

05.25.2023 Meeting Minutes

Time and Location

The meeting was held May 25, 2023, at 12:30 – 4:30 p.m. ET. It was a virtual meeting conducted via Zoom for Government webinar.

Participants

National Highway Traffic Safety Administration (NHTSA)

Ann Carlson, *Chief Counsel*

Shonda Humphrey, *Attorney*

James Myers, *Designated Federal Officer*

Lina Valivullah, *Alternate Designated Federal Officer*

Kai Bean-Pittman, *Administrative Support*

Committee Members

Daniel McKisson, *Labor Organizations*

Jane Mathis, *Families of Underride Crash Victims*

Marianne Karth, *Families of Underride Crash Victims*

Claire Mules, *Insurance Industry*

Matthew Brumbelow, *Insurance Industry*

Jennifer Tierney, *Truck Safety Organizations*

Harry Adler, *Truck Safety Organizations*

Aaron Kiefer, *Motor Vehicle Crash Investigators*

Lee Jackson, *Motor Vehicle Crash Investigators*

Jeff Zawacki, *Motor Vehicle Engineers*

Jeff Bennett, *Motor Vehicle Engineers*

Adrienne Gildea, *Law Enforcement*

Doug Smith, *Motor Carriers*

Dan Horvath, *Motor Carriers*

Kristin Glazner, *Truck and Trailer Manufacturers*

John Freiler, *Truck and Trailer Manufacturers*

Welcome & Overview

Designated Federal Officer James Myers welcomed everyone to the meeting. He noted that the meeting was being recorded and that the recording would be made available online.

Opening Remarks by Ann Carlson

Chief Counsel Ann Carlson provided opening remarks on roadway safety and the importance of the Committee. She described the National Roadway Safety Strategy, reviewed the duties of the Committee, and emphasized that NHTSA is seeking all available approaches to mitigate and eliminate underride crashes. She thanked the Committee members, especially family members of underride crash victims, for serving on the Committee.

Agenda Overview

James Myers provided an overview of the meeting agenda and introduced others assisting with the Committee. He noted that NHTSA is still seeking category representatives for the remaining spots on the Committee.

Federal Advisory Committee Act and Ethics Briefing

Shonda Humphrey provided an overview of the Federal Advisory Committee Act. She noted that Committee members are to avoid conflicts of interest and misuse of position, or the appearance thereof, and are subject to the ACUP Code of Conduct. Committee members were provided the opportunity to ask questions following the presentation; there were none.

Committee Member Self-Introductions

James Myers facilitated introductions of the Committee members in the order listed above. Each member introduced themselves, their background and experience, and the viewpoints they bring to the Committee. Any members interested in serving as the Committee Chair were also able to state their interest. Some members suggested that the Committee Chair should be as neutral as possible.

Robert's Rules

James Myers provided more information on how the Committee will operate, including the use of a reduced set of Robert's Rules of Order. He noted that the quorum for the Committee is 75 percent of the current Committee members must be present to conduct meetings rather than a simple majority. Future meetings will follow the general format outlined by Robert's Rules.

Election of Chair

Five members were interested in serving as Chair. Committee members agreed to elect the Chair using two rounds of voting, an initial round and a "run off" round. In response to a question, James Myers noted that a NHTSA representative cannot be the Committee Chair.

Voting was held using online polls. The candidates and the number of votes they received are listed below. Adrienne Gildea was elected as Committee Chair with a majority of votes.

Round One

Claire Mules 1
Harry Adler 1
Lee Jackson 6
Jeff Bennett 1
Adrienne Gildea 7

Round Two

Lee Jackson 7
Adrienne Gildea 9

Suggestions for Future Meetings

Committee members provided suggestions for future meetings and topics they would like to discuss.

Jane Mathis – Suggested in-person committee meetings.

Marianne Karth – Suggested committee submit a request for information from NHTSA, get briefings from technical experts on override studies, not have all committee meetings in-person so the meetings can occur more frequently, have committee witness crash tests, and have working groups to review information provided to the Committee by NHTSA.

Jennifer Tierney – Also requested discussing information from NHTSA and to have in-person meetings.

Kristin Glazner – Suggested additional information on April 2023 NHTSA documents would be beneficial, recommended a technical briefing on advanced driver assistance systems.

Matthew Brumbelow – Discuss Side override Guard ANPRM Cost Benefit Analysis.

Claire Mules – Go to conferences and shows to disseminate information on underride.
Adrienne Gildea – Discuss ground rules, code of conduct, how the committee will operate.
Harry Adler – Quantify if discussions are specific to one type of underride protection.
Jennifer Tierney – Review conspicuity (visibility) and anything else that may help solve underride.
John Freiler – Determine what can be done to improve underride data collected.
Dan Horvath – Review comments submitted to side underride ANPRM.
Marianne Karth – Discuss whether to have a working group on alternatives to guards for underride protection.
Doug Smith – Mentioned potential increase in speed differential between semitrucks with trailers and other vehicles due to speed limiters. Also asked if committee could visit a railroad grade crossing with low clearance.
Adrienne Gildea – Put all topics on the table and then add timeline and prioritize, process on how to discuss, then work through all the committee wants to discuss.
Dan McKisson – Follow up to Mr. Smith’s comments about railroad crossings, getting stuck on sharp up/down grades, determine if there is a database drivers can use to know when they are approaching a low railroad grade crossing.
Doug Smith – Noted that some crossings are marked and others are not. Drivers need to see the hazard and react appropriately.
Marianne Karth – Stated she has a PowerPoint about problematic railroad grade crossings and that there is a Federal Railroad Administration database on railroad crossings.
Harry Adler – There is a need for better data. Compare states with a field for underride vs. those states without. Look at what other types of accidents are preventable or mitigated by guards.
Jeff Bennett – Mentioned ground level docks also create clearance issues, there are a lot of driveways and angles ramps, consider improving education and crash avoidance.
Harry Adler – Recommended that the Committee consider other vulnerable road users.

Closing

James Myers closed the meeting by thanking participants and reviewed contact information (XXX@dot.gov). The DFO and Chair will determine the agenda for the next meeting. Once a meeting date and talking points are approved, a date will be made public. Committee information will be submitted to the FACA Database for public access.

11.15.2023 Meeting Minutes

NHTSA did not make minutes available from this meeting to the ACUP.

02.08.2024 Meeting Minutes

Time and Location

The meeting was held February 8, 2024, from 12:30 to 4:30 p.m. ET. It was a virtual meeting conducted via Zoom for Government webinar.

Participants

National Highway Traffic Safety Administration (NHTSA)

James Myers, *Designated Federal Officer*

Lina Valivullah

Committee Members

Aaron Kiefer, *Motor Vehicle Crash Investigators*

Claire Mules, *Insurance Industry*

Dan Horvath, *Motor Carriers*

Doug Smith, *Motor Carriers*

Harry Adler, *Truck Safety Organizations*

Jeff Bennett, *Motor Vehicle Engineers*

Jeff Zawacki, *Motor Vehicle Engineers*

Jennifer Tierney, *Truck Safety Organizations*

John Freiler, *Truck and Trailer Manufacturers*

Kristin Glazner, *Truck and Trailer Manufacturers*

Lee Jackson, *Motor Vehicle Crash Investigators*

Marianne Karth, *Families of Underride Crash Victims*

Matthew Brumbelow, *Insurance Industry*

Mindy Carter, *Emergency Medical Service Providers*

Ted Delbridge, *Emergency Medical Service Providers*

Thomas Mrozinski, Jr., *Law Enforcement*

Invited Presenters

Malcolm Deighton

Wolfgang Hahn

Welcome and Call to Order

James Myers, Designated Federal Officer, welcomed everyone to the meeting.

The meeting began with roll call to verify the presence of a quorum. Sixteen members were present. Labor Organizations representative Daniel McKisson and Families of Underride Crash Victims representative Jane Mathis were unable to attend the meeting.

James Myers asked if there were any amendments or objections to the meeting minutes from the second meeting; there were none.

Since the previous Chairperson resigned from the Committee before the meeting, the Committee elected a new Chair. Two members were nominated and willing to serve. Lee Jackson won the election with 9 votes while Jeff Bennett received 5 votes.

The next point of discussion was the definition of a consensus, which was not defined in the establishment of the Committee. Some members expressed a preference for a simple majority of 51 percent, while others believed it should be 75 percent to better represent the full Committee. Jennifer Tierney made a motion for consensus to be 51 percent and Dan Horvath made a motion for 75 percent. The committee voted on the first motion, which passed with 9 votes, setting consensus as 51 percent and rendering the second motion moot.

Overview of Rulemaking Process

Lina Valivullah of NHTSA presented an overview of the rulemaking process, including the agency's rulemaking authority, governing acts and executive orders, and specific requirements for Federal Motor Vehicle Safety Standards. She described the steps of the rulemaking process and provided an example of a rulemaking as well as a link to a federal website³⁶ with additional information on government regulations and the rulemaking process. There were a few questions from Committee members regarding public petitions and how the Committee can best support its recommendations.

Presentations

The focus for the meeting was rear underride crashes, including prevention and mitigation technologies and relevant recommendations.

Jeff Bennett began with a presentation on rear impact guard history and Utility Trailer's guards. He showed pictures of Utility equipment, including a guard with an increased 7-inch cross-section that received the TOUGHGUARD award. He stated that such guards can have unintended consequences whereby the passenger car striking the end of the guard spins out into the adjacent travel lane and causes a secondary crash. Harry Adler asked if unintended consequences of secondary crashes have been an issue and stated that crashes between two passenger vehicles are more survivable than underrides.

Matthew Brumbelow presented information on the incidence of rear impact fatalities and undercounting of underride in crash databases. He presented an overview of the Insurance Institute for Highway Safety (IIHS) TOUGHGUARD testing and noted that 9 manufacturers have guards that pass the IIHS tests. He criticized the estimations that NHTSA used to support rulemaking actions and suggested upgrading requirements for semitrailers and single unit trucks. There was additional discussion on whether secondary crashes are a concern and agreement that underreporting of underride in FARS should be addressed.

Malcolm Deighton of Hydro Extrusion presented his work on Sapa's aluminum rear impact guard designs. Sapa was manufacturing energy absorbing crash alloys that they used to create rear impact guards with similar weight and greater strength than a typical steel guard. He stated that Sapa performed successful crash tests of their guards up to 40 mph and that NHTSA conducted quasi-static testing of the guards in 2018 with the guard strength exceeding the load capabilities of the test equipment. He acknowledged that trailer integration is also a significant factor in real world performance of rear impact guards. Jeff Bennett commented that Utility uses crash alloys for other parts of their trailers but that the guards would have to be notched to fit dock locks.

Wolfgang Hahn of ZF Commercial Vehicle Solutions presented on collision avoidance and mitigation systems. He discussed crash configurations using data from FARS and stated that many fatalities occur at high speeds with vehicles in the same travel lane. He stated that technologies such as automatic emergency braking (AEB) can prevent collisions and reduce contact speeds, reducing injury severity and preventing fatalities. There was some discussion of AEB as a crash mitigation technology on heavy trucks and on passenger vehicles.

³⁶ <https://www.reginfo.gov/public/reginfo/Regmap/index.myjsp>

Jennifer Tierney showed pictures of underride crash victims, referenced the Committee's purpose, and asked that Committee members act in good faith. Lee Jackson presented a list of recommendations to consider, including NHTSA issuing additional requirements for rear guards, AEB, and conspicuity tape, and conducting additional research. Kristin Glazner noted that data is important for rulemaking and agreed that the Committee should discuss research recommendations. Some Committee members expressed opposing views on AEB requirements. There was also some discussion of how the Committee should operate, including voting on motions in the next meeting and sharing documents online.

Marianne Karth presented pictures of her daughters and the crash scene as well as the FARS report to show that it's not always accurate. She reviewed the history of underride regulations and the recent rulemaking actions. She stated that Stoughton reduced the weight of the trailer to compensate for the increased weight of their rear guard and that NHTSA should have included the Stoughton guard in its rulemaking analysis. She said that two manufacturers with TOUGHGUARD awards do not offer those guards as standard and NHTSA should require TOUGHGUARD-level performance. She also proposed the creation of a working group to develop voluntary consensus standards.

Aaron Kiefer presented information on rear guard force requirements and weights, stating that there is plenty of data available, and likewise noting that the 1970 rear guard proposal had higher outboard strength requirements than the final rule. He stated that modifying rear guard geometry would allow for increased strength with reduced weight and that even his retrofit solutions do not add much weight. There was some discussion regarding guard engineering, survivability of high-speed crashes, and the potential of AEB to mitigate crash severity.

Discussion

After the presentations, the Committee proceeded to general discussion. Marianne Karth made several motions, including requesting establishment of a working subgroup, requesting a closed meeting to review deliberative information, and recommending that NHTSA amend the rear impact guard final rule. Other members of the Committee expressed concerns about subgroups and closed meetings. Lee Jackson suggested holding motions until the next meeting and the Committee agreed, expressing a need for more time to understand the recommendations and relevant information. The Committee discussed how to organize documents and emails. Harry Adler inquired whether the Committee is allowed to use a shared document or drive for its work; NHTSA will verify and respond. Jeff Bennett expressed dissatisfaction with the Committee consensus being a simple majority. Others stated that dissenting opinions can be included in the report to represent additional viewpoints.

Wrap Up

The Committee agreed to communicate proposed motions via email. General discussion continued through the scheduled end time of the meeting, then the Committee adjourned.

03.13.2024 Meeting Minutes

Time and Location

The meeting was held March 13, 2024, from 12:30 to 4:30 p.m. ET. It was a virtual meeting conducted via Zoom for Government webinar. The meeting was recorded.

Participants

National Highway Traffic Safety Administration (NHTSA)

Mr. James Myers, *Designated Federal Officer*

Committee Members

Mr. Aaron Kiefer, *Motor Vehicle Crash Investigators*

Ms. Claire Mules, *Insurance Industry*

Mr. Dan Horvath, *Motor Carriers*

Mr. Dan McKisson, *Labor Organizations*

Mr. Doug Smith, *Motor Carriers*

Mr. Harry Adler, *Truck Safety Organizations*

Ms. Jane Mathis, *Families of Underride Crash Victims*

Mr. Jeff Bennett, *Motor Vehicle Engineers*

Mr. Jeff Zawacki, *Motor Vehicle Engineers*

Ms. Jennifer Tierney, *Truck Safety Organizations*

Mr. John Freiler, *Truck and Trailer Manufacturers*

Ms. Kristin Glazner, *Truck and Trailer Manufacturers*

Mr. Lee Jackson, *Motor Vehicle Crash Investigators*

Ms. Marianne Karth, *Families of Underride Crash Victims*

Mr. Matthew Brumbelow, *Insurance Industry*

Ms. Mindy Carter, *Emergency Medical Service Providers*

Dr. Ted Delbridge, *Emergency Medical Service Providers*

Mr. Thomas Mrozinski, Jr., *Law Enforcement*

Welcome and Call to Order

Mr. Myers welcomed everyone to the meeting. The meeting began with roll call to verify the presence of a quorum. Seventeen members were present at the time. Emergency Medical Service Providers representative Dr. Delbridge joined the meeting after roll call was complete. A few other members excused themselves for some portion of the meeting, but quorum was maintained throughout.

Mr. Myers asked if there were any amendments or objections to the meeting minutes from the third meeting. Mr. Smith said that his statement on FHWA changing the design of Jersey barriers to prevent rebound accidents should be included. Mr. Myers asked Mr. Smith to provide supporting information and noted that the corrected minutes would be resent and posted to the FACA database.

Committee Chair Mr. Jackson provided opening remarks. He cited the Committee's purpose to reduce underride crashes and fatalities and asked for meetings to remain orderly. He referenced the letter submitted by Mr. Eric Hein, encouraged others to talk to Mr. Hein, and asked members to share news of any planned crash tests so others can attend. He said he would support submission of a dissenting report, as suggested. In response to a consensus motion submitted by Mr. Bennett, Mr. Jackson cited Robert's Rules, stating that someone who voted for the previous motion must reconsider. Mr. Jackson invited Committee members to speak with him individually, and Mr. Myers noted that discussions outside of Committee meetings cannot be about Committee matters. Mr. Jackson also thanked Ms.

Karth for her apology and asked members not to take actions that may undermine others' trust. He expressed disappointment in NHTSA's decision not to provide deliberative materials, noted the expiration date of the Committee Charter in June 2024, and said if they are granted an extension, the Committee should be able to complete a report by October.

Mr. Jackson made a motion to amend the Bylaws to require a simple majority of members for quorum instead of 75%, citing the time constraints and saying that the Committee needs to maintain an aggressive meeting schedule. Mr. Adler seconded the motion. Mr. Bennett disagreed, saying that only having fifty percent of members present when deciding motions detracts from the Committee's credibility. Mr. Smith also disagreed with the motion. Mr. Horvath suggested that proxies should be allowed and disagreed with changing quorum. Mr. Adler said that proxies would be a good compromise and asked about amending the Bylaws to allow proxies. Mr. Jackson disagreed with amending the current motion, stating that proxies should be a separate motion. Ms. Tierney said that the Committee needs to act urgently to save lives and should adopt the motion. Mr. Freiler expressed concern over the possibility of motions being passed by only a quarter of all members if quorum is a simple majority. The Committee voted on the motion, which passed with 11 YES votes and 6 NO votes.

There was some discussion about additional motions. Mr. Adler suggested a combined motion to request an extension and allow proxies, but Mr. Jackson said it should be two separate motions. Mr. Myers noted that there is an existing list of motions and Mr. Jackson agreed that new motions should be added at the end.

Motions

The Committee proceeded to discussion and voting on a list of motions compiled after the last meeting as agreed.

Motion I was Mr. Bennett's motion to change consensus to two-thirds. Mr. Jackson reiterated that per Robert's Rules, someone who voted for the original motion would have to reconsider. Mr. Smith said he reconsidered, so the motion will be brought in the next meeting.

Motion II was to recommend that NHTSA conduct comprehensive research on underride crash characteristics, including the frequency of 30 percent overlap crashes. Ms. Tierney said that enough studying has been done and it is time for action. Mr. Freiler said that he is in favor of studies on 30 percent overlap crashes because FARS lacks that information. Ms. Karth said that a 2010 NHTSA study found that severe passenger compartment intrusion is more prevalent in corner impacts than in center impacts. Mr. Bennett asked that the study also include information on car rotation. Ms. Glazner, who brought the motion, referenced NHTSA's previous comment that data is important and stated that new, comprehensive research is needed. Mr. Adler agreed that there is a need for better data on underride crashes and said that there is undercounting of underride. Ms. Karth stated that car rotation does not determine fatalities and asked if the recommendation is for the research to be completed before changing regulations. Ms. Glazner reiterated that NHTSA makes data-based decisions and that the research is necessary for NHTSA to take action. Mr. Freiler asked if this is a motion to include a consensus report recommendation for more data. Ms. Glazner said yes, and that she is calling for an update to the UMTRI data. Mr. Brumbelow said that prior research was not very good but if the recommendation is for photographic-based research, he could support it. Mr. Jackson stated that he is

against the motion because more research is not needed. Mr. Adler asked if this is additional research and Ms. Glazner said yes, this should be a robust update to the old UMTRI data. Mr. Freiler requested amending the motion to say the research should include all available information, including photographs as Mr. Brumbelow mentioned, and that the recommendation will be in the Committee's report. Ms. Glazner seconded the amendment. Mr. Brumbelow also said he's in favor of the motion though NHTSA should have to get photographs. The Committee voted and the motion passed with 13 YES votes and 4 NO votes. Mr. Myers asked to clarify the language of the motion as amended. Ms. Glazner stated that the recommendation in the report will include analysis with photographs, incorporating both Mr. Freiler's and Mr. Brumbelow's comments. Mr. Kiefer noted that Ms. Glazner and Mr. Brumbelow should agree on the verbiage for the final report. Ms. Karth asked what the protocol is for conflicts of interest. Mr. Jackson asked if anyone had a conflict of interest. Mr. Freiler said the Charter requires that they don't vote if they have a conflict of interest. Ms. Karth asked if manufacturers that don't include 'TOUGHGUARD' guards as standard have a conflict of interest. Mr. Jackson stated that everyone has to decide for themselves whether they have a conflict of interest.

Motion III was to conduct an in-person meeting. Mr. Jackson withdrew the motion because it is only feasible if the Committee Charter is extended.

Motion IV was to request an extension and was also brought by Mr. Jackson. Mr. Adler seconded the motion. Mr. Bennett said that they do not need to ask for an extension and should be discussing the actual issues. The Committee voted and the motion passed with 13 YES votes, 4 NO votes, and 1 abstaining. There were a few questions on the timeline with an extension and Mr. Jackson reiterated that he wants to wrap up the report in October.

Motion V, brought by Ms. Karth, was to include a recommendation for the 2022 rear guard rule to be amended to require all new trailers to meet the 'TOUGHGUARD' protocol. Mr. Bennett asked what the test protocol is and whether this was addressed by Motion II; Mr. Jackson said this is different. Mr. Freiler suggested an amendment to say 'or equivalent' rather than specifying a brand name. Ms. Karth said that the test protocol is on the IIHS website, and Mr. Brumbelow said the manufacturers would be assessing the guards themselves but agreed to the amendment. Ms. Glazner said the Committee has not discussed the force and energy requirements in the standard and suggested that Mr. Brumbelow present on the requirements to inform the Committee. Mr. Smith said more data needs to be collected before applying this requirement, and Mr. Bennett agreed. Ms. Karth said that there is plenty of information and the manufacturers have already shown that it can be done. Mr. Adler echoed that this is a concrete recommendation with sufficient supporting information. Ms. Tierney said people are delaying and the Committee should think of their loved ones dying in an underride crash. Mr. Bennett said the design is on their trailers, but the data is necessary. Ms. Mules stated that the motion is too broad to vote on. Mr. Freiler noted that changes to the standards are implemented as a new rulemaking, not an amendment, per the regulatory process. Mr. Kiefer said that IIHS research is comprehensive and is available online. Mr. Horvath said that the GAO already looked into the matter and determined there is a lack of data. The Committee voted and the motion passed with 10 YES votes, 1 NO vote, and 6 abstaining. Ms. Mathis asked if Mr. Myers was recording names with the votes. Mr. Adler noted that the meeting is being recorded and said the proper way to track voting would be to call roll. Mr. Jackson asked Mr. Myers to review the recording to include names with the votes.

Motion VI was to include a recommendation to update FMVSS 223 and 224 within five years in response to technological advancements. The Committee voted and the motion passed with 13 YES votes, 0 NO votes, and 3 abstaining.

Motion VII was to include an assessment of NHTSA's performance as inadequate. Ms. Karth withdrew the motion on the condition that it is discussed with other assessment motions at a later date.

Motion VIII was to request all NHTSA/DOT scoping documents and discussions between NHTSA and Elemance regarding rear impact work from 2018 to 2024. Mr. Bennett said that the Committee won't be able to review all that information. Mr. Adler said this is exactly what the Committee should be reviewing and discussing. Mr. Freiler asked the relevance of discussions with Elemance. Mr. Kiefer, who brought Motions VIII and IX, said he was surprised by what work was done and what can be expected. Motion IX was to request all documents related to DOT testing completed by Karco or other contractors between 2016 and 2024. Mr. Kiefer said he was unaware of data from Karco testing and wanted to know what was scoped and what the findings were. Ms. Tierney agreed that the Committee should obtain and review every piece of information. Mr. Bennett said they need more real-world statistics, not laboratory data; Mr. Kiefer said it's not more data so much as information about what the research was for and what it means. Mr. Myers reminded the Committee that deliberative information will not be provided and that the compliance data is already available. Mr. Adler said that the Committee can still vote to request information and suggested combining Motions VIII and IX into one; Mr. Kiefer agreed. Ms. Karth stated that NHTSA's response to the letter from Professor Oswald was insufficient. As a point of order, Mr. Freiler asked that people keep their cameras on to ensure quorum. Ms. Tierney stated that some people are at home, not in an office, and have to turn their camera off at times. Mr. Myers asked for cameras to be turned on for voting. The Committee voted on the combined Motions VIII and IX, and the motion passed with 12 YES votes, 3 NO votes, and 1 abstaining.

Motion X was for DOT to produce all documents related to rear guard standards between 1970 and 1998. This motion was also brought by Mr. Kiefer and was seconded by Ms. Karth. Mr. Bennett asked if the historical information is necessary, stating that reviewing it again is not the best use of time. Mr. Kiefer stated that it will enable them to understand how the current, insufficient standards came about after the original proposed rule was stronger. Ms. Tierney said that every piece of information should be requested and reviewed, and Mr. Adler agreed. The Committee voted and the motion passed with 10 YES votes, 6 NO votes, and 0 abstaining.

Motion XI was for the Committee to include a recommendation for all trailers manufactured since 1998 to be retrofitted to provide 'TOUGHGUARD' equivalent performance. Mr. Kiefer brought this motion but stated that he would abstain from voting because he sells retrofit products. Mr. Bennett said cost-benefit analysis and rationale is needed and the motion should be amended to say 'mitigate' rather than 'prevent override.' Mr. Kiefer agreed to amend the motion to refer to mitigation of PCI. Mr. Smith said that 1998 is too long ago as most trailers are only on the road for about 10 years, so it should be since 2014. Mr. Jackson stated that he sees older trailers and suggested removing the date entirely. Mr. Adler said that all trailers should be retrofitted and 1998 is appropriate. There were questions on conflicts of interest, abstaining, and whether hand raise votes would show in the video recording. Some members abstained due to potential conflicts. The Committee voted and Motion XI passed with 8 YES votes, 1 NO vote, and 6 abstaining.

Motion XII was for the Committee to recommend regulating Single Unit Trucks (SUTs) with the same rear impact guard standards as semitrailers. Mr. Bennett asked if there is information on SUTs available to consider. Mr. Jackson said there are underride crashes with SUTs as well. Mr. Smith said there would be a lot of exemptions for special purpose trucks and the motion is too broad. Mr. Adler said the requirements should be broadened to include conspicuity tape as well and it's up to NHTSA to do the rulemaking part. Mr. Brumbelow said they don't know how many underride crashes there are but there are about 150 fatalities in a year involving the rear of SUTs and IIHS has asked for this regulation in the past. Ms. Tierney said this is a necessary recommendation to prevent deaths and injuries. Ms. Mules said this is crossing over to ambulances and delivery trucks. Mr. Adler said the Committee work does include all commercial trucks, not only 18 wheelers. The Committee voted and the motion passed with 9 YES votes, 2 NO votes, and 4 abstaining.

Motion XIII was to recommend that NHTSA require performance standards to withstand 30% overlap crashes at 35 mph as directed by IIJA. There was confusion over the language of this motion. Mr. Bennett asked if this was already required. Ms. Karth stated that it is not already required. Nobody claimed or seconded this motion so it was tabled.

Motion XIV was to recommend NHTSA testing at "highway speeds" up to 65 mph as directed by IIJA. Mr. Kiefer said that it is reasonable and passenger vehicles are safer every year. Mr. Bennett questioned if this is required by IIJA and if it is reasonable. Ms. Karth said it is required by IIJA and is the Elemance research. Mr. Kiefer said this can be simulations and does not need to be live testing. The Committee voted and the motion passed with 9 YES votes, 5 NO votes, and 1 abstaining.

Ms. Tierney realized that Motion XIII was her motion and asked to return to it because lives lost in low overlap crashes are important. Ms. Mathis seconded the motion. Ms. Karth asked if Motion XIII is the same as Motion V. Ms. Tierney noted that she prefers the 30% overlap language, but it is the same, so she withdrew Motion XIII.

Motion XV was for a recommendation for NHTSA to "expeditiously complete" the Heavy Vehicle Automatic Emergency Braking rulemaking. Ms. Tierney said it is her motion and the recommendation is to complete the rulemaking as soon as possible. Ms. Mules asked what the rule says. Mr. Adler stated that the proposed rule has not been published and the motion is asking NHTSA to complete it quickly. Mr. Smith said the technology is not ready yet. Mr. Adler disagreed and said AEB is effective. Mr. Myers clarified that the NPRM has been published but the final rule has not been issued. Mr. Jackson said this motion is essentially to endorse the AEB rule. Ms. Mules asked if this is from the front and if it has to do with rear underride. Mr. Adler said AEB is relevant to preventing underride crashes, and Mr. Jackson and Mr. Freiler agreed. The Committee voted and the motion passed with 15 YES votes, which was all present.

Motion XVI was for a recommendation to conduct a study on the change in survivability rates with AEB on passenger vehicles. Mr. Bennett said it should be for all crashes not just rear underride. Mr. Freiler requested amending the motion to say AEB on all vehicles. Ms. Tierney agreed but asked if that is within Committee scope. Mr. Adler agreed that AEB should be on all vehicles, and noted that they can emphasize the ability of AEB to reduce crash speeds, which was echoed by Ms. Karth. Mr. Freiler stated that the Committee is not limited to suggestions for commercial motor vehicles. Mr. Brumbelow clarified that the motion is research-based and is about studying the changes in survivability. Ms. Tierney agreed. The Committee voted and the motion passed with 15 YES votes, which was all present.

Motion XVII was to recommend stronger conspicuity requirements and replace conspicuity tape every 5 years. Mr. Jackson, who brought the motion, said the tape is never replaced on most trailers but the tape wears over time and loses reflectivity. Ms. Tierney agreed and she has seen trailers with ragged tape. Mr. Bennett said this is already required by DOT. Mr. Jackson said the requirement is only at time of manufacture, not on the vehicle. Mr. Freiler questioned what the inspection requirements are. Mr. Jackson said it only needs to be clean and it doesn't matter if it is worn. Mr. Horvath asked why the suggestion is for a time requirement, not a reflectivity requirement, and Mr. Jackson responded that the reflectivity meters are very expensive. Mr. Horvath asked if there is data on the tape lifespan. Mr. Jackson said with a 5 year requirement, they would only need to replace the tape once in a 10 year lifespan. Mr. Bennett agreed that conspicuity is important and pointed out that this would fall under FMCSA's authority, so the motion was amended to say FMCSA rather than NHTSA. Mr. Kiefer agreed that there should be a 5 year maintenance requirement. Mr. Smith said that all tape is not the same quality and the manufacturing timestamp doesn't say when it was applied. Ms. Glazner also expressed support for conspicuity tape. Mr. Zawacki suggested that the requirement should be for performance or age. Ms. Tierney said a simple 5 years is best. Mr. Freiler said the 5 year rule will encourage cheap tape and the requirement should be for measured reflectivity. Mr. Horvath pointed out that lighting solutions are often better than conspicuity tape. Mr. Jackson said that will be discussed with a later motion. The Committee voted and the motion passed with 11 YES votes, 4 NO votes, and 1 abstaining.

Motion XVIII was to recommend a requirement for SUTs to meet conspicuity requirements and rear impact guard requirements as well. Mr. Adler stated strong support and said it is cost beneficial and recommended by the NTSB. Mr. Bennett asked about the cost-benefit analysis. Mr. Adler said his organization did the analysis based on the withdrawn ANPRM. Mr. Bennett said NHTSA should finish its work but the Committee needs the facts. Ms. Mules asked if they're discussing tape or rear impact guards and suggested splitting the motion. Mr. Adler was referring to the cost of tape. Ms. Tierney said this is her motion and that the Committee should focus on saving lives and does not need to consider cost. Ms. Mules said it is relevant and needs to be considered. Mr. Jackson noted that the Committee already voted on rear guards for SUTs and suggested amending the motion to only pertain to conspicuity. The Committee voted on the amended motion and it passed with 15 YES votes, 0 NO votes, and 1 abstaining.

Motion XIX was to recommend research on enhanced rear signaling systems for better visibility. Mr. Bennett stated that NHTSA does not allow installation of an existing flashing brake light product. Mr. Jackson said the motion is to conduct research on how to enhance lighting. Mr. Horvath agreed with research but said the existing requirements prohibit this technology. Mr. Jackson said human factors is complex and there will need to be a lot of research. Mr. Adler said there is an existing exemption for the product mentioned and they should have some information available. Mr. Freiler said that DOT does have research on these factors but there is disagreement within DOT. Mr. Jackson agreed to amend the motion to say 'DOT' rather than 'NHTSA.' The Committee voted and the motion passed with 16 YES votes (all present).

Motion XX was to recommend research into high visibility clearance lamps for all commercial motor vehicles. Mr. Jackson said the current lights are too small. Ms. Tierney agreed that enhancing visibility is important. Mr. Freiler said that they are ID lamps, not clearance lamps, and suggested amending the motion. Mr. Jackson agreed to amend the motion to 'ID lamps' and also to make the recommendation to DOT as a whole. Mr. Smith suggested that the ID lamps may confuse people. Mr. Jackson responded

that the recommendation is for research to see what works the best. The Committee voted on the motion and it passed with 14 YES votes, 1 NO vote, and 1 abstaining.

Motion XXI was to recommend research into efficacious methods of reducing distracted driving. Mr. Freiler suggested minor amendments to the wording and Mr. Jackson agreed. Mr. Bennett suggested saying 'such as flashing lamps,' and Ms. Tierney, who brought the motion, agreed to the amendment. The Committee voted and the motion passed with 16 YES votes (all present).

Motion XXII was to recommend working with State law enforcement and other stakeholders to issue rear impact guard citations and encourage maximum fines for all violations. Ms. Tierney brought the motion. Mr. Bennett said enforcement of existing law is not the Committee's purpose. Mr. Adler stated support but suggested amending the motion to include education of law enforcement on underride, and Ms. Tierney agreed to the amendment. Mr. Freiler said the label requirement should be excluded because it doesn't affect the guard performance, but he is otherwise in support. Mr. Horvath agreed. Ms. Tierney asked for Mr. Jackson's input, and he suggested a slight amendment. Mr. Bennett said there are other nitpicky requirements in addition to the label. Ms. Tierney agreed to amending the motion to say 'violations affecting safety' rather than 'all violations.' The Committee voted and the motion passed with 14 YES votes, 1 NO vote, and no abstentions.

Motion XXIII was for NHTSA to provide a writer. Ms. Tierney withdrew this motion.

Motion XXIV was to include a history of underride crashes in the report to Congress. Mr. Bennett said other items should be prioritized. Mr. Horvath stated that if a history is submitted, it should be comprehensive, and that work may bog down the group. Ms. Tierney disagreed. Ms. Karth suggested prioritizing the report recommendations. Mr. Freiler said an entire history is excessive with the limited time of the Committee. The Committee voted and the motion passed with 7 YES votes, 4 NO votes, and 4 abstaining.

Motion XXV was a duplicate of Motion IV.

The last motion was for a minority report to accompany the Committee report. The Committee voted without additional discussion due to the time constraint and the motion passed with 15 YES votes (all present).

Mr. Adler requested to vote on the motion for proxies but there was not enough time. Ms. Karth asked if the agenda will continue in the next meeting and Mr. Myers confirmed.

[Wrap Up](#)

Discussion and voting for the motions continued through the end of the meeting. The scheduled presentations and discussion on topics relating to side underride crashes were postponed to a later meeting.

04.24.2024 Meeting Minutes

Time and Location

The meeting was held April 24, 2024, from 12:30 to 4:30 p.m. ET. It was a virtual meeting conducted via Zoom for Government webinar. The meeting was recorded.

Participants

National Highway Traffic Safety Administration (NHTSA)

Mr. James Myers, *Designated Federal Officer*

Committee Members

Mr. Aaron Kiefer, *Motor Vehicle Crash Investigators*

Ms. Claire Mules, *Insurance Industry*

Mr. Dan Horvath, *Motor Carriers*

Mr. Dan McKisson, *Labor Organizations*

Mr. Doug Smith, *Motor Carriers*

Mr. Harry Adler, *Truck Safety Organizations*

Ms. Jane Mathis, *Families of Underride Crash Victims*

Mr. Jeff Bennett, *Motor Vehicle Engineers*

Mr. Jeff Zawacki, *Motor Vehicle Engineers*

Ms. Jennifer Tierney, *Truck Safety Organizations*

Mr. John Freiler, *Truck and Trailer Manufacturers*

Ms. Kristin Glazner, *Truck and Trailer Manufacturers*

Mr. Lee Jackson, *Motor Vehicle Crash Investigators*

Ms. Marianne Karth, *Families of Underride Crash Victims*

Mr. Matthew Brumbelow, *Insurance Industry*

Ms. Mindy Carter, *Emergency Medical Service Providers*

Dr. Ted Delbridge, *Emergency Medical Service Providers*

Mr. Thomas Mrozinski, Jr., *Law Enforcement*

Invited Speakers

Mr. Eric Hein, *bereaved father of Riley Hein*

Mr. Keith Friedman, *Friedman Research Corporation*

Mr. Dennis Lombardi, *Institute of International Container Lessors (IICL)*

Welcome and Call to Order

Mr. Myers opened the meeting with roll call and confirmed the presence of a quorum. Sixteen members were present at the time; Dr. Delbridge and Ms. Mules joined later.

Mr. Jackson, Committee Chair, thanked everyone for joining and verified that there were no objections to the March meeting minutes. Mr. Jackson revisited the March 13 discussion on conspicuity tape and his recommendation for a requirement to replace the tape every 5 years. He was unaware that conspicuity tape is required to meet the reflectivity standard while in use but still supports a 5-year replacement requirement. He reiterated that reflectivity meters are expensive so very few inspectors have them. Mr. Freiler said that enforcement of the existing requirement may need to be addressed but

adding a requirement to replace the tape every 5 years will result in people installing lower quality tape. Mr. Smith stated that the tape is very difficult to remove for replacement. Mr. Jackson suggested placing the new tape on top of the old tape. Mr. Smith responded that the tape needs to be applied to a good surface. Mr. Jackson also stated that increased knowledge of the existing requirements will result in significant changes to enforcement.

Mr. Jackson proceeded to discussion of the Committee report(s). He said that he will produce the majority report and others can send him text to include. Ms. Glazner inquired whether it will be one or two reports and Mr. Jackson clarified that it will be one report containing both positions. Mr. Myers encouraged the Committee to address disagreements in the report. Mr. Jackson asked about the deadline and Mr. Myers suggested delivering the report by June 28. Mr. Adler asked how the report might be formatted. Mr. Jackson suggested that the report would be in two sections, one for the majority opinion and one for the minority opinion. Mr. Freiler asked about circulating the drafts and Mr. Jackson noted that the Committee may not have time to discuss them because there is no meeting scheduled for June. Mr. Bennett suggested appointing a timekeeper for the current meeting, so Mr. Jackson asked Mr. Bennett to fill that role.

Presentations

The first presentation was by Mr. Eric Hein, the bereaved father of 16-year-old Riley Hein who died in a side underride crash in 2015. Mr. Hein presented side underride data and analyses that he previously submitted to NHTSA. He used NHTSA's FIRST online tool to query FARS data for side underride crashes from 2007 to 2020. Including undercount correction factors and vulnerable road user fatalities, he estimated the annual baseline cost of side underride serious injuries and fatalities to be \$4.0 to \$5.9 billion. He noted that NHTSA used 2013 estimates for the number of trailers instead of more recent data from manufacturers. He also said that Wabash estimated a cost of \$896 for a side underride guard in 2018, which is \$1,084 adjusted for 2023, while NHTSA used an estimated AngelWing cost of \$2,990 but stated there would be reduced costs due to economies of scale and competition. He estimated an annual benefit of side underride guards for semitrailers of \$540 million to \$1.4 billion. He also stated that fuel savings from the addition of aerodynamic skirts to side guards would increase the benefits. His recommendation to ACUP was to question the accuracy of NHTSA's cost benefit analysis, stating that the agency ignored the 2022 survey data, inflated the number of semitrailers, ignored benefits to vulnerable road users, and truncated benefits, leading to erroneous conclusions. He concluded that the benefits of side underride guards outweigh the costs.

Mr. Bennett commented that many groups have tested side guards and that existing guards have only been shown to work in specific crash scenarios. Mr. Hein said the effectiveness numbers are not his own conclusions and that he obtained them from research reports by NHTSA and others, which said that side guards are effective up to 50 mph. Mr. Kiefer said he has successfully tested his guard toward the rear of the trailer at 35 mph. Mr. Bennett responded that the AngelWing sheared off in a 45-degree crash test and Mr. Kiefer said it was a partial shear of an old trailer and the guard provided mitigation. Mr. Kiefer said it's possible to create crash compatibility, and Mr. Bennett agreed, but said that such side guards are not currently available. Mr. Kiefer said his guard is for sale, with two of them in use, but it is not well understood by industry. Mr. Bennett said he will buy one. Mr. Freiler asked if Mr. Hein's comments have been submitted to the docket because it is still an open rulemaking, and Mr. Hein said that they have been submitted but he has not heard a response. Mr. Hein wanted to demonstrate that NHTSA did not use the best available information for the ANPRM.

The second presentation, by Ms. Karth, was on missed opportunities to prevent side underride fatalities. She showed pictures of her daughters and others who died in rear and side crashes with trucks. She stated that NTSB issued recommendations to NHTSA in 2014 for side underride protection and commented on the 2023 ANPRM expressing concern about underestimated benefits. She also said that TTMA drafted side impact guard practices, though Mr. Freiler of TTMA stated that no such document was developed. Ms. Karth stated that the ANPRM was wrong and should be withdrawn. She said NHTSA should complete a new side impact guard analysis and rulemaking that includes vulnerable road users. Ms. Karth showed a video from Lois Durso, whose daughter Roya died in a side underride crash, and another video from a 2024 side underride crash that was similar but without a fatality. Ms. Tierney commented that the committee's purpose is to make safety recommendations to reduce underride crashes and fatalities and it is a waste of time to nitpick different situations. Ms. Karth also showed a crash test video of Mr. Kiefer's guard. Mr. Smith asked how long it takes to disassemble the guard to change a tire and noted that a blown tire could tear the webbing off. Mr. Kiefer said it has two winch ratchets and a clamping plate, and it will probably take 2-5 minutes, or 10 minutes for a total replacement of the webbing. Mr. Jackson asked Mr. Smith if he was saying 10 minutes wasn't worth saving lives, and Mr. Smith responded that it is more time sitting on the side of the road where accidents tend to occur.

The third scheduled presenter was Mohammad Atarod, on the subject of injuries in underride crashes, but he was not in attendance.

Moving to the topic of front underride/override, Mr. Jackson encouraged the Committee to review the email from Ex-Guard with videos of their truck guards.

Ms. Karth then presented on front underride. She noted that there are international requirements and that Australian and European trucks have front protection. She referred to an UMTRI study from 2002 showing that front protection can increase crash compatibility and said that NTSB investigated a crash that determined the front bumper of the truck was higher than the passenger vehicle bumpers and overrode the vehicle. NTSB said in 2013 that collisions involving the front of trucks were the most common and passenger compartment intrusion (PCI) is common, and that there is a strong relationship between front truck bumper height and underride, and EU has required them since 2003. She also showed a petition for rulemaking on front override she filed that was granted. She stated that DOT is supposed to harmonize with global regulations and referred to presentations she shared with ACUP the previous week. She proposed recommendations for NHTSA to issue an ANPRM for front override protection and harmonize with global front override regulations.

Dan Horvath asked if there are any US manufacturers that put front protection on their trucks now, and Marianne said there are international manufacturers that are also in the US, and she doesn't know if they put any in the US. Lee Jackson said Ex-Guard makes front guards. Marianne Karth said Iain Knight said the Ex-Guard should be tested for energy absorption. Dan Horvath said that CMV AEB could mitigate rear end crashes and Marianne said it should be both/and to maximize survivability. John Freiler asked if her motions are being brought later and Marianne confirmed. Harry Adler suggested looking at international truck manufacturer websites showing front underride protection. Marianne Karth noted that Western Star trucks are made in the US with front underride protection and shipped to Australia. Aaron Kiefer said that Peterbilt trucks have low frontal structure and he wants to know more about their design. Jeff Zawacki said most OEMs have large brackets on the front to support large radiators to meet EPA regulations.

Mr. Keith Friedman of Friedman Research Corporation presented on heavy truck front underride protection that they have done. He stated that far more passenger vehicle fatalities and injuries occur involving the front of heavy trucks than the rear or sides, and that manufacturers want a level playing field as created by regulations requiring safety improvements. He said that front impact prevention and mitigation should include collision detection, AEB, improved braking, and front underride protection devices. Front protection is mandated in Europe. He showed images of a simulated impact with an airbag on the front of a heavy truck to mitigate frontal collisions and said HT airbag technology can mitigate crashes. Lee Jackson asked him to send videos showing the airbags in collisions to ACUP. John Freiler asked if this is an existing product or development. Keith said this was testing for industry

Mr. Smith presented on concrete Jersey barriers, saying that secondary crashes are important. He said that the barriers were introduced in 1955 and that the original design has been changed over time. He showed the current F type as well as a new Test Level 5 barrier being made in Austria. He showed continuous slope barriers. He said that secondary accidents are important and should not be discounted. Lee Jackson asked if there is data on car rotation accidents. Doug Smith cited Utility trailer testing. Marianne Karth asked if he is saying underride should be allowed to prevent secondary accidents, and Doug Smith said other people should not die due to increased secondary crashes. Harry Adler said they need data on secondary accidents to consider them and that anecdotal evidence is not sufficient to show that those externalities will outweigh the benefits of the guards. Doug Smith said the car will either be smashed or deflect. Lee Jackson said the idea is that a potential secondary crash is not as bad as a certain rear underride. Jeff Bennett said that in the Hein accident, the car rode up the Jersey barrier which caught the fuel line and caused the fire, and that unintended consequences are a valid concern. Dan Horvath said that data is necessary for all recommendations and he has a motion for research on the secondary crash concern. Marianne Karth said there is a difference between spinning and slight rotation. Jeff Bennett said it was a 90 degree rotation and they shouldn't be playing god. Marianne asked Matt Brumbelow to weigh in on rotation. Matt Brumbelow said only 5% of fatalities are coded as a different harmful event than striking the truck, and most are one passenger vehicle striking one large truck and no other vehicles. John Freiler asked about his citation of FARS and Matthew Brumbelow clarified he does not take issue with total fatality counts in FARS. Harry Adler said that some items such as travel speed are not very accurate in FARS but the number of vehicles involved is much stronger data.

Mr. Dennis Lombardi, the President of IICL, presented on side underride guards and intermodal chassis. He discussed the comments they've submitted to NHTSA that IICL directed NHTSA to consider intermodal chassis in the side underride analysis and NHTSA did not complete any research on them. He said side underride guards on intermodal chassis would lead to supply chain disruptions and increase the number of trucks on the road. The cost in the ANPRM also does not include costs of inefficiencies, repair, etc. for intermodal chassis, and that current side underride guards are not suitable for intermodal chassis.

Lee Jackson showed a picture of stacked intermodal chassis to demonstrate that it is possible. Dennis Lombardi responded that they haven't seen how they could be implemented and there are other challenges, such as telescoping, generators, etc. Jeff Zawacki asked if IICL can provide recommendations on how to address underride without impacting operations, noting that the chassis has not been redesigned for many years. Dennis said anything limited stacking would create problems. Aaron Kiefer asked if IICL has any research funding. Dennis said they do not but they could consider it. Doug Smith

said increasing weight will reduce payload capacity and there are stacking limitations. John Freiler asked if the guards shown were side underride guards or VRU guards or aerodynamic mounts. Lee Jackson said he is unsure but showed the picture to demonstrate what can be done. John Freiler said they are happy to use demonstrated technology and perhaps they should consider a more tailored requirement. Lee Jackson said the requirement is necessary for someone to develop one. Marianne Karth showed a Strick trailer intermodal side guard and noted that what Lee showed is probably an LPD for VRUs. Marianne asked how IICL handles LPDs in other countries where they're required. She also said NHTSA asked for intermodal information in the ANPRM. She said industry members have the opportunity to apply for an exemption to requirements. Lee Jackson said there was no time for further discussion.

Dan McKisson said there is a lot of contention in the committee and requested that they work on more of a consensus report. Lee Jackson stated that the committee's limited time is part of the issue.

Motions

The Committee proceeded to discussion and voting on a list of motions compiled after the last meeting as agreed.

The Committee proceeded with discussion and voting on the motions. The first motion was from Jeff Bennett to define consensus as two-thirds, and he agreed to combine it with Doug's motion. Lee Jackson said there is no reason to vote on the consensus motion. Doug's motion is motion 15 so it will be discussed at that time.

Motion 2, brought by Jennifer Tierney, was that NHTSA should withdraw the ANPRM or reissue a revised ANPRM and cost-benefit analysis. Dan Horvath said withdrawing the ANPRM does not make sense and would only move things backward, and that the next step is an NPRM, not a new ANPRM. Jennifer disagreed that it should be changed, and Marianne agreed that withdrawing means acknowledging that the analysis is inaccurate. Harry Adler agreed that reissuing an ANPRM would be a delay but they want acknowledgement that the calculation was inadequate so perhaps they can modify the motion. Jeff Bennett said many trailers already have side skirts so the side guards can't claim that benefit. Marianne asked if Jennifer would be willing to combine the motion with hers. Jennifer said she wants to bring attention to what was missing in the ANPRM but she is fine with changing the motion as Harry said. Lee Jackson said they don't have time for much discussion of amendments. Jeff Bennett said they've received complaints that side guards damage the side skirts. The Committee voted and the motion passed with 7 YES votes, 6 NO votes, 4 abstaining.

Motion 3 was to say NHTSA must account for difficult or impossible to quantify benefits. The motion passed with 9 YES votes, 2 NO votes, 6 abstaining.

Motion 4, brought by Marianne Karth, was to say that NHTSA underestimated the number of preventable side underride deaths by 90% and the ANPRM should be withdrawn. Lee Jackson suggested removing the 90% number due to uncertainty. Jeff Bennett said that they need more data on effectiveness. Harry Adler asked if the motion is moot due to motion 2. Lee Jackson said they don't have time to combine/edit motions. The vote on the motion was a tie, with 7 YES votes, 7 NO votes, and 3 abstaining, which means the motion did not carry.

Motion 5 was for NHTSA to complete a new side impact guard analysis including VRUs. Jeff Bennett said the committee is on underride crashes, which are cars, not pedestrians. Marianne said they are talking about people dying under trucks. Jeff said they may die from the impact of a guard so they don't know if

it would prevent fatalities. John Freiler said the comments have been added to the ANPRM docket and that the motion should be to complete the rulemaking, including addressing all comments. Dan Horvath noted that the side guards for vehicles and VRUs are different and both should be addressed but are different. Harry Adler said there is a difference between a head on collision and off-tracking on a turn, and it's not to say all fatalities can be prevented by side guards, but NHTSA should reevaluate their analysis to count all potential benefits. Dan McKisson said the committee's job is to make NHTSA consider everything. Aaron Kiefer said he's doing research on side guards and VRUs. Jeff Bennett said they need the data and can't lead with the conclusion. Jeff Bennett said they sell pedestrian guards on their vans in Mexico. Lee Jackson said a guard could work for vehicles and pedestrians. Doug Smith asked about the pedestrian guards. Jeff responded they put a brace on the end of the skirt for the pedestrian protection. Dan Horvath said IJJA defined underide as vehicles and VRUs are another matter and they should discuss them separately from vehicles. Jennifer Tierney said VRUs are killed in underide crashes and they need to be counted to save lives. The Committee voted and the motion passed with 12 YES votes, 5 NO votes, none abstaining.

Motion 6 was for NHTSA to issue an ANPRM on front impact guards. Harry Adler stated support as it means collecting data on the matter. Lee Jackson agreed. The Committee voted and the motion passed with 11 YES votes, 1 NO vote, 5 abstaining.

Motion 7 was for NHTSA to harmonize with global front override regulations. Doug Smith said there is a difference between American and international trucks/trailers. Marianne Karth said Australia has both kinds of trailers and they have front override guards. Dan Horvath said this motion is moot because of motion 6. Marianne Karth said IJJA directs NHTSA to harmonize but Dan Horvath said it's a mischaracterization. Dan McKisson suggested an amendment to say "may" instead of "should" and Aaron Kiefer agreed that there should be some flexibility. Marianne Karth accepted the change. They voted on the motion and it passed with 11 YES votes, 1 NO vote, and 5 abstaining.

Motion 8 was for the creation of a Presidential Advisory Committee on Integrity of Underide Research. Lee Jackson disagreed that they need another committee for the same thing. Marianne said the Committee may not continue and does not have access to a lot of information. Jeff Bennett said there are many other deaths and there's no reason for this topic to take priority. Marianne Karth said the committee would specifically review all underide related research, which ACUP has been unable to do. The Committee voted and the motion did not carry, with 1 YES vote, 12 NO votes, 4 abstaining.

Motion 9, from Aaron Kiefer, was for all new semitrailers and SUTs with open spaces along to side to be equipped with side guards capable of preventing PCI with a midsize vehicle at any angle and closing speeds up to 40 mph. Jeff Bennett said current guards have not been shown capable of that, and Harry Adler said the committee is not making the rules, just recommending actions. Jennifer Tierney said it's about reducing crashes and fatalities, even if it won't save everyone. Doug Smith asked if this is mandating something that has not been created yet, and Lee Jackson disagreed. Dan McKisson asked if new semitrailers includes chassis. Aaron Kiefer said that's up to NHTSA. John Freiler said there's an open rulemaking on side guards so he's unsure what this is saying. Aaron Kiefer said 40 mph is an important target because that's survivable in modern vehicles. John Freiler said this should be suggested as part of the current rulemaking so as to not delay something that's already in progress. The Committee voted and the motion passed with 11 YES votes, 6 NO votes, and none abstaining.

Motion 10 was for all semitrailers and SUTs manufactured after 1998 to be retrofit with side guards. Jeff Bennett questioned the motive for this motion. Doug Smith said that retrofitting is expensive. Marianne Karth said that people shouldn't assume others' motives. Jennifer Tierney said that nobody should be discussing cost and that shouldn't be discussed. Jeff Bennett said that NHTSA must consider cost so it needs to be considered. Aaron Kiefer said the intent is for trailers in use. John Freiler said it's about prioritizing the best solutions. The Committee voted and the motion passed with 8 YES votes, 6 NO votes, and 3 abstaining.

Motion 11, brought by Aaron Kiefer, was for the side guards in the previous two motions to also prevent VRUs from passing under the vehicle. Jeff Bennett questioned if side guards would also protect VRUs. Aaron Kiefer said he doesn't see a reason why side guards can't also protect VRUs. Doug Smith said it's too broad. They voted on the motion and it passed with 9 YES votes and 8 NO votes, none abstaining.

Motion 12 was for NHTSA to conduct a cost analysis of the total cost of a fatal side underride crash including lost productivity, court costs, etc. based on data from crashes such as that of Riley Hein. Jeff Bennett said the reference is to a follow on crash. Harry Adler said the death was due to the car being lodged under the trailer, and that NHTSA's analyses should be updated and looked at in depth. Harry Adler suggested modifying the suggestion. Aaron Kiefer agreed to withdraw the motion but stated that a lot of costs were not captured in the ANPRM.

Motion 13, brought by John Freiler, was to replace the 5 year tape recommendation with a recommendation to conduct a study of conspicuity tape in service and actual rates of compliance. Lee Jackson agreed with the study but not with removing the 5 year requirement because the reflectivity meters are so expensive and everyone will not have them regardless. John Freiler agreed to amend the motion to remove the reference to the 5 year recommendation and just request a study. Thomas Mrozinski said the meters are too expensive for all the vehicle inspectors to carry. Doug Smith asked why they can't use human eye. Lee Jackson responded it needs to be quantified so it's not subjective. The Committee voted and the motion carried with 16 YES votes, 1 NO vote, none abstaining.

Motion 14, brought by Jeff Bennett, was for the ACUP report of consensus advice be provided to the committee at least 3 weeks before submission so everyone has time to include their views. Lee Jackson said time is tight and suggested amending to 1 week. Jeff Bennett agreed to the amendment. Dan Horvath said that the committee needs to commit a chunk of time in the next meeting for the report. Marianne Karth asked if they will be allowed to discuss matters via email and Jim said no. Harry Adler asked if they can email. Jim said they can email information but cannot discuss the matters. The Committee voted and the motion passed with 17 YES votes (all present).

Motion 15, brought by Kristin Glazner, was for NHTSA to set deadlines for report drafts, but she withdrew her motion.

Motion 16, brought by Doug Smith, was for consensus to mean two-thirds of all members. Lee Jackson disagreed with voting on this motion based on Doug and Jeff having already voted against the existing definition of consensus. Lee Jackson said this would undo all the settled votes for recommendations that passed with a simple majority. The Committee voted and the motion did not pass, with 8 YES votes, 9 NO votes, none abstaining.

Wrap Up

Discussion and voting for the motions continued through the end of the meeting. The scheduled presentations and discussion on topics relating to side underride crashes were postponed to a later meeting.

05.22.2024 Meeting Minutes

Time and Location

The meeting was held May 22, 2024, from 12:30 to 4:30 p.m. ET. It was a virtual meeting conducted via Zoom for Government webinar. The meeting was not recorded.

Participants

National Highway Traffic Safety Administration (NHTSA)

Mr. James Myers, *Designated Federal Officer*

Committee Members

Mr. Aaron Kiefer, *Motor Vehicle Crash Investigators*

Ms. Claire Mules, *Insurance Industry*

Mr. Dan Horvath, *Motor Carriers*

Mr. Doug Smith, *Motor Carriers*

Mr. Harry Adler, *Truck Safety Organizations*

Mr. Jeff Bennett, *Motor Vehicle Engineers*

Ms. Jennifer Tierney, *Truck Safety Organizations*

Mr. John Freiler, *Truck and Trailer Manufacturers*

Ms. Kristin Glazner, *Truck and Trailer Manufacturers*

Mr. Lee Jackson, *Motor Vehicle Crash Investigators*

Ms. Marianne Karth, *Families of Underride Crash Victims*

Mr. Matthew Brumbelow, *Insurance Industry*

Ms. Mindy Carter, *Emergency Medical Service Providers*

Dr. Ted Delbridge, *Emergency Medical Service Providers*

Mr. Thomas Mrozinski, Jr., *Law Enforcement*

Invited Speaker

Mr. Eric Hein, *bereaved father of Riley Hein*

Welcome and Call to Order

Mr. Myers opened the meeting with roll call and confirmed the presence of a quorum. Ms. Jane Mathis, Mr. Dan McKisson, and Mr. Jeff Zawacki were unable to attend the meeting. There were no objections to the April meeting minutes.

Mr. Jackson, Committee Chair, thanked everyone for their participation in the Committee and noted that there were no further meetings scheduled. Mr. Jackson asked the Committee members to provide

their statements for the report ahead of the submission deadline on June 30. Mr. Horvath asked for clarification on the timeline and report. Additional discussion on the report occurred later in the meeting.

Motions³⁷

The Committee proceeded to discussion and voting on the list of motions that remained from the previous meeting. Motion 17, brought by Mr. Smith, was for NHTSA to provide an independent moderator for the Committee. Mr. Smith withdrew his motion because it was no longer pertinent. Motion 18, brought by Mr. Horvath, was for NHTSA to work with the Federal Railroad Administration to conduct research on potential impacts of side underride guards during highway-rail grade crossings. Mr. Kiefer suggested amending the motion to ensure that any such research is made public, and Mr. Horvath agreed to the amendment. Ms. Tierney stated support for research but not as a prerequisite for a side guard requirement. Mr. Bennett said that the research should not be limited to railroad crossings, noting that loading docks and other grades of 10 degrees or more create similar concerns. Mr. Horvath agreed that loading docks are a concern but said they should be kept separate. The Committee voted on the motion and it passed with 15 YES votes, which was all present.

Motion 19, brought by Mr. Horvath, was for NHTSA to include vulnerable road users (VRUs) in crash reporting, and for vehicles and VRUs to be addressed separately. Ms. Karth said that side guards can be designed to protect both VRUs and occupants of passenger vehicles and they should be protected together; Ms. Tierney agreed. Mr. Horvath said that some cities have VRU guards and that the collisions are different types of events. Mr. Adler agreed that they are different, that both need to be addressed, and that VRUs should be included in the Model Minimum Uniform Crash Criteria (MMUCC). Mr. Horvath noted that the Volpe center studied the issue and created a standard that was specific to VRUs. Mr. Adler said that Volpe looked at lateral protective devices (LPDs) and did not consider side underride guards. Mr. Horvath agreed to amend his motion to remove the statement of separation, and Ms. Karth expressed support for that amendment. Mr. Myers suggested that the Committee use different terms to distinguish between types of side guards that are designed for VRUs and for passenger vehicles. Ms. Karth said that 'LPD+' can be used in reference to a combination guard. Mr. Freiler said that the motion is about people, not guards. The Committee voted on the motion and it passed with 14 YES votes, which was all present at the time.

Motion 20, brought by Mr. Horvath, was for NHTSA to investigate the potential for collision mitigation technologies to prevent or reduce the risk associated with side underride crashes. Ms. Tierney suggested adding driver assistance technologies for heavy trucks as well as passenger vehicles. Mr. Horvath replied that those technologies are included in his statement and that his motion was broad, not limited to specific technologies. Ms. Tierney suggested adding "all" to the motion; Mr. Smith disagreed. Mr. Freiler suggested amending the motion to add "for light and heavy-duty vehicles" to address Ms. Tierney's concern, and Ms. Tierney agreed with his suggestion. Mr. Horvath amended the motion as suggested by Mr. Freiler. The Committee voted and the motion passed with 15 YES votes, which was all present.

³⁷ These meeting minutes capture committee member discussions from the May 22, 2024, ACUP meeting. No attempt has been made to correct inaccuracies spoken during the meeting. No attempt has been made to interpret or add explanation for the words spoken by committee members.

Motion 21, brought by Mr. Horvath, was for NHTSA to address risks associated with deflection into adjacent lanes in partial offset rear crashes and side underride crashes. Mr. Horvath noted that the subject has been raised as a concern in Committee discussions. Ms. Karth suggested an amendment to add an assessment of the risks in comparison to the underride crashes that are mitigated by the guards. Mr. Smith stated that people not part of the initial impact should not have to be involved in a crash. Ms. Tierney said that approach is contrary to Vision Zero and the National Roadway Safety Strategy. Mr. Kiefer stated that the implementation of highway guardrails included assessment of secondary crashes but that it does not make sense to study secondary crashes in a vacuum. Mr. Adler agreed that effects of possible secondary crashes should be framed within the context of prevented underride crashes. Mr. Smith stated that NHTSA has shown concern over secondary collisions. Mr. Freiler suggested an amendment to make the research public; Mr. Jackson questioned whether such a request would require NHTSA to do so. Mr. Horvath agreed with Mr. Freiler's amendment. Ms. Karth reiterated that secondary collisions should be compared to the injuries and fatalities that are prevented. Mr. Kiefer stated that secondary crashes are a straw man argument because the probability of such crashes is very low. Mr. Brumbelow agreed with Ms. Karth and Mr. Kiefer, stating that the most severe crashes should be prevented, and that passenger vehicle safety has improved. Mr. Bennett said that they know FARS undercounts underride so saying that the FARS data does not show high incidence of secondary crashes is hypocritical. Mr. Horvath said the intent of his motions as a whole is to address the primary concerns that have been raised in Committee meetings and in response to rulemaking. Mr. Horvath also said that motions should be kept simple but agreed with amending the motion to say results should be made public. Mr. Myers noted that the agency does publish final results. The Committee voted and the motion passed with 9 YES votes, 6 NO votes, and none abstaining.

Motion 22, brought by Mr. Adler, was for the Committee to recommend that NHTSA advance rulemaking mandating side underride guards on all applicable new semitrailers. Mr. Horvath asked if the Committee already voted on a similar motion, and Mr. Jackson agreed that it sounded familiar. Mr. Adler agreed to withdraw Motion 22 as well as Motion 23, which was to require retrofitting side guards, as they were very similar to the motions brought by Mr. Kiefer that were already discussed and passed by the Committee. Motion 24 was to require side guards on single unit trucks. Others again stated that the subject had been voted on, so Mr. Adler also withdrew Motion 24.

Motion 25, brought by Mr. Adler, was for NHTSA to examine the need for weight-based exemptions for side underride guards to address weight concerns. Mr. Myers asked Mr. Adler if he was referring to weight limits set by each State. Mr. Adler stated that Congress sets the weight limits for trucks. Ms. Tierney said that heavier trucks are associated with more severe and frequent crashes, and that DOT should not be trading one safety concern for another. Mr. Freiler said the recommendation should be to Congress and suggested an amendment to the motion to also request a study. Mr. Adler agreed with the amendment, saying that the issue should be explored to hopefully show that the added weight is not a significant concern. Mr. Bennett stated that the nation's infrastructure cannot handle greater vehicle weight. Ms. Mules said that trucks aren't weighed before leaving the yard. Mr. Smith said that weight costs are passed onto consumers. Ms. Karth noted that the motion is merely for a study and suggested that NHTSA may not be the correct agency to address. Mr. Adler agreed to amend the motion to make the recommendation to DOT. Mr. Adler also reiterated that the motion is not recommending an exemption to the vehicle weight limit, but rather is requesting a study to address vehicle weight concerns. Ms. Tierney said that a 2016 study showed that most trucks cube out before they weigh out and reiterated that truck weights should not be increased for any reason. Mr. Kiefer

noted that his side guard weighs around 500 to 700 pounds. The Committee voted and the motion passed with 7 YES votes, 6 NO votes, and 2 abstaining.

Motion 26, brought by Mr. Adler, was to recommend that NHTSA request DOT's Volpe center to evaluate the effectiveness of side underride guards to determine if they have similar or greater effectiveness than LPDs in mitigating the severity of collisions with VRUs. Mr. Kiefer stated agreement with the motion. There was no further discussion. The Committee voted and the motion passed with 13 YES votes, 1 NO vote, and 1 abstaining.

Motion 27, brought by Mr. Adler, was to recommend that NHTSA create a field in FARS to determine if an underride crash occurred involving a large truck and a pedestrian or cyclist. There were no comments. The Committee voted and the motion passed with 13 YES votes, 0 NO votes, and 2 abstaining.

Motion 28, brought by Mr. Adler, was to recommend that NHTSA disseminate educational material for law enforcement to help them identify and record side underride crashes accurately. Ms. Karth suggested an amendment to say that the material is in addition to existing material, and Mr. Adler agreed with that amendment. Mr. Freiler suggested further amending the motion to say DOT rather than NHTSA, and Mr. Adler agreed. The Committee voted on the amended motion, and it passed with 15 YES votes, which was all present.

Motion 29, brought by Ms. Glazner, was for the Committee report to reflect whether each member agrees with the content of the report by means of a statement of concurrence or non-concurrence. Ms. Glazner said that the statements would provide clarity on each member's position, especially for earlier motions when individual votes were not recorded. Mr. Jackson asked if the statements would be provided as an appendix and in place of a minority report. Ms. Glazner said it could work that way. Mr. Horvath, Mr. Adler, and Mr. Jackson stated support for the motion, noting that the statements may be a good way to express individual opinions. The Committee voted and the motion passed with 15 YES votes, which was all present.

There were no new motions.

Presentations

The first scheduled presentation was by Mr. Bennett on crash tests of side underride guards. He stated that IIHS tested the AngelWing side guard in 2017, but that the trailer was lightly loaded on a smooth floor and that they did not test other impact locations or angles. Mr. Bennett said that the AngelWing had three safety deficiencies, which were rigid bracing similar to bracing that has resulted in DOT safety recalls, violating regulations on air brake lines, and reduced breakover angle under 10 degrees, which leads to damage. He said that Utility ran the same test protocol on their similar side underride guard design with a greater payload, and it was effective in the full overlap test but failed in a low overlap test, even with reinforcement at the end of the guard. Mr. Bennett also showed pictures of a 45-degree impact test in April 2023 where the AngelWing detached from the trailer and resulted in underride. He stated that impacts toward the end of the guard at an angle are a common crash configuration. He also said the AngelWing does not meet the current FMVSS load requirements for rear guards and has only been shown to work in specific situations. Mr. Bennett said that the Committee's advice should be supported by field evidence and that the increased cost of side underride guards would add \$10 billion in cost that would be passed onto consumers. Mr. Kiefer noted that the AngelWing is not the only

product on the market as his guard is also available, asked about other tests, and stated that the old trailer used for the AngelWing test failed due to corrosion. Mr. Bennett responded that he asked for pricing of Mr. Kiefer's guards, noted that Utility facilities have proprietary content, and stated that they need to know the actual effectiveness of the guards. Mr. Smith asked the weight of side underride guards; Mr. Bennett replied that the Utility guard was around 900 pounds, and they are working on lighter versions. Ms. Karth said that the AngelWing was reduced to 600 pounds in 2017.

The second presentation, by Ms. Karth, was on underride data collection. Ms. Karth stated that underride crashes occur every day and are underreported. She cited an underride crash study conducted by IIHS, provided examples of underride fatalities that were not coded accurately, and showed a graphic from the Institute for Safer Trucking demonstrating that some states do not include a field for underride on crash reports. Ms. Karth said she contacted state highway patrols in 2023 and obtained information about FARS coding. She said that the FARS contractor has not made changes to improve underride data and that NHTSA filters the FARS data, which alters the results, as shown by the IIHS analysis. Ms. Karth said that FARS accuracy is necessary but insufficient because the data is filtered.

The third presentation was by Mr. Kiefer on side underride crash testing conducted in 2023. He showed a successful 40 mph crash at 45 degrees with the AngelWing guard and stated that the trailer structure itself makes a difference in the outcome. Mr. Kiefer also showed a SafetySkirt test behind the rear axles of a trailer at 36 mph that prevented PCI, as well as a successful 45-degree impact into the center of the guard. He then showed a test with no side guard at 37 mph and 45 degrees for comparison. Mr. Kiefer stated that the polyester webbing of his SafetySkirt design absorbs energy by stretching but does not tear easily, providing crash mitigation. He also showed a successful 43.5 mph test into the side of the trailer with a SafetySkirt. Mr. Bennett asked for additional information on the guards and testing, especially collisions at the ends of the guard. Mr. Kiefer said he is unaware of other AngelWing tests but knows there have been changes to the guard, and he stated that the trailer in his tests was loaded with water. Mr. Smith asked about reefer trailer structure and what gauge steel is used for the rigid guards. Mr. Kiefer responded that he added more anchor points for reefer trailers and that it is better to have some give as with the SafetySkirt rather than having a rigid structure. Mr. Bennett stated that the AngelWing and Utility's version of the side guard are both made with 3/16" and 1/4" tubing, and that Utility attaches their guard to the side rails of the trailer.

The last presentation was by Mr. Eric Hein, the bereaved father of Riley Hein, on a petition under the Administrative Procedure Act to improve NHTSA's FARS underride data. He stated that NHTSA provides funding to states for FARS and that the user manuals are updated annually. Mr. Hein said that many researchers have documented underreporting of underride since the 1990s, that NHTSA did not adequately address GAO's recommendations, and that he petitioned DOT to amend the FARS guidance in 2023. His petition was for DOT to update the manuals and MMUCC to provide standardized definitions of underride and override, modify the existing FARS data element to differentiate rear and side underride crashes, require states to include an underride/override checkbox, and provide annual training and information to state analysts and police departments. Mr. Hein made a recommendation to the Committee that they recommend NHTSA grant his petition and address underreporting in the 2025 update of the FARS coding and manuals. Ms. Karth said she would like to include that recommendation in the ACUP report and Mr. Jackson said it would be included. Mr. Bennett questioned what changes may result from more accurate data. Ms. Mules said that police reports are completed at the time of the accident and many people pass at the hospital. She also stated that insurance

companies could provide lower premiums for trucks with side guards. Mr. Jackson noted that in Texas, at least, later deaths are to be reported up to 30 days after the crash. Mr. Freiler asked for clarification on the petition; Mr. Hein replied that he submitted the petition in 2023 and it was not a petition for rulemaking. Mr. Freiler expressed support for the petition.

Report Discussion and Wrap Up

The Committee proceeded to discussion of the report and the ending of the Committee. Mr. Adler asked how the report writing would be completed. Mr. Jackson stated that he would disseminate a draft report by June 18 and that anyone on the Committee could send him content to include in the report. Mr. Smith and Mr. Bennett volunteered to write the minority report and asked if they are allowed to communicate separately. Ms. Karth inquired about the Charter extension; Mr. Jackson responded that the extension has not been granted and there are no more meetings though the Committee did not meet for nearly a year. Mr. Horvath asked for clarification on the extension response and report writing. Mr. Myers clarified that there has not been a response, that emails should include all Committee members, and that discussions cannot be held via email. Mr. Horvath and Ms. Karth verified that the individual concurrence forms will be included with the report. Mr. Adler asked for verification that all motions that have been passed will be included in the majority report, and Mr. Jackson confirmed. Mr. Adler also asked for a list of all motions that have been voted on, particularly regarding front override; Ms. Karth noted which motion addressed front override. Ms. Glazner stated that she would create the concurrence/non-concurrence form for everyone to complete after the report is circulated. Mr. Smith also asked for Mr. Myers to provide a list of the motions. Mr. Myers responded that the previous meetings' motions have already been sent and confirmed that he will also provide the file from the current meeting. Mr. Jackson asked if there was any final business before the Committee adjourned. Several members of the Committee thanked Mr. Jackson for serving as the Committee Chair. Ms. Karth noted that Mr. Kiefer is planning future crash tests and asked others to consider attending. As there was no further business raised, the meeting adjourned early.