CMF Clearinghouse Webinar – December 02, 2020

Understanding the Upcoming CMF Rating Transition and Exploring Real-World Applications of CMFs

Audience Questions with CMF Clearinghouse Team Responses

*Some questions have been reworded for clarity.

Questions for Clearinghouse/CMF Use and CMF Clearinghouse Rating Transition

Question: What is a star quality rating?

The star quality rating indicates the quality or confidence in the results of the study producing the CMF. The star rating is based on a scale (1 to 5), where a 5 indicates the highest or most reliable rating. Further details about star quality rating scan be found at http://cmfclearinghouse.org/sqr.cfm.

Question: Is a CMF in the Clearinghouse an average value that could be expected, if you implement the countermeasure everywhere at your network? Or is it a value that represents the effects at accident hot spots sites?

The CMF Clearinghouse is a comprehensive and searchable database of CMFs published in research. These include both CMFs for safety effects at hotspots and CMFs for safety effects in a network. Users can find further information of the applicability of each CMF on the CMF details page or the published study.

Question: What is the difference between the CMFs in the CMF Clearinghouse and the CMFs in Part D of the HSM?

The CMF Clearinghouse database contains the CMF in Part D of the HSM, plus many more recently developed CMFs. As such, the CMFs in Part D of the HSM are a subset of CMFs in the CMF Clearinghouse.

Question: How many CMFs can be compared using the compare function on the CMF search results page?

Up to 6 CMFs can be compared using the compare function on the CMF search results page.

Question: How do you select research studies to be included in the CMF Clearinghouse?

The CMF Clearinghouse team identifies eligible CMFs through a regular review process of published reports and professional journals. The review cycle is conducted four times per year and consists of reviewing papers from various sources. Further details about the quarterly review process can be found at http://cmfclearinghouse.org/userguide_clearinghouse.cfm.

Question: Do you have an API for query using code?

The CMF Clearinghouse data download is intended for users who would like to use automated routines to regularly ingest data from the Clearinghouse into analytical tools. The data is provided in two formats, XML (.xml) and MS Excel (.xlsx). A data dictionary is also provided to describe the data fields and coding.

Question: For the table in Slide 12 of the Transition slides, can you clarify as to whether row or column is the current rating?

In this table, the columns present the current star ratings, and the rows present the star ratings following the rating transition. As an example, there are 91 CMFs in the table that are currently rated 5 Stars that would be rated 4 Stars under the updated rating criteria.

Question: When you say that currently there are "very few 5 Star CMFs unless the study included multiple states' – does "states" include studies in other countries?

Yes, "states" do include studies in other countries. A study using two different regions or provinces from a country (outside USA) are treated as using "multiple states".

Question: Could you elaborate on the requirements for studies under the new rating system?

Detailed rating criteria for the different study types will be posted to the CMF Clearinghouse on the Star Quality Page (http://cmfclearinghouse.org/sqr.cfm) closer to the transition date. Please contact the CMF Clearinghouse team if you would want early access to the updated rating criteria.

Question: For the very large drops in star rating (e.g., 5 Stars down to 2 stars), was there one or two reasons more common than others for the drop?

The movements in star ratings can be attributed to various factors with the most prevalent ones being non-reporting of the number of crashes and number of miles/sites used for CMF development. Details about the ratings for the different factors for each CMF will be available on the Score Details page post the rating transition.

Question: How will the new CMF rating system complement the revised HSM?

The NCHRP 17-72 project developed the CMF rating system to update CMFs for the 2nd Edition of the Highway Safety Manual. The CMF Clearinghouse rating system is being updated to be consistent with the NCHRP 17-72 rating process.

Questions for Caltrans Presentation

Question: What is CEQA?

CEQA is the California Environmental Quality Act (https://opr.ca.gov/ceqa/)

Question: How do you estimate the number of collisions for the "no improvement" scenario?

We use similar location data (volume, highway type – we call them rate group locations) where Starbucks have been installed and review increases in crash types as well as HSM predicted scenarios based increase in volume without roadway changes.

Question: For this new safety review in the TIA process, who is approved to do the safety review? Only state staff? Local staff? Consultants? If not state staff, do you require any kind of certification/quals?

State Traffic Safety Investigators that conduct our network screened investigations statewide as well.

Question: For evaluating the potential change in crashes due to development, do you typically use CMFs, or do you ever involve SPFs?

We currently use CMF's but are developing statewide specific SPF's that may be used in the future once they are developed.

Question: Very interested in your safety approaches to access management that you shared. Are there more resources we can access about that on your website or something else you could share with this group?

The Caltrans Highway Design Manual (https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm).

Question: Do you perform a benefit cost analysis to help persuade the local agency to do the safety improvement?

We have a process in place to conduct a benefit cost analysis called a Safety Index that determines a b/c ratio, but it is not a requirement to request a safety improvement. In the end, a Lead Agency (local government) has the final authority to condition a developer to construct a safety improvement as part of their development for most projects unless an encroachment permit to conduct work within State right of way is needed.

Question: In the Starbucks development case study, the improvements resulted in less collisions than with no improvements. It was mentioned that this analysis would be useful in tort litigation. However, how would you argue that you did enough? There was still an increase in collisions as a result of the development even with the "low-cost" improvements.

The goal is to reduce the number of fatal and severe injury crashes, not necessarily to eliminate the total increase. From a tort perspective doing nothing would result in an increase, by addressing some of that increase with safety countermeasures would show that an effort was made minimize the impact. Crashes are arbitrary events that may or may not occur in the future. It is very possible that the countermeasures may address more than the predicted crash reduction as well. Future countermeasures may be needed depending on how effective the proposed countermeasures are. It is possible that crashes could increase with the proposed countermeasures as well. Many of our safety projects do not address every crash but minimizing the most severe and fatal crashes is the target.

Questions for TTI Presentation

Question: What's the difference between work code CMF and the single CMF in Tables on Slides 10, 11, and 12?

Single CMF is the estimated value obtained from conducting meta-analysis. Work code CMF is the existing CMF from the TxDOT Work code table.

Question: What is the reason that the information related to a WC is limited to maintenance costs? Are information about the investment cost not relevant?

The investment cost is considered while selecting the HSIP projects.

Question: Are work codes only limited to total crashes, or are there work codes for fatal and injury severity crashes?

The work code is applicable to both all severity and fatal and injury severity only crashes.