

**TRB COMMITTEE ON TRUCK & BUS SAFETY (ANB70)**  
**ANNUAL MEETING MINUTES**  
**JANUARY 2015**

Tuesday, January 13, 2015: 1:30 PM – 5:30 PM Eastern  
Location: Marriott Marquis, Marquis Ballroom, Salon 15 (M2)

**Agenda**

**1. Welcome & Introductions – All**

**2. Review of Mid-Year Meeting 2014 Notes – Erin Mabry**

- a. Posted at: <http://www.ugpti.org/trb/truckandbus/meetings/>

**3. Paper Review Summary and Discussion (see presentation)**

- a. 2014-2015 Papers Summary – Bob Scopatz and Brenda Lantz
  1. 17 submissions, 1 publication only, 3 presentation only
  2. 80 reviews assigned round 1, 64 reviews received
  3. 13/16 accepted for presentation (asked to tighten ratio in future)
  4. 11/14 for publication="revise/re-review"-must tighten in future; 10 submitted revisions for re-review
  5. 40 re-review requests sent, 19 received, 21 pending
  6. Likely recommend only 4 papers this year (TRB target 20%)
  7. We will cut back on re-reviews next year
  8. Q: Should reviewers be more discriminatory/tough?
    - i. A: Yes-scores should reflect comments/feedback (to both author and review committee); 5 point scale is tough; Reviews with scores but no comments, hard to use

9. Contact Bob to volunteer to serve as reviewer

**b. 2013-2014 Award – Bob Scopatz, Jerry Krueger, and Jeff Hickman**

1. ANB70 Deborah Freund Paper Award to: 14-1125 - Evaluation of Truck Impact Hazards for Interstate Overpasses
2. Authors - Xiao Qin, Zhao Shen, Nadim Wehbe, Shiling Pei, Zhaoxiang He; Department of Civil and Environmental Engineering, South Dakota State University



**4. Committee Membership**

- a. Welcome again to new members – Brenda Lantz
  - i. Fraser McGuire – Young Member; Senior Safety Research Advisor with the Ministry of Transportation of Ontario
  - ii. Brandon Buchanan - Director of Regulatory Affairs, American Bus Association

- b. Two (2) spots for state DOT members-contact Brenda for nominees

**5. Committee Communications – Brenda Lantz**

- a. Website / Communications Coordination
  - i. Erin Mabry - Committee Communication Coordinator
  - ii. New Friends who have registered on MyTRB, please also send Erin Mabry (emabry@vtti.vt.edu) an email indicating requests to be added to the Friends listserv to receive email communications.
  - iii. CCC meeting highlighted social media opportunities to increase marketing/reach of committee info and communications. Suggestion to poll committee members and friends regarding their interest in social media ops for related information.
  - iv. TRB Communications Essentials

**6. Young Members Association-Nicholas**

- a. Mentoring Program-matching mentors to mentees
- b. Accepting applications until end Jan 2015
- c. Opportunities to shadow, varied level of interest
- d. Contact Nicholas or Brenda
- e. Andrea to send out link to survey
  - i. This was sent out to the committee the evening of 1/13/2015.

**7. FMCSA Report - Safety Research Initiatives – Steve Smith**

- a. Bill Bannister reported on FMCSA’s new model on the effectiveness of enforcement interventions; recent findings and presentations can be found on the FMCSA website <fmcsa.dot.gov>.
- b. FMCSA recently published research results on the use of electronic logging devices which include measuring driver attitudes on harassment, and measuring the safety benefits of carriers’ use of ELDs. These, along with other topics were addressed at the FMCSA Research Forum held in conjunction with the TRB conference. Presentations can be found on the FMCSA website. This includes the briefing on the MAP-21 mandated report on Hours of Service study.
- c. In 2015 FMCSA is undertaking a congressionally mandated Commercial Motor Vehicle Driver Restart Study to measure fatigue and safety performance between CMV drivers with restarts of 1 night rest break vs. 2 or more night rest periods.
- d. FMCSA is also working on a research project to assess entry level driver training programs.
- e. Work zone safety: FMCSA is examining ways in which work zone wireless technology can be used to generate warnings to motorists approaching a work or traffic incident zone; a FMCSA report on work zone crashes is available on the Agency website.
- f. Tom Yager-work zone common sense; light vehicles often at fault

- g. If you are interested in viewing the PowerPoint presentations that were delivered at the 2015 FMCSA Forum, please visit:  
<http://www.fmcsa.dot.gov/safety/research-and-analysis/analysis-research-and-technology-forum-94th-annual-meeting>

**8. FMCSA Report - Policy and Rulemaking Initiatives – Tom Yager**

- a. All of the following are active rulemakings-can't discuss in detail
- b. Electronic Logging Devices-complex because it includes harassment issues, supporting document issues
- c. Safety fitness determination-NTSB recommendation; use data to rate motor carriers-more elaborate process of scoring-due Spring 2015
- d. Drug and alcohol clearinghouse-MAP-21: drivers who failed/refused drug test or didn't fulfill rehab requirements-final rule late 2015
- e. Uniform registration system (URS-v1 out)-one registration system
- f. Coercion-map21 requirement-to be released 2015
- g. Financial responsibility-what levels motor carriers must carry?; Asking companies to provide data, advance notice only
- h. Entry level driver training-no formal CDL training currently required; problem for rule-no data that training produces safer driver; negotiated rule making being undertaken
- i. Natl. Registry of Medical Examiners --New requirement: driver goes to DOT certified medical examiner; no doctor shopping
- j. Link to monthly public DOT report of ongoing rulemakings:  
<http://www.dot.gov/regulations/report-on-significant-rulemakings>

**9. NHTSA Report – George Soodoo and Abby Morgan (see presentation)**

- a. Crash Avoidance Projects
  - i. ESC-expected to publish final rule in April 2015
  - ii. Heavy truck tires-upgrading heavy vehicle tire standard-developing final rule
  - iii. Advanced Crash Avoidance Technology Research-preliminary results, final results later 2015, new focus on straight trucks
  - iv. Heavy vehicle V2V Research-address heavy vehicle-specific challenges to accommodate combination vehicles
- b. Crashworthiness Projects
  - i. Heavy vehicle event data recorders-agency decision mid-2015
  - ii. Lap/shoulder belt on motor coaches-final rule issued requiring belts on all motor coaches-responding to petitions for reconsideration
  - iii. Motor coach rollover structural integrity-developing final rule
  - iv. Improve glazing and window retention in motor coaches-developing proposal
  - v. Motor coach emergency evacuation-rulemaking on hold

- vi. Motor coach fire safety-considering upgrading fire standards, reviewing new research results
- vii. Motor coach interior impact protection-identify potential for head impact injury, complete countermeasures study in 2015
- viii. Compartmentalization Safety Countermeasures for Motor coaches-complete research program in 2015

**10. NTSB Report – Robert Molloy (see presentation)**

- a. Three (3) board members
- b. Completed investigations
  - i. Mt. Vernon Bridge collapse 2013-truck hit overhead bridge
  - ii. Rosedale, MD-truck, train collision on railroad, train derailed, post-accident explosion
- c. Highway Most Wanted List 2015:
  - i. Reduce impaired driving
  - ii. Reduce distracted driving
  - iii. Improve safety in mass transit
  - iv. Improve medical certification-problems with drivers lying
  - v. Improve trucking safety
- d. 2014 Investigations
  - i. Orland, CA-truck crosses road/median, hits motor coach, difficulties passengers exiting bus
  - ii. Davis, OK-motor coach struck by truck, cross median, 4 fatalities
  - iii. Cranbury, NJ-truck hits minibus and light vehicles
- e. Other investigative reports
  - i. Bus Onboard videos
  - ii. Rear end collision prevention

**11. CVSA Report – Steve Keppler**

- a. CSA-letter sent to FMCSA to request scores pull from public display
- b. Data quality efforts, conducting a 3-day workshop in August for State data managers and analysts
- c. Policy-legislative Reauthorization a focus, Grants and regulatory reform, including exemptions, are a few key issues
- d. CVSA study on heavy vehicles indicates both permitted and non-permitted vehicles have high vehicle out of service rates, with brakes being the most significant issue.
- e. Education-training materials/tools are available for free-ELDs, Brake inspections, others. Go to CVSA Web site.
- f. 2015 Workshop in April, a number of mini-workshops are going on: Work Zone safety, Size and Weight enforcement, Connected Vehicles, Cargo Securement, IFTA/IRP,
- g. Regs 383, 391, inconsistent regulations that need attention

- h. Rulemaking petitions to FMCSA regarding fatigue-clarify fatigue regulation and English language proficiency. Enforcement needs better tools and training to assess fatigue and to enforce regulations
- i. Q: Truck size and weight committee?? A: Yes!
- j. Issues with FOT to assess fatigue-pulling over alerts/arouses driver
- k. Suggestion to hold a truck size and weight meeting-Joel
- l. Kinetic and Volpe-train brains to be hyper-vigilant

## **12. Association briefings / potential research needs**

- a. Rob Abbott, VP of Safety Policy, ATA (unable to attend)
- b. Tom Weakley, Director of Operations, OOIDA
  - i. Concerns/research need: data about crashes, videos, what did driver do to mitigate crash, what did driver do right? Use for driver training. NDS, SCE before crash. What is that driver doing “right”? This is what belongs in driver training class.
  - ii. Research being awarded to groups supportive of what they feel will happen, confirmation bias. See panel created (true experts) to mitigate this. Conflict of interest issues-3rd party technology/provider helping with study.
  - iii. Real subject matter experts (SMEs)-who are these guys?
  - iv. Practical statistics
  - v. Plans to be more proactive-concern over these issues.
- c. Brandon Buchanan, ABA (unable to attend)

## **13. Subcommittee Reports**

- a. Review of annual subcommittee meetings - research needs identified?
  - i. See separate meeting notes at the end of this document for each subcommittee.
- b. Truck and Bus Operator Health and Wellness – Jeff Hickman
  - i. Three (3) presentations, brief subcommittee work.
- c. Truck and Bus Safety Data Needs – Bob Scopatz
  - i. FMCSA safety data update, one (1) invited presentation, plan for the future-purpose, focus, direction for subcommittee.
- d. Motorcoach Safety – Tom Yager
  - i. Presentation on motor coach routing tool, discussion on motor coach research needs and issues.
- e. Alternative Compliance – Gene Bergoffen
  - i. Review of letters between CVSA and FMCSA, and discussion.
- f. Technology – George Reagle
  - i. V2V presentation, on web site
  - ii. Need to get more technology on small trucks
  - iii. Research priorities circulated in near future
  - iv. Connected-Automated Vehicles – issues for truck & bus safety

- v. NHTSA research – Bob Kreeb
- g. Driver Training – Tom Weakley
  - i. Cost benefit to driver training?
  - ii. Survey going out asking about driver training
  - iii. Research needs
  - iv. OOIDA offers 20-30 modules on online business training-free

**14. Research Coordination/Needs Statements – Ron Knipling**

- a. Review of Commercial Driver Fatigue Research Methodologies (and research needs) – Ron Knipling
  - i. Send ideas (on any ANB70-related topic) to Ron
  - ii. Public forum for ideas-no funding mechanisms
  - iii. Ron’s presentation on website

**15. Enforcement Disparities across States research – Dan Murray**

- a. Phase 1: Four (4) things: compare state data metrics, map violations to crash risk, compare state enforcement objectives to real crash data, evaluate carrier safety performance across states
- b. Phase 2: Identify top 10 high performance states; interview CMV enforcement officials at top 10 states; identify strategies, programs, etc.; best practices to assist other agencies
- c. Q: Any incentive for other states to adopt these best practices?
  - i. A: incentive funds not formally available through MCSAP at this time.

**16. Triennial Committee Self-Evaluation – Joel Ticatch**

- a. The Safety and Users Group, which is the TRB “group” in which ANB70 resides, plans to “jump start” the Triennial Committee Self-Evaluation process.
- b. The concept is to encourage Committees to look “forward,” rather than to over-emphasize looking “backwards.”
- c. The Group is developing a new template for the Triennial evaluations, with the idea that all Committees, on a staggered schedule, will complete the exercise over the next three years. No decision has been made about which of the next three years ANB70 will be asked to complete its evaluation.
- d. Brief discussion among members suggested the Triennial Evaluation exercise might afford the opportunity for the Committee to engage in “strategic” planning, which we haven’t done for a good while and could be beneficial to the Committee as a whole.
- e. Consequently, a Committee Task Force was formed to consider the Triennial Self-Evaluation process.
  - i. Task Force members are Joel Ticatch, Brenda Lantz, Ron Knipling, Gene Bergoffen, and Andrea Sequin.
  - ii. The Task Force will await guidance from the Safety and Users Group and report back on status and recommendations for moving forward at the Mid-Year Committee Meeting.

## 17. TRB Updates – Bernardo Kleiner

- a. Information Resource Center - <http://www.trb.org/ANB70/ANB70.aspx>
- b. 12,280 attendees, attendance up 5%
- c. 5,400 papers submitted
- d. New executive director, Neil Petersen, beginning Feb. 2015
- e. All committees asked to discuss connected and automated vehicles
- f. Next year annual meeting theme selected: “Research Convergence: Delivering on our Connected Multimodal Future”
- g. MyTRB continue to rollout-update your profile
- h. Message from TRB Executive Director – sent March 2015: “On behalf of TRB, let me express our appreciation to you for attending the 2015 TRB Annual Meeting at its new venue, and for taking the time to complete the survey of attendees. In your response to the survey, you indicated that you would like to see a summary of the responses.”
  - i. Summary of Responses:  
<http://onlinepubs.trb.org/onlinepubs/dva/2015TRBAnnualMeetingSurveySummary.pdf>
  - ii. “More than 2,700 attendees completed the survey. As you can see, the ratings for the various aspects of the meeting in the new venue were overwhelmingly positive. The respondents also provided suggestions for further enhancing the meeting experience. TRB staff has reviewed all of the comments received, and we have already begun working to address a number of the common themes. These include providing more information on the availability of food and beverage options, and adjustments to some of the meeting room and audio-visual arrangements, among others.”
- i. Visit the TRB Annual Meeting Online portal to view the slides and posters from the 2015 Annual Meeting - <http://amonline.trb.org/>

## 18. Reminder of Poster Session – January 14, 2015 8:30AM - 10:15AM Convention Center, Hall E

- a. Impact of Truck-Auto Separation on Crash Severity
- b. Exploring the Nature and Severity of Heavy-Truck Crashes in Abu Dhabi, United Arab Emirates
- c. Analysis of Bus Driver Perception-Reaction Times and Deceleration Behavior for Design of Traffic Signal Clearance Times
- d. Time-of-Day Analysis of Crashes Involving Large Trucks in Urban Areas
- e. Risk Analysis of Collisions Between Trucks and Interstate Overpasses
- f. Common Data Elements in Large-Truck Causation Study and Commercially Available Onboard Monitoring Systems
- g. Investigating Temporal Effects on Truck Accident Occurrences in Manhattan

- h. Truck Accident Severity in New York City: Investigation of Spatiotemporal Effects and Vehicle Weight
- i. Machine Learning for Commercial Motor Vehicle Drivers' Driving Pattern Recognition
- j. Effects on Driving Hours and Time of Day on Large Truck Safety Based on Multilevel Discrete-Time Survival Analysis
- k. Effects of Truck Traffic on Crash Injury Severity on Rural Highways in Wyoming Using Bayesian Binary Logit Models
- l. Analysis of Injury Outcomes of Crashes Involving Large Trucks by Time of Day in Urban Areas in Texas

**19. Other Business:**

- a. Update our Circular?
  - i. The 2007 "Domain of Truck and Bus Safety Research" circular is on our site at: <http://www.ugpti.org/trb/truckandbus/resources/>
  - ii. Also, we had a "key research" session at last year's meeting, and the presentations from this are at:  
<http://www.ugpti.org/trb/truckandbus/meetings/2014/research.php>
    - 1. We can leverage some of the information from that session to assist with updating our circular.
- b. 2016 Annual Meeting Activities and Plans
- c. Midyear meeting in summer - perhaps jointly with the Trucking Industry Research committee.



## Subcommittee Annual Meeting 2015 Notes

### Truck and Bus Operator Health and Wellness – Jeff Hickman

Wednesday, January 14, 2015: 4:30 PM – 6:00 PM Eastern, Marriott Marquis, Marquis Ballroom, Salon 13 (M2)

#### Minutes:

- Post Camden and Thiese presentations on ANB70 website (waiting for approval by Dr. Chen before posting NIOSH presentation)
- Erin Mabry to check out health related TRB subcommittees for possible collaboration
  - Suggestion to check out ANB30
- Dr. Thiffault brought to our attention an epidemiological health study from Canada-will look into distributing report to the group. Perhaps of mutual interest in the CDIDS study VTTI is conducting.
- Dr. Matt Thiese presentation
  - ~8,000 2<sup>nd</sup> and 3<sup>rd</sup> Road Ready medical exams-of interest for longitudinal analyses
  - Startling trends over time re. health conditions among CMV drivers-prevalence of HTN, DM, and sleep disorders 2-3 fold increase between 2005-2012.
  - Approval to post to ANB70 website
- Dr. Guang Chen presentation
  - Group discussion: are there new/updated seatbelt standards in the U.S. re. the seatbelt connecting to the seat vs. the A-frame? Perhaps a research needs statement (RNS) of interest (Ron Knipling).
  - Awaiting approval to post to ANB70 website
- Matt Camden presentation
  - Approval to post to ANB70 website
- 1<sup>st</sup> international conference on transport and health, July 2015, London
  - <http://www.tphlink.com/2015-transport--health-conference.html>

### Truck and Bus Data Needs – Bob Scopatz

Monday, January 12, 2015: 1:30 PM – 3:15 PM Eastern, Marriott Marquis, Marquis Ballroom, Salon 13 (M2)

#### Attendance:

Bob Scopatz, VHB, Presiding

Ron Knipling, Safety for the Long Haul, Inc.

Bill Bannister, FMCSA

Jenny Guarino, FMCSA  
Raj Bridgelall, UGPTI-NDSU  
Ani Antanesyan, GAO  
Brenda Lantz, UGPTI-NDSU  
Tom Dingus, VTTI  
Rich Hanowski, VTTI  
Fran Bents, Westat  
David Madsen, Volpe Center  
Shawn Kildare, Advocates for Highway & Auto Safety  
Jennifer Gazzillo, UMassSafe  
Deborah Quackenbush, Virtual Excellence  
Bruce Simons-Morton, NIH  
George Dennis Halachoff, NCPP  
Feng Guo, Virginia Tech  
Gene Bergoffen, MaineWay  
Bernardo Kleiner, TRB

1. **Welcome and Introductions (Bob Scopatz presiding).** We started the meeting promptly at 1:30 PM by going around the room for introductions.

2. **FMCSA Safety Data Update (Bill Bannister)**

Bill supplied the following update via email after the meeting – this is the list he provided to us verbally in the meeting:

- **DataQs System, DataQs Analyst Guide, and DataQs analysis:** We have completed a modification to the DataQs System to meet the requirements of the new policy regarding inspections violations with an accompanying citation that go through adjudication. DataQs added a new Request for Data Review (RDR) type with instructions on how to code the results for upload to MCMIS and how to respond to the requestor. We released version 2 of the DataQs Analyst Guide on December 31, 2014, which provides both policy guidance and recommended best practices. We are conducting a study in 2015 of RDRs to determine areas where there appear to be issues that could be addressed with clarifying guidance, additional training, outreach, or other actions.
- **Crash Reporting Research:** We have a contract with UMTRI to conduct an analysis of crash reporting to assess the level of non-reporting. This will involve comparing the crash files of several carriers with State data collections and with what is recorded in MCMIS to determine levels of under-reporting and the reasons why.
- **Carrier Registration File:** We are conducting an analysis of the Census File of carrier registration data to identify data elements that are underreported or inaccurately

reported and therefore have the potential of negatively influencing analyses, and creating procedures on how to screen for these data elements.

- **Carrier Intervention Effectiveness Model (CIEM):** In conjunction with the Volpe National Transportation System Center, we have developed a new effectiveness model that estimates the safety benefits from motor carrier interventions ranging from warning letters to on-site comprehensive investigations. (I will be presenting on this at the FMCSA Analysis, Research and Technology Forum tomorrow morning.) The CIEM replaces the Compliance Review Effectiveness Model (CREM) which only considered CRs. Benefits are measured in terms of crashes avoided, injuries prevented, and lives saved. The CIEM has been peer reviewed and we plan to publish a technical report in the March 2015 timeframe.
- **GOTHAM reports:** GOTHAM is a module in the Analysis and Information (A&I) Online website that is used primarily by FMCSA field organizations to monitor and measure the activity of investigators and inspectors. We are developing numerous new reports to provide performance measures related to productivity, non-investigative activity, and so forth.
- **Business Intelligence (BI) Tools:** We are using BI tools to enhance our ability to compile and display useful information. Initially we have focused on supporting our Data Analysis and Reports Team (DART) in providing information to our FMCSA offices, State partners, and other Federal Agencies. We plan to use BI to populate A&I Online with more publicly available data.
- **Geographic Information Systems:** We continue to utilize GIS tools to supplement our review and analysis of data. We plan on revising the crash data display on A&I to make it faster and to improve data displays.
- **Seat Belt Survey:** NHTSA is revising the National Occupant Protection Use Survey, which is the basis for the CMV Seat Belt Use Survey. We are working with NHTSA on possible changes to the CMV survey to collect additional/improved data on seat belt usage by large truck and bus drivers.
- **Analysis Briefs and Reports:** We will continue to publish analyses of emerging CMV issues. This includes reports on such things as pedestrian and bicyclist crashes involving large trucks and buses, drug and alcohol usage, large truck occupant fatalities, safety patterns in shale oil regions, and emissions associated with roadside inspections.
- **Regularly Scheduled Publications:** We will publish the annual Large Truck and Bus Crash Facts, the annual Roadside Intervention Effectiveness Model results, the 2015 edition of the Pocket Guide to Large Truck and Bus Statistics, and the quarterly Safety Progress Reports.

Following Bill's presentation, he answered questions. Ron Knipling asked about exposure data: *Could FMCSA put out reports providing exposure data?* Bill answered

that FHWA is refining their VMT reporting to include vehicle type and to allow drill-down to the regional level. At present, FMCSA uses carrier-reported mileage figures and they hope to have better data in the future as carriers switch to electronic reporting. Bob Scopatz added that at last year's ANB70(4) subcommittee meeting we had a presentation on the improved vehicle count methods by FHWA such that in future we can expect to have more specific classification counts, speeds, and following distances for a wider variety of location types.

**3. Invited Presentation: (Ron Knipling)**

***Naturalistic Driving Events: No Harm, No Foul, No Validity***

**Copies of the presentation may be obtained by contacting Ron directly at:**

**[rknipling@verizon.net](mailto:rknipling@verizon.net).**

I have not included a synopsis of Ron's presentation here. The post-presentation discussion centered mainly on refining the understanding of how best to use naturalistic driving study data – and how previous research should be interpreted. While the group did not reach a consensus on the issue of overall validity of reporting raw event frequencies based on naturalistic observations; there was general agreement that case weighting based on national estimates of the relative frequencies of specific types of crash events is worth exploring in future.

**4. TRB UPDATE: (Bernardo Kleiner)**

Bernardo gave a brief update on the attendance, number of sessions, and number of committee meetings during the 2015 TRB. He asked us to provide feedback on the new venue and to participate in the survey that TRB will send out.

**5. Plan for the Future: Purpose, Focus, Direction for the Subcommittee (Group Discussion)**

The group discussed ideas for worthwhile products this subcommittee could produce based on the needs of the ANB70 parent committee, utility to practitioners, and our available time and energy.

The group agreed that the following would be productive uses of the subcommittee's time:

- A. As a group, we will encourage and collaborate on Research Needs Statements. Our FMCSA members, along with Gene Bergoffen, will explore methods by which FMCSA might make productive use of our RNS suggestions in the absence of a formal program for selection and funding.

- B. The group will concentrate on the top five (or so) most important data needs for truck and bus safety decision making. This is in lieu of the attempt to make a comprehensive list of all safety-related data needs to accompany our (already completed) list of relevant data systems.

Brenda Lantz said that she may ask us to update the data section(s) of the 2007 TRB eCircular: *The Domain of Truck and Bus Safety* ([http://www.trb.org/news/blurb\\_detail.asp?ID=7733](http://www.trb.org/news/blurb_detail.asp?ID=7733)), and that the “top 5 data needs for safety decision making” could fit into that update.

Bob said that he would be in touch as soon as possible after the TRB meeting to solicit volunteers to lead and cooperate on these efforts.

The meeting ended at 3:15 PM.

NOTE: At least two people came up to ask me for the list of available datasets. The link below is to the ANB70(4) *Truck and Bus Data Sources* web page: <http://www.ugpti.org/trb/truckandbus/subcommittees/datasources.php>

This list was updated two years ago. If you have updates to add/delete/modify any item on the list, please let me know at: [bscopatz@vhb.com](mailto:bscopatz@vhb.com)

Submitted 1/16/2015 by Robert A. Scopatz ANB70(4) Subcommittee Chair

## **Motorcoach Safety – Tom Yager**

Monday, January 12, 2015: 8:00 AM – 9:45 AM Eastern, Marriott Marquis, Marquis Ballroom, Salon 15 (M2)

**Presiding:** Tom Yager, [tom.yager@dot.gov](mailto:tom.yager@dot.gov), (614) 942-6477

### **Agenda & Minutes**

#### **1. Welcome and Introductions**

- 14 attending (Inclement weather; U.S. govt. offices on 2-hr. delay).
- An attendance sheet is available upon request.

#### **2. Minutes of Last Meeting**

- No corrections.

#### **3. Presentation: “Tool” for Routing Motorcoachs Safely. “Roadway Safety Assessment Tool (RSAT).**

Keith Williams, Federal Highway Administration, [keith.williams@dot.gov](mailto:keith.williams@dot.gov), 202-366-9212

See <http://safety.fhwa.dot.gov/rsat/>. Presentation slides available from presenter or subcommittee chair.

#### **4. Presentation: FMCSA Motorcoach Research: Past, Present, and Future**

Federal Motor Carrier Safety Administration presenter unable to attend. Attendees reviewed and discussed the detailed presentation slides that were available. (For copies, contact subcommittee chair.)

#### **5. Open Roundtable Discussion of Motorcoach Research Needs and Issues**

No specific, new needs or issues were identified at this meeting.

### **Alternative Compliance – Gene Bergoffen**

Monday, January 12, 2015: 3:45 PM – 5:30 PM Eastern, Marriott Marquis, Marquis Ballroom, Salon 13 (M2)

#### **Minutes**

1. Welcome & Introductions – All, Gene Bergoffen presiding
2. Agenda Overview – Gene Bergoffen
3. Gene provided a brief history of the alternative compliance concept.
  - a. There was a chapter regarding alternative compliance in the Commercial Truck and Bus Safety Synthesis Program around 2003-2004.
  - b. There were follow-on efforts/ideas in 2007, including TruckSafe in Australia (<http://trucksafe.com.au/>).
  - c. A white paper was prepared by this subcommittee in 2011, and approved by the full committee.
    - i. CVSA and ATRI also contributed to the white paper in terms of enforcement concepts and research.
  - d. This subcommittee of TRB is research oriented, is apolitical, and is not an advocacy group.
4. CVSA Request to FMCSA for Consideration of Alternative Compliance – Steve Keppler
  - a. Steve discussed the 2010-2011 time frame when CSA was first launched.
    - i. If a carrier has a bad score, they can only improve by either waiting for the bad data to drop off or get good inspections. The industry raised an issue that enforcement was not documenting all interactions with drivers or recording them as inspections. CVSA's Executive Committee indicated that while the industry concern had merit, enforcement practices should not have to change because of how the results (or lack thereof) were being treated from a measurement standpoint.

- b. As a result CVSA formed an ad hoc subcommittee to examine types of alternative approaches, such as safety technologies or certain programs or best practices which would give carriers “credit” towards their CSA score.
  - c. They also explored the feasibility of a pilot project to determine / evaluate how this may work in the field.
  - d. The end result of all the work was CVSA submitted a letter to FMCSA suggesting that the agency consider a pilot program and to study this issue further.
- 5. The group reviewed the letter sent by CVSA to FMCSA 9/26/14, and also the response letter from FMCSA back to CVSA 11/24/14 stating that FMCSA is interested in any useful research or data related to this initiative.
- 6. Discussion with FMCSA on Alternative Compliance Research – Bill Quade, et al
  - a. Bill stated that FMCSA has wanted to do something on this for a long time.
  - b. FMCSA’s focus is on the bad carriers, and is there time to spend on helping good carriers get better?
  - c. But, FMCSA is interested in gathering more information related to this, and is planning to publish a Federal Register notice this spring (possibly augmented by listening sessions) to help determine specifically:
    - i. What technologies/practices deserve credit / consideration?
    - ii. What does this credit look like? For example, regulatory relief?
    - iii. Is there a role for the Federal government in this?
      - 1. One drawback is that the government tends to move slowly.
      - 2. If there is a role, how does the government manage the program?
        - a. For example, say there is “credit” for a company who puts speed limiters on their trucks. Is there a certain percentage of their fleet that must have them? What/who provides the oversight? How do we ensure integrity?
  - d. Bill discussed the possibility of exploring a private industry role, such as the Responsible Care program in the Chemical industry (<http://responsiblecare.americanchemistry.com/>).
  - e. Bill also mentioned the upcoming Safety Fitness Determination (SFD) rule that may change what data FMCSA displays, including CSA/SMS data.
  - f. Bill also discussed how there were early adopters for electronic logging devices, but this has now plateaued as the industry is waiting on the government.
- 7. Next Steps for Alt Compliance Subcommittee review of FMCSA Research Plan – Committee Members
  - a. Gene discussed possible next steps – research effort? Pilot? And, in particular, the evaluation component.

- i. Gene stated that we do have some synthesized information, but there is very little research.
    - ii. Lori (Mooren) suggested that there may be data in the safety management research area.
  - b. Steve said that this type of program would help to put a spotlight on the “bad actors”, and would raise the bar for everyone.
  - c. Dave (Melton) stated that good carriers are finding reasons to spend money on certain technologies / strategies – perhaps visit these good carriers and determine why they are doing this?
  - d. Steve discussed the bell curve issue, and how we spend most of the time on the top and bottom carriers; however those in the middle are making decisions every day, and could use help.
    - i. Bill agreed that an alternative compliance program could be aimed at these carriers in the middle.
    - ii. Steve stated that there may be a preference for a hybrid program that provides recognition for the best carriers.
    - iii. Bill suggested that perhaps ATA could develop a “seal of approval” program that companies could use for marketing, and perhaps reduced insurance rates.
      - 1. He noted that FMCSA is not in this business.
  - e. In terms of possible regulatory relief, Bill noted that it needs to be shown that there is an equivalent level of safety as with the regulation.
  - f. Steve discussed possible roles of this subcommittee, including identifying existing research to help and determining pros/cons.
    - i. If FMCSA does move forward, what methodologies could be used for the evaluation?
    - ii. Provide an informal peer review group?
  - g. Gene suggested leveraging Lori (Mooren)’s work and to monitor/comment on research in progress.
  - h. Steve will recommend that industry takes the lead.
    - i. Gene said there is a potential model with the SmartWay® Program (<http://epa.gov/smartway/about/index.htm>).
- 8. Gene thanked FMCSA and all attendees for their participation, and the committee adjourned.



## **Technology – George Reagle**

Monday, January 12, 2015: 7:30 PM – 9:30 PM Eastern, Marriott Marquis, Marquis Ballroom, Salon 13 (M2)

### **Minutes:**

- Alrik Svenson from NHTSA gave a very thorough update on NHTSA's research efforts on V2V for Heavy Vehicles.
- We had a discussion on how one can get more active safety technology on medium/small fleets.
- Steve Keppler made the most important point. If foundation brakes and ABS are not operating within specifications, we will not reap the benefits we want from active safety systems.
- There was discussions about continuing evaluations of these technologies while in fleet operations.
- The chairman discussed efforts to get more technology in fleets by the establishment of a grant program in the forthcoming Reauthorization Bill.
- George Soodoo and Abby Morgan from NHTSA gave the group an update on issues being pursued by the agency. The ESC rule was in the Office of the Secretary for review. The agency is also looking at the issue of speed limiters for heavy vehicles.
- Finally, the group felt one of our objectives is to select research issues that should be funded. We will develop those priorities this year and forward to the full committee.

## **Driver Training – Tom Weakley**

Wednesday, January 14, 2015: 2:30 PM – 4:00 PM Eastern, Marriott Marquis, Marquis Ballroom, Salon 13 (M2)

Notes by Ron Knipling, 1/21/15

Negotiated rulemaking

Survey; e.g., needs. Best example: cargo securement

Congress: training rules for getting CDL

HM research need: mandatory training every three years. Training Needs Analysis

What is the incremental cost of crash when HM is present.

(1) Hanowski: Advanced training requirement; needs and benefits assessment.

Mexico has a training requirement, but run by schools.

(2) Eastern Europe: Certificate of Professional Competency.

Falling freight: non-driving injuries;

(3) Cargo securement – compliance and safety beyond requirements – Sean

(4) Dave Melton; training effectiveness

Publicly-owned vs. Privately-owned companies for-hire companies. CSA scores & crash rates;

Canada: publicly-funded schools in Canada; depth of training far superior; company just does company-specific finishing training.

Large European company has developed its own big training program. ~4 months

\$3-5K to hire, ~6 weeks to train.

Raise CDL requirements?

Truck Operator

Free community college training? Greatly improved truck driver training? Include vocational programs.

400,000 new CDLs each year; most wash out from driving

After meeting (Training-Related Research Needs):

### **New Training-Related Research Needs (Draft)**

**Effectiveness of Basic CMV Driver Training.** Determine the safety and other benefits of basic CMV driver training and key features of training associated with safe driving and other desirable job performance outcomes. [See previous but now archived ANB70 RNS, below.]

**International Review of CMV Driver Training and Knowledge/Skill Requirements.** Review regulatory requirements and industry best practices relating to CMV basic training in various developed nations (e.g., in Canada, Mexico, Europe) to identify possible models for improved training of drivers in the U.S. [Note: This could be one approach to the more general research need stated above.]

**CMV Driver Advanced Competency Training & Certification.** Identify driver training and performance criteria for formalized “Senior Driver” certification, either by governments, carriers, or independent standards organizations. This would create recognized and standardized higher levels of driver competency beyond the CDL. [Note: Below, see similar research idea submitted to the TRB Commercial Truck & Bus Safety Synthesis Program in 2009 and 2010).

**Cargo Securement Training Needs Assessment and Training Development.** Analyze driver training needs associated with cargo securement for various trailer and operations types. It would be based on both regulations (e.g., the North American Cargo Securement Standards) and on “beyond compliance” best practices. Design and develop needed training.

## Existing But Archived Training-Related Research Need (Draft)

### **ANB 70 Research Problem Statement**

#### **MEASURING THE EFFECTIVENESS OF PROFESSIONAL DRIVER TRAINING IN INTRODUCING APPROPRIATE SAFETY BEHAVIORS AND REDUCING COMMERCIAL VEHICLE COLLISIONS**

Note: This was initiated and written primarily by Roger Clarke of Alberta, then an ANB70 member. It was published in 2010 but archived 2013 due to lack of updates. In addition, it wasn't very specific about how the research might be performed (e.g., safety measures, possible research designs) to obtain a meaningful result.

#### PROBLEM:

In most North American jurisdictions, commercial vehicle drivers do not have to take a driver training program in advance of employment, and if they do, the training is most often limited to basic vehicle maneuvering. Despite the carrier industry need for well trained drivers knowledgeable in dangerous goods, safety regulatory requirements, cargo securement, fatigue management, health & wellness, record keeping, customer service and other non driving skills, most drivers that are well versed in all aspects, are company trained. It's often said that in spite of being the single largest employer of males, persons employed in this industry have "no place to go to school".

In addition to industry need for well trained and qualified drivers, government safety agencies recognize that experienced drivers are less likely to be involved in, or found in fault for commercial vehicle collisions, and that professional driver training would likely have a positive impact on collision reductions.

There has been little movement in implementing mandatory professional driver training partially because carriers provide the schooling that, in other industries, are partially provided by specialized training institutions and, partially because there seems to be an understanding that training doesn't necessarily result in less collisions. This notion that professional driver training doesn't reduce the potential for commercial vehicle collisions may be a carry over from studies on new (youth) driver training in which it was shown that training didn't lessen the number of collisions by young drivers, and that the same is implied for commercial vehicle drivers.

## OBJECTIVE:

To undertake research to determine the impact of pre-employment professional driver training on collision reduction (e.g., crash rate per mile or kilometer) for commercial drivers. Although crash rate is the ultimate criterion of interest, the study might address other training outcomes including knowledge, skills, safety attitudes, driving behaviors (e.g., accelerations, hard braking, other monitored driving behaviors), violations, job satisfaction and safety ratings by managers. Should the results indicate a significantly positive result, the case may be made for mandatory professional driver training, curriculum standards and a supportive training infrastructure.

To be successful, the envisioned study must control for, or otherwise account for, both pre-training individual differences among drivers and the many post-basic training confounding factors affecting crash rates and other training outcomes. Pre-existing driver individual differences exist in age, basic education, personality, and behavioral history. Post-basic-training factors include on-the-job training, carrier safety management practices (i.e., quality of supervision), intrinsic safety of routes (e.g., urban vs. rural driving), and of course mileage exposure. To increase the statistical power and reliability of crash counts, it is recommended that all vehicle impacts causing damage, regardless of severity or police reporting, be counted.

## KEY WORDS:

- Professional driver training standards
- Professional driver training certification

## RELATED WORK:

- In its “SimVal” program (Robin et al., 2005), the Federal Motor Carrier Safety Administration (FMCSA) is evaluating the effectiveness of basic training employing driving simulators in relation to conventional training. The original study design included a “no training” comparison group which would make the study a more general training effectiveness study.
- A 2008 American Transportation Research Institute (ATRI) report found no statistical relation between basic training duration and subsequent driver safety performance. The study looked at six large fleets with nearly 17,000 entry-level drivers. Basic training “contact hours” varied from 88 to 272 hours; however, training hours did not correlate significantly with subsequent crashes and violations. This negative result could have easily been due to various uncontrolled variables in the study, however.

### URGENCY/PRIORITY:

- The average age of professional drivers operating large trucks is currently estimated at 42 years, with 18% of drivers over 55 years of age.
- New drivers have a greater probability of collision involvement
- Driver shortages often result in carriers hiring drivers that don't have the skills necessary to operate large trucks and buses
- Government standards for Class 1/Commercial Vehicle Drivers Licence often only require proof of handling/maneuvering and no verification of skills and knowledge related to cargo, fatigue and weather/road conditions.
- Most commercial vehicle collisions are resultant from driver error.

It is suggested that in order to achieve a significant reduction in collisions involving commercial vehicle operations, that comprehensive professional driver training should be a priority initiative, and that research into the potential for collision reduction would be a priority research initiative.

### COST:

- Literature review \$25,000
- Tracking driver graduates of commercial vehicle training schools offering advanced and comprehensive training compared to no training, estimated \$400,000.
- Potential for naturalistic driving studies comparing drivers that have completed a comprehensive driver training program, with drivers that have limited or no advance training. No estimate on cost.

### USER COMMUNITY:

Federal Motor Carrier Safety Administration (FMCSA), Transport Canada, State and Provincial safety regulators and driver licence registrars.

### IMPLEMENTATION:

Government regulators are in a position to consider requiring professional driver training and offering additional certification or endorsement on driver licenses. Motor carriers would likely prefer to make hiring decisions based on the professional training undertaken by driver applicants.

The cost of professional driver training is in excess of \$10,000 - \$12,000 per student and benefits related to collision reduction would have to be a significant part of a jurisdiction or carrier requiring professional driver training.

## EFFECTIVENESS:

The principal measure of effectiveness would be significantly fewer collisions by professionally trained drivers. Surrogate measures of effectiveness could include differences in driving behaviors and violations.

## CITED REFERENCES:

ATRI. A Technical Analysis of Driver Training Impacts on Safety. Available at [atri-online.org](http://atri-online.org). May 2008a.

Robin, J.L., Knipling, R.R., Derrickson, M.L, Antonik, C., Tidwell, S.A., and McFann, J. Truck simulator validation (“SimVal”) training effectiveness study. Proceedings of the 2005 Truck & Bus Safety & Security Symposium. Alexandria, VA, November 14-16, 2005.

Commercial Driver Human Factors, TRB Circular, The Domain of Truck and Bus Safety Research. Knipling, R.R., Rogers, W.C., May 2007

## **Proposed But Never Funded Idea Submitted to the TRB CTBSSP**

**Title: Driver Advancement & Job Enrichment Paths**

**Submitted by:** Ronald R. Knipling; [rknipling@verizon.net](mailto:rknipling@verizon.net); [www.safetyforthelonghaul.com](http://www.safetyforthelonghaul.com).

### **Scope:**

The trucking industry is plagued by high driver turnover, due both to driver churning (frequently switching companies) and drivers leaving the profession prematurely. Drivers exiting the profession may do so after a few years of driving, or may leave in mid-career if they become disillusioned with the job and/or unwilling to continue enduring the rigors of life on the road. High driver turnover undermines safety by reducing operational stability within fleets and by removing safe, experienced drivers from the labor pool.

An aspect of trucking contributing significantly to turnover and loss of good drivers is the lack of advancement and job enrichment opportunities for drivers. Other industries, such as construction, manufacturing, and services, have natural paths of advancement and job enrichment. Employee teams in these jobs naturally include both supervisors and specialists. Many blue collar jobs inherently involve a variety of job tasks and skills, and there is a natural

progression to higher seniority and more supervisory responsibilities. In contrast, most truckers experience little variety or opportunities for advancement or growth in regard to job skills or scope. One cannot easily take on supervisory or other expanded responsibilities when almost all workers are alone and physically dispersed. A survey of 3,400 drivers cited in Synthesis Report #14 on Safety Culture (Short et al., 2007) found a positive correlation between the length of drivers' careers and *negative* attitudes regarding their work, income, and career advancement opportunities.

*Job enrichment* involves changing jobs by increasing their scope, complexity, and variety (Cascio, 1978, Knipling, 2009). Most often, it also results in increased responsibility, status, and pay. Job enrichment generally increases worker job satisfaction and motivation, thereby reducing turnover. Generally, workers who are candidates for job enrichment are also those most valued by their companies.

Trucking does not lend itself easily to job enrichment and advancement paths for drivers, but enlightened fleets do find a way. Fleet strategies include providing education and training opportunities, recognition and increased pay for superior performance, and increasing job scope and responsibility level. Superior drivers may be assigned to higher-skill driving jobs like Hazmat, higher productivity vehicles (HPVs), or specialized operations. They may be given special collateral duties, such as serving as part-time trainers, crash investigators, or driver-managers. Many such assignments come with formal recognition (e.g., a higher job classification) and increased pay. Job enrichment and advancement paths increase driver job satisfaction, motivation, and company loyalty. One driver survey conducted by the Truckload Carriers Association (cited in Staplin et al., 2002) found that 75% of drivers are more likely to stay longer with companies if they provide career paths and job enrichments.

Empowerment within driving and cargo delivery is another way to enrich the commercial driver job and increase driver motivation and job satisfaction (Short et al., 2007). For example, trusted and valued drivers can be empowered to make more routine decisions regarding the course of their work, such as driving routes, schedules, and when and where to stop for rest.

The envisioned study would review the industrial psychology literature on job enrichment, identify government and industry-wide programs for commercial driver job enrichment and advancement, and survey fleets on their practices. The fleet survey would follow the “problem/solution/effectiveness” approach of previous successful synthesis surveys. That is, it would determine the extent to which the issue is viewed as a problem by respondents, identify the solutions companies employ to address the problem, and assess how effective they consider their solutions to be. Specific driver advancement practices and job-enriching assignments to be addressed will include:

- Driver orientation and finishing

- Driver training
- Ride-alongs for evaluation and/or tutoring
- Leading safety meetings or special presentations
- Mentoring
- Ombudsman role within fleet; e.g., dispute mediation among drivers or between management and drivers
- Driver award committees and other evaluation practices
- Temporary duty assignments as visiting expert to other company terminals
- Part-time carrier Safety Manager (for carriers without a full-time manager)
- Assistant Safety Manager (for carriers with a full-time manager)
- Crash investigation
- Hazmat driving and handling
- Higher-Productivity Vehicle (HPV) driving
- Specialized operations
- Greater empowerment within the driver job (e.g., decision-making regarding schedules, routes, and customer-related practices)
- Leading multi-truck convoys
- Formal driver ranks/job grades
- Progressions of pay and benefits
- Additional practices and strategies to be determined through the project literature review and information gathering.

**Synthesis Audience:** The principal audience for the study would be carrier executives and safety managers. Other important audiences would be government and industry trade association officials.

**Agencies to be Surveyed:** Principally motor carriers. Also FMCSA, Transport Canada, insurance companies, and industry groups such as ATRI, ATA Safety & Loss Prevention Management Council, NPTC, TCA, ABA, UMA, and state motor carrier associations. The active participation of truck and bus industry trade associations will help to maximize survey return rates and the quality of survey responses. The Federal Railroad Administration should also be contacted because of similarities between truck drivers and railroad engineers.

**Information Sources:** Motor carriers (via carrier safety manager survey), industrial psychology research literature, government and industry officials and publications, other experts on motor carrier safety and industrial psychology.



## Notes:

Motor carriers can do the most to enrich driver jobs and provide advancement paths, but government and industry organizations can help. Alberta, for example, has established a Professional Drivers License (PDL) driver's license category to provide a certification level higher than the CDL. Federal, State, and Provincial policies relating to HPV road restrictions, permitting, and driver permitting can affect the percentage of commercial driver jobs requiring higher qualifications and therefore recognized as higher status.

## Cited References

Cascio, W. *Applied Psychology in Personnel Management*. Reston Publishing Co., Reston, VA. ISBN 0-87909-038-3, 1978.

Knipling, R.R. *Safety for the Long Haul; Large Truck Crash Risk, Causation, & Prevention*. American Trucking Associations. ISBN 978-0-692-00073-1, 2009.

Short, J., Boyle, L., Shackelford, S., Inderbitzen, R.E., and Bergoffen, G. *Synthesis 14: The Role of Safety Culture in Preventing Commercial motor Vehicle Crashes*. Transportation Research Board Commercial Truck & Bus Synthesis Program, ISSN 1544-6808, ISBN 978-0-309-09891-5, 2007.

Staplin, L., Gish, K.W., Decina, L.E. & Brewster, R.M.. *CMV Driver Retention and Safety*. Transanalytics, LLC and the ATA Foundation [now ATRI], Contract No. DTMC75-01-P-00027, FMCSA Report No. FMCSA-RT-03-004, September 2002.