



## Motor Carrier Safety Assistance Program (MCSAP) Formula Working Group Meeting Minutes

January 18–19, 2017

The Federal Motor Carrier Safety Administration's (FMCSA) Motor Carrier Safety Assistance Program (MCSAP) Formula Working Group held an in-person meeting on January 18–19, 2017 in Charleston, South Carolina. Thomas Liberatore, FMCSA Chief, State Programs Division and Designated Federal Officer (DFO), called the meeting to order at 8:00 a.m.

The following individuals attended the meeting:

### **MCSAP FORMULA WORKING GROUP MEMBERS\***

Nancy Anne Baugher, FMCSA

Lt. Donald Bridge, Jr., Connecticut Department of Motor Vehicles

Caitlin Cullitan, FMCSA

Adrienne Gildea, Commercial Vehicle Safety Alliance (CVSA)

Michelle N. Lopez, Colorado State Patrol

Thomas Liberatore, Chief, State Programs Division and DFO, FMCSA

Alan R. Martin, Ohio Public Utilities Commission

Dan Meyer, FMCSA

Lt. Stephen Brent Moore, Georgia Department of Public Safety

Capt. Brian Preston, Arizona Department of Public Safety

John E. Smoot, Kentucky State Police

Courtney Stevenson, FMCSA

Col. Leroy Taylor, South Carolina Department of Public Safety

\*Stephen C. Owings, Road Safe America, and Lt. Thomas Fitzgerald, Massachusetts State Police, were not in attendance.

### **FMCSA AND OTHER GOVERNMENTAL REPRESENTATIVES\***

Michael Chang, U.S. DOT, Volpe Center

Dianne Gunther, U.S. DOT, Volpe Center

Tom Keane, Director, Office of Safety Programs, FMCSA

Jack Kostelnik, State Programs, FMCSA

Dana Larkin, U.S. DOT, Volpe Center

Paul Melander, FMCSA

Julianne Schwarzer, U.S. DOT, Volpe Center

Jacob York, FMCSA

\*Brandon Poarch, FMCSA, called in for a portion of the January 18 meeting.

### **OTHER ATTENDEES**

Lauren Beaven, DIGITALiBiz



## 1. Day 1: Welcome and Objectives

### Presentation

Julianne Schwarzer, of the U.S. DOT Volpe Center, welcomed the MCSAP Formula Working Group to the meeting and Colonel Leroy Taylor, of the South Carolina Department of Public Safety, welcomed working group members to his home State.

Tom Liberatore reviewed the working group's objectives. During the two-day meeting, the working group would review more information and reach a consensus regarding formula change limits, minimum and maximum allocation limits, crash data and the Basic factors, and funding for Territories. Liberatore commented that the working group was well-positioned coming into the two-day meeting to accomplish its tasks on time. Tom Keane, FMCSA Office of Safety Programs Director, also thanked working group members for their work over the past nine months.

## 2. Formula Review and Meeting Goals

### Presentation

Michael Chang, of the U.S. DOT Volpe Center, led a review of the working group's formula as it stood at the time of the meeting.

The working group had considered first year change limits and annual change limits, but would need to further discuss these. Chang outlined some additional elements that would require final decisions, including the exact funding amounts (percent) of the Basic and Border components, and the exact amounts of the minimums and maximums for those components.

Julianne Schwarzer, of the U.S. DOT Volpe Center, articulated the following goals for the in-person meeting. The working group would aim to reach a consensus on:

- Change limits
- Territory allocation percentage
- Confirmation of the five Basic factors
- Maximums and minimums

During the in-person meeting, the working group would also discuss communication strategy and decide roles for working group members, as well as plan next steps for reviewing the recommendation. Moving forward, the working group would review the draft recommendation report, share the recommendation with the FMCSA Administrator, and submit the final recommendation to the Secretary.

## 3. Change Limits

### Presentation

Dianne Gunther, of the U.S. DOT Volpe Center, led a review of the working group's previous discussions regarding change limits. The working group had expressed uncertainty as to whether



to include change limits, and what amounts those limits may be. Some working group members expressed a desire to apply a change limit to the first year of the formula's implementation.

Gunther then reviewed some relevant research. Federal Highway Administration (FHWA) formulas utilize a small discretionary fund that is set aside and distributed on a discretionary basis to mitigate the impact of funding changes. A 2003 National Research Council (NRC) report titled "Statistical Issues in Allocating Funds by Formula"<sup>1</sup> outlines the tradeoffs of implementing change limits. The NRC report discusses three types of change limits: hold-harmless provisions, which limit decreases; funding caps, which limit increases; and moving averages, which smooth out single-year spikes or dips.

Gunther presented on the first of the change limit topics, hold-harmless provisions. Hold-harmless provisions guarantee that each recipient will receive, at a minimum, a specified proportion of the prior year's amount. However, they also limit the extent to which allocations reflect changes in need.

Hold-harmless provisions can be based on either dollar amounts or shares. Dollar amounts may not be mathematically feasible if overall funding decreases significantly, however it may be easier for States to budget based on a dollar amount. Using shares, as overall funding increases or decreases, funding for individual States will increase or decrease proportionally.

Gunther walked working group members through an example calculation using a hold-harmless provision.

### Discussion

Working group members discussed the example hold-harmless calculation:

- With a dollar amount hold-harmless, a State that has factors which drop significantly would be protected, but would divert more funding from other States that may already be seeing decreases due to a decrease in overall funding.
- A hold-harmless would compress gains made by other States in responding to the formula.
- Share-based is better for allocating fairly based on risk.

### Presentation

Gunther presented additional studies that found that when there is a hold-harmless provision without a cap, allocations are "ratcheted up" over time. Gunther explained that caps limit the size of increases, and are less common than hold-harmless provisions. Caps could be employed to counteract the "ratcheting" effect of hold-harmless provisions, but could limit the formula's ability to meet a State's increasing funding needs. In situations where States might not be able to adjust to a large spike in funding, a cap might also allow a State time to ramp up in order to ensure that all funds are spent.

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<sup>1</sup> <https://www.nap.edu/catalog/10580/statistical-issues-in-allocating-funds-by-formula>



The working group reviewed an example calculation applying both a cap in addition to the example hold-harmless provision.

### Discussion

- Having multiple factors in itself is already a stabilizing factor. Year to year, individual States' factors change very little.
- A working group member noted that if the working group were to add a hold-harmless provision, they should employ a cap as well.
- Employing share-based caps would ensure that the rules don't change year to year. Using monetary amounts would mean there would need to be analysis of potential scenarios.

### Presentation

Gunther approached the next change limit topic, moving averages. Moving averages are computed by averaging estimates from two or more consecutive years, which will stabilize formula outputs. Gunther noted the Federal Medical Assistance Percentages (FMAP) matching percentage used in Medicaid as an example.

The working group reviewed an example calculation of a moving average, which smooths over both sudden spikes and drops, keeping funding roughly level.

### Discussion

- Working group members inquired as to how complicated it would be to calculate a moving average for three years, and the level of effort required to draft and execute this calculation regularly.
  - Tom Liberatore noted that this may require significant work, and would require a sufficient explanation as well as constant maintenance of data. This option would be more labor-intensive than employing a hold-harmless and/or cap.
- Some working group members noted that the maintenance might not be considerably difficult, but that this calculation has some concerning effects on the timeliness of funding. This calculation would never catch up — it would constantly lag behind.

### Presentation

Gunther presented information on how the formula, as it stood, behaved without a change limit. She noted that even without a change limit, the annual variation in funding is small. In a sample calculation with real data from FY12–FY15, the vast majority States stayed within +/- 5% each year, with only a few exceptions.

Gunther then reiterated the pros and cons of a hold-harmless provision, cap, and moving average.

### Discussion

The working group discussed whether to recommend a hold-harmless provision, cap, or moving average, and what that might look like in the formula. Working group members noted the following:



- Generally, revenue increases over time unless something profound happens on the part of Congress.
- If the working group has chosen fairly stable factors, then the formula is going to be relatively stable without any change limits. Inflicting minimal changes on States that would otherwise remain level or increase simply because of another State's drastic changes seems unfair.
- It may be best to employ a set-aside, and then distribute that set-aside according to need.
  - The States may not agree with this approach.
  - A set-aside would address gaps, but would not address overall trends.
- Using high priority could be a potential solution.
- If change limits were to be applied, they should be in the form of shares and not monetary values.
- There will likely not be significant spikes or decreases in funding after the formula is implemented. Change limits could significantly impact the first year of implementation, however.
- The working group recommends a year-to-year change limit in order to ensure stability.
  - If a hold-harmless and cap are applied, it should be both and not one or the other.
  - A hold-harmless should be more restrictive and a cap should be less restrictive. This would help the funding get where it should be as fast as possible, while limiting severe decreases in funding that could be detrimental to a program.
- The working group is concerned about the moving average's response to anomalies. It is also more difficult to calculate, and lags behind.
- There is a limit on how fast a State could use funding as it comes in. States may not have the ability to adjust quickly to a large increase in funding.
  - Theoretically, States can return part of the award. In practice, this does not happen. The working group should consider a conservative cap to limit returned funds.
- If the working group were to recommend a cap, it would be share-based and not too small that it doesn't allow for growth.
  - There may be unintended consequences to a higher cap. It is important to understand what kind of funding increase is manageable.
  - The working group discussed a 3%, 5%, or 7% cap. Most working group members are in favor of a 5% cap. Based on the analysis of FY12–FY15, it is not common for a State's share to increase more than 5%.
- The working group recommends a 3% hold-harmless provision.
  - In CVSA's work with States, extensive outreach to and communication with members determined that 3% is a manageable, though not welcome, amount of funding for a State to lose.

### Presentation

The working group addressed the possibility of implementing a first year change limit, which would limit the amount that funding increases or decreases on the first year of the new formula's implementation.



### Discussion

- If the working group is focused on the formula's stability, the same cap and hold-harmless should apply on the first year.
- Applying change limits on the first year would not allow for a shift that allocates the funding based on the revised formula.
- States will need to plan for any significant shift, whether it is first year or year-to-year. A fixed timeline implementation may help facilitate this.
- If the working group recommends applying the same 3% hold-harmless and 5% cap in the first year, funding for about half the States would reach a steady level in 1–2 years. There are some States that may take much longer to reach their “new normal.”
- From a State perspective, the change needs to be gradual in order to be manageable. From a formula perspective, the working group wants to get the funding where it needs to be.
- The working group is comfortable with applying the 3% hold-harmless and 5% cap to the first year.

## **4. Basic Factors**

### Presentation

Dianne Gunther led a review of the working group's decisions regarding the five Basic factors, in order to confirm those decisions. Gunther identified States that, based on previous formula simulations, had shown a potential for decreases in funding despite a high number of crashes. She noted that crash risk is based on underlying factors, which are then influenced by enforcement that hopefully mitigates that risk. The end result is the actual number of crashes.

The goal of this analysis was to determine the causes of significant increases or decreases, and to decide whether these were reasonable or acceptable. The first analysis considered the top 10 crash States. When considering the Basic factors, there is an increase in the Basic share for all States that are not bounded by the maximum, with one exception (one State's share decreases due to carrier registrations). The second analysis looked at the top 20 crash States with losses greater than 10%. These States did have a loss in their Basic factor shares. In all of these States, highway miles and carrier registrations are what caused the change. The third analysis looked at the remaining low-crash States that gained or lost more than 15%. Some were influenced by changes to the Border portion, or by the minimums and maximums.

At each step, Gunther showed scatter plots that demonstrated that, despite some predicted funding changes, these new factors are better correlated with crashes and therefore better factors for predicting crash risk.

Finally, Gunther presented a spreadsheet showing a list of States in order of their three-year average number of crashes alongside their Basic factor share. This showed that the highest crash States also had the highest Basic factor share, and that the Basic factor share trended from high to low alongside the average number of crashes.



### Discussion

The working group considered the Volpe analysis team's research and data analysis and determined that the five Basic factors are still the correct way to represent crash risk.

## **5. Minimum/Maximum Allocation Limits**

### Presentation

Michael Chang began a presentation of new information regarding minimum and maximum allocation limits (min/max). The objectives of the discussion would be to provide some historical reasoning, understand the impacts of a min/max, consider the values and purpose of a min/max, and decide how to apply those limits. Chang reminded working group members that this particular min/max would only be applied to the five Basic factors, and that there would be a separate min/max applied to the Border component.

Chang shared basic definitions of a minimum and maximum. A minimum would ensure that, in one given year, no State will receive an allocation less than a certain dollar amount and/or a share. The tradeoff would be that funding used to meet these minimums would be taken from other States. A minimum would be employed because the smallest States would not be able to support a program on the amount of funding distributed based only on the Basic component.

A maximum would ensure that, in one given year, no State will receive an allocation more than a certain dollar amount and/or a share. The remaining funding would be redistributed to the remaining States. A maximum would be employed so that a small number of States would not dominate the program.

Chang shared simulated funding amounts with certain minimums and maximums, accounting for New Entrant funding, and highlighted States that would be impacted at certain levels.

### Discussion

Working group members considered the new information on minimum and maximum funding allocation amounts and noted the following:

- The working group needs to be able to justify the determined value of these limits.
- There should be an understanding of what constitutes a minimally operating program.
- When a State requests funding, FMCSA looks at production and burn rate for that funding in order to calibrate a realistic funding amount.
- The working group would like to recommend that FMCSA conduct additional research into what constitutes minimum and maximum funding for programs.
  - There is not time to conduct this research prior to submission of the formula recommendation.
- The working group recommends using the historical/existing minimum and maximum amounts of 0.44% and 4.944%. These amounts are currently the only defensible amounts.
  - The same 0.44% minimum should account for added New Entrant workload with the increase in funding.



## 6. Territories

### Presentation

Dianne Gunther introduced additional information regarding funding for the Territories. The working group had previously proposed a 0.89% set-aside to be allocated on a discretionary basis by FMCSA. There were some concerns that this amount may be too high, and the working group had requested additional information.

The Volpe analysis team had looked at Territory CVSPs, and noted that only one Territory identified in their CVSP where their programs were lacking. The team did calculations to estimate what funding may look like if this Territory were to increase its budget for personnel, fringe benefits, and equipment to fill the gaps described in their CVSP.

Based on these estimates, it was determined that 0.89% of total funding may be more than what is needed to sustain the programs in the Territories. For reference, the Territories received 0.6% of all FY16 funding. This includes Basic, Incentive, Border, and New Entrant. The 0.89% considered by the working group would only come from the Basic portion of funding according to the recommended formula.

### Discussion

Working group members considered this new information regarding funding for the Territories and stated the following:

- The Territories may need to exert extra effort to shore up their programs in order to collect the data they need to move toward the same allocations as States have.
- There are some Territories that don't spend the current \$350,000. Adding a binding minimum to regulation may not be the best approach, as it forces the distribution of funds that may not be spent.
  - Minimums may also be specified in the Notice of Funding Availability (NOFA). If, in the future, it is decided that a minimum is appropriate, it can be set in the NOFA.
- Working group members agree that 0.65% allows for some growth without over-allocating funding.
  - The working group recommends that FMCSA look into what constitutes a minimum program for the Territories.

## 7. Border

### Presentation

Michael Chang introduced the Border discussion for the day. Chang noted that he would briefly review the proposed Border formula discussed in previous web-based meetings, then mention some considerations for the formula. At the second day of the in-person meeting, the working group would look at formula simulations for Border.





The proposed Border formula would calculate FTE needed for each port of entry based on CMV crossing volume. The FTE needed across all ports in each State would be added together, and Border funding would be distributed proportionally based on this total FTE need. Minimum and maximum allocation limits would be applied to the Border component of the formula.

To calculate the FTE needed for each port, the analysis team looked at the minimum level of FTE need per port of entry (POE). During a webinar, the working group had discussed that some ports have very low traffic volume, and agreed to exclude ports where there are less than 1,000 CMV crossings per year.

### Discussion

- The working group agreed that it is comfortable with this proposal for how to calculate FTE need. However, the overall funding amount of the Border component has not yet been determined.
- Border funding amounts will have to take State match into account. Border will have to have a cost share in the same way that New Entrant does.
- One proposal for the funding amount is 9.44% or \$27.2 million.
- Any unallocated Border funding should be redistributed to the States according to the Basic factors formula component.

The working group reviewed formula recommendation decisions that were finalized on the first day of the in-person meeting before adjourning. A summary of decisions made during both the first and second days of the in-person meeting can be found at the end of this document.

## **8. Day 2: New Formula Simulations**

### Presentation

The working group resumed its work on the second day of the in-person meeting with a review of new formula simulations. The goal of these simulations was to ensure that funding still aligns with crashes with the addition of the Border component and min/max constraints. Michael Chang led the working group through simulations using FY17 funding amounts allocated according to the proposed formula, and ranking States side-by-side according to funding and number of crashes.

#### ***Simulation 1***

- Start: States ranked in order of crashes and shown alongside their proposed Basic shares. Took FY17 dollars and removed funding allocated toward Border and Territories. The resulting share would be Basic dollars, without the max and min.
- Add a maximum funding limit: Mostly affected Texas and California. Most other States receive a 10% increase as a result.
- Add a minimum funding limit: Most States lost about 1% to help bring low crash and smaller States up to minimum amount.
- Add Border funding: This is the only place so far where the total amount of funding increases. Only the Border States go up with this calculation. Southern Border States generally get a larger increase.



### Discussion

Working group members considered this formula simulation and noted the following:

- Working group members noted that the spreadsheet in which the simulation results are presented helps them understand the impacts of each of their decisions.
- The working group agrees that this simulation is correctly represented and meets expectations. In addition, the top 10 crash states stay in top 15 highest funding shares.

### Presentation

#### *Simulation 2*

- This simulation shows each State's share and crash ranking, and adds columns for the original interim formula funding allocation, the FY17 allocation with no change limit, and amounts with the change limit applied.
- The baseline for the change limit would be the previous year.
- More money is being held harmless than capped. This funding would come from other States that aren't being held harmless.
- The Territories and the funding allocated toward the Territories are not included here.

### Discussion

Working group members considered this formula simulation and noted the following:

- It may be best to present FY13, 14, 15, and 16 MCSAP grant, as well as the 3-year average of New Entrant and Border, which is what was used to calculate the interim funding allocation. Then, also show the interim funding amounts and the new formula funding amounts. This lays out the funding history, acknowledging there was the existence of the interim formula.
  - History is important to show, especially given changes some States.
  - It is also important to clarify what the old formula did versus what the new formula does.
- **All present working group members are unanimously in favor of moving forward with the formula as proposed.**

### Discussion

The Volpe analysis team posed some follow-up questions for the working group:

- Does there need to be a share *and* a dollar amount for minimum?
  - The working group is more comfortable keeping it as a share-based amount.
- Does the single year minimum take precedence over the change limit?
  - Working group members note that a slow rise in funding would not hurt States, and would be manageable. A slow rise in funding would allow States to proactively bring new personnel on board over a period of time. The change limit should take precedence.
- Does hold-harmless or cap take precedence?



- Working group members agreed that the hold-harmless should be calculated first. If the cap is done first, that may violate the hold-harmless, which could cost jobs. In the simulations, there is more money that is held harmless than is capped.

## 9. Communications Subgroup Update

Caitlin Cullitan, FMCSA, presented an update on the Communications Subgroup. The subgroup kicked off via a web-based meeting on December 16, 2016. The subgroup was charged with exploring opportunities and recommending tactics for outreach, as well as reviewing draft report recommendations prior to sharing with full working group.

All subgroup members noted that transparency and stakeholder understanding would be key goals. Information shared should include the rationale behind the working group's decisions. States need to understand that there will be funding increases and decreases — some States will lose money but that will be a gradual loss.

The subgroup recommended using the website to include a summary of the working group's efforts, key decisions, and the option for an email subscription to receive updates.

The subgroup inquired as to what information can be conveyed and when from a strict legal perspective. Legally speaking, until the NPRM is published there is nothing to prohibit working group members from sharing information. Individuals are free to convey information, and are not prohibited from sharing information or asking for feedback. However, FMCSA is prohibited from surveying.

### Discussion

- The recommendations will go from State Programs to the Deputy Administrator, to the Administrator, the Deputy Secretary, and finally to the Secretary.
- FMCSA will communicate any changes to the recommended formula prior to the publication of the NPRM to the extent that they can. The intention is to be completely transparent. It is FMCSA's intention to continue the dialogue with the working group if there are any changes or questions. The Secretary can ask the working group to reconvene if more work is required.
- The NPRM will outline that the working group provided input to the Department of Transportation, and that the NPRM itself is a release of the department's decisions based on those recommendations. The report from the working group may be in the docket for readers to access and reference.
- State working group members would be able to file comments on the NPRM as the working group, but the Federal working group members would not be able to do so.
- The FAST Act does not require the publication of the rule in a certain timeframe. It only requires the working group to submit their recommendations within a certain timeframe.

In an effort to anticipate stakeholder questions, the full working group discussed potential areas of stakeholder doubt or concern. This conversation focused primarily on justification for why certain elements were considered but ultimately not included in the recommended formula.



## 10. Wrap Up and Next Steps

Tom Liberatore reiterated the upcoming process for the working group. Working group members agreed on additional upcoming meeting dates, including an in-person meeting following the MCSAP Planning Meeting in Minneapolis, Minnesota. The Volpe analysis team would work to complete a first draft of the recommendations, which the Communications Subgroup then the full working group would review and comment on.

Liberatore thanked the working group for their participation and adjourned the meeting.

## PRESENTATIONS

	Presenter(s)	Presentation
1	Michael Chang, Dianne Gunther, Thomas Liberatore, Caitlin Cullitan	MCSAP Formula Working Group Meeting, January 18 and 19, 2017

## SUMMARY OF DECISIONS

### 1. Change Limits

- The year-to-year change limit should be share-based. This is based on the States' desire for stability at the cost of reacting quickly to change.
- This change limit will take the form of both a hold-harmless provision and a cap.
  - The hold-harmless should be 3%, based on CVSA's communication with States and FMCSA's assertion that this number is not often exceeded.
  - The cap should be 5%, based on typical fluctuations in Basic shares.
- The working group also recommends a first year change limit. This will mirror the year to year change limit with a 5% cap and 3% hold-harmless.

### 2. Territories

- The working group recommends allocating 0.65% of grant funds to Territories. Territories will apply for the necessary amount of funds required and FMCSA will distribute funds to each Territory on a discretionary basis.
- FMCSA should conduct research to understand what a minimally operating program for the Territories looks like.

### 3. Basic Component

- The five Basic formula factors remain correct.

### 4. Min/Max

- There should be a minimum and maximum limit to funding that can be distributed to any one State based on the Basic factors.
- The most feasible min/max are the existing ones (4.944% and 0.44%).
  - New Entrant will now be included in the total pot of money but that pot is growing so the 0.44% minimum accounts for the minimum amount of New Entrant money in addition to the Basic funds.



- FMCSA should conduct research to understand what the minimum should be.
5. Border Component
- Continue with the suggested allocation calculation.
  - The amount allocated should be 9.5% of total funding, based on the desire to maintain the existing border program and account for the new State match.