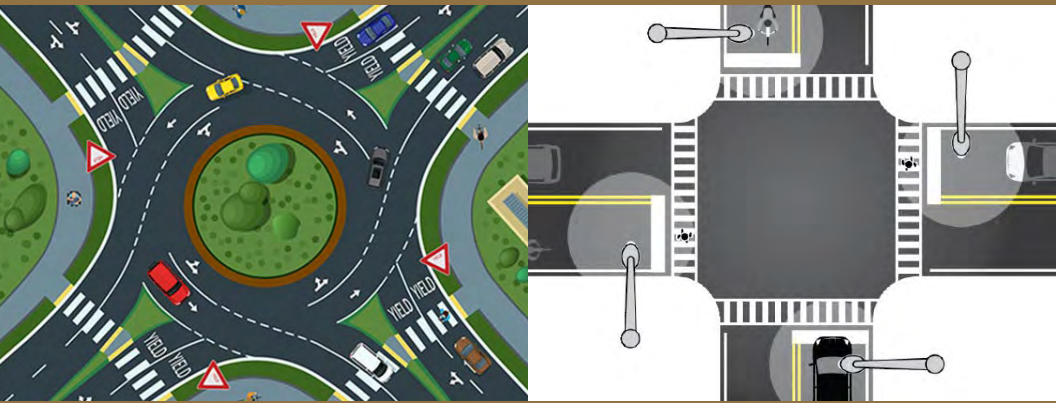
SCORE	RATING
135-150	5 Star
110-134	4 Star
75-109	3 Star
35-74	2 Star
0-34	1 Star

Source: FHWA

SUBSCRIBE TO THE CMF CLEARINGHOUSE MAILING LIST TO RECEIVE THE CMF UPDATE E-NEWSLETTER AND INFORMATION ON UPCOMING CMF CLEARINGHOUSE WEBINARS

## VISIT [WWW.CMFCLEARINGHOUSE.ORG](http://WWW.CMFCLEARINGHOUSE.ORG) TO:

- Learn more about CMFs
- Identify potential countermeasures and find resources for countermeasure selection
- Obtain the expected effectiveness of countermeasures
- Compare alternative treatments
- Easily find previously referenced CMFs by searching for the CMF ID
- Access CMF Update (a free, semi-annual, e-newsletter of the CMF Clearinghouse)
- Get information on training related to CMFs
- Access the repository of the annual CMF Clearinghouse webinars
- Find links to State selected CMF lists
- Get information on State SPF calibration and development efforts
- Find resources on cost-benefit analysis
- Find resources on behavioral countermeasures



Source: FHWA

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