

Meeting Minutes
ABJ80 TRB Statistical Methods Committee

Tuesday, Jan 13, 2015

8:00 AM to 12:00 PM, Marriott Marquis Supreme Court, M4

Chair: Linda Ng Boyle, University of Washington

Secretary: Bob Scopatz

Scope: The ABJ80 Committee is concerned with the appropriate application of statistical methods in the field of transportation. The committee serves as a resource on statistical matters for all TRB committees and related committees for the National Academies; fosters understanding and use of statistics through dissemination of educational activities; and identifies and fosters research needed in statistics within the transportation community.

8:00 to 8:10 am: Introductions

Linda Boyle called the meeting to order at 8:05 AM

In attendance

Members: Linda Boyle (Chair), Bob Scopatz (Secretary), Karin Bauer, Thomas Jonsson, Jonathan Aguerre-Valverde, Priyanka Alluri, Panagiotis Anastasopoulos, Birsen Donmez, Karl Kim, Kara Kockelman, Helai Huang, Peter Savolainen, Kun-Feng (Ken) Wu, MD Mazharul Haque (Shimul), Feng Guo, Danny Xiao, Naveen Eluru, Yiyi Wang, Ghazan Khan, Carol Flannagan, Gord Lovegrove, Deogratias Eustace

Friends: Roya Amjadi, Mohamed Ahmed, Winnie Chen, Matthew Volovski, Steven Lavrenz, Indrajim Chatterjee, Samer Katicha, Janine Bonner, Shi (Sheldon) Qiu, Xiao Qin, John Handley, Rick Kreider, Qiang Zeng, Ni Dong, Erika Miller, John Lee, Li Leung, Zhuo Chen, Prasad Buddhavarapu, Yongfeng Ma, Steven Jackson, Mojtaba Ale Mohammadi, Lise Hensdill, Anuj Sharma, Venkata Ramana Duddu, Promod Chandhok, Gavren Mehta

8:10 to 8:15 am: 2014 Meeting Minutes; Mid-year Meeting Minutes (Birsen Donmez)

Linda reported that she has no meeting minutes from last TRB annual meeting. The mid-year meeting minutes (Aug 2014 at JSM) were distributed.

8:15 to 8:20 am: Committee Rotation Requirements and Membership Updates

Linda said that a rotation was just completed last year. The nine-year time out period (three terms) affected a few members. Linda filled the available slots with new members. We have four young members and six international members. Activities that members can participate in include the following. The leaders and volunteers are listed after each committee name:

1. Committee Research Coordinators: Karin Bauer and Thomas Jonsson
2. Paper Review: Panos Anastasopoulos
3. Best Paper Review: Peter Savolainen, Carol Flannagan, Jonathan Aguerre-Valverde, Bo Lan
4. TRB Data Contest: Naveen Eluru, with Anuj Sharma and Nadia Gkritza
5. Triennial Strategic Plan: David Reinke
6. Social Media: Mazharul (Shimul) Haque

8:20 to 8:30 am: Workshops/Sessions Sponsored and Co-Sponsored by ABJ80 for 2015

(Linda Boyle, Naveen Eluru)

Linda presented the list of workshops and sessions sponsored by ABJ80. The list is available on the website. Naveen Eluru presented the TRB Data Contest results. Twenty-two submissions were received. Naveen announced the four winners:

- **Best Paper in SAFETY:** Examining the Safety Impacts of Narrow Lane Widths on Urban/Suburban Arterials, *by Barrette et al., (Iowa State U.)*
- **Honorable Mention Safety Area:** Quantifying Impacts of Narrow Lane Widths on Arterials Roads, *by Sun, Yu, Ombao, (UCIrvine)*
- **Best Paper Travel Behavior Area** Household---Level Vehicle Resources Allocation Model for Analyzing Short Term Vehicle Use Decisions *by Paleti, Old Dominion U.*
- **Best Student Paper** The Relationship between Road Safety and Lane Width: Analysis using Propensity Scores, *by Youyuan Vincent, (U. Michigan)*

Naveen indicated that future contests should consider obtaining the software model as well so the reviewers can independently run the model against a “hold-back” dataset to see if the model works. We are seeking datasets for the 2016 TRB competition. Linda and Naveen thanked everyone who participated as a reviewer and appreciated that all the reviews were received before the December 31 deadline. Thomas Jonsson said that Sweden has a dataset with merged police and hospital data. Linda said that we will need research question, a call center (someone available to answer questions about the database), data dictionary, and analytic users guide/guidance, for any data set used.

Transportation Statistics Interest Group: there has been a rotation of roles. The TSIG met earlier this week and had several presentations. The meeting notes will be released soon.

Poster session: Panos reported that ABJ80 had 18 posters, with about 450-500 people who came through to view the posters.

8:30 to 8:45 am: Paper review process, statistics, and identification of issues (*P. Anastasopoulos*)

Panos presented the results of the paper submission and review process. Of 143 review requests, 127 were received by the deadline. An average of 4.4 reviews per paper. One reviewer asked if they could see all the review comments for papers. Panos said that we would do that in the future—it’s an option we select when sending the decision emails.

8:45 to 8:50 am: Best Paper Award (*Panos Anastasopoulos*)

Panos presented the results of the 2014 paper award process. The winning paper was 14-3462: Improved computation framework for efficient probabilistic inference of damage in truss structures based on vibration measurements by *Wei Zheng, Jinlei Shen, and Jianguo Wang*. The winners will receive their certificates later because they were not able to attend TRB this year.

Improving the process: Linda indicated the need to have quality papers and quality reviews. Please contact Linda or Panos if you cannot meet your obligation or if you know that the paper has been submitted elsewhere. Please make sure to look at issues like poor writing quality; plagiarism; exceeding the word limit by a large amount; overt commercialism. Please treat everything confidential. There was a discussion on plagiarism and falsification. If papers exceed word limit

substantially, the paper should be rejected. Linda reminded us that it's okay to reject a paper. Please try to be consistent with your comments and your scores. Please use the "*Comments to the Chair*" as these are both confidential and helpful.

8:50 to 9:00 am: Social Media Activities (Linda Boyle and Mazharul Haque)

Linda introduced the new leader of ABJ80 social media efforts: Mazharul (Shimul) Haque. She said that we will update the committee website. The committee website is: <http://trbstats.weebly.com/>

She asked if there is interest in taking over the twitter "site" for the committee.

9:00 to 9:15 am: Briefing on Autonomous Vehicle (Jeff Blackburn)

Jeff Blackburn presented on ***Connected and Automated Vehicle Systems: State of the Art and TRB Activities***. He suggested that ABJ80 may want to co-sponsor AVS workshops and sessions as well. Jeff invited ABJ80 to attend a planning session during TRB and consider attending a workshop on July 20-24, 2015 at University of Michigan. Info at: www.automatedvehiclessymposium.org

Jeff said that statisticians are needed in the AVS discussion because there is a need for valid testing and validation methods. Linda asked about researchers' access to "the data." Volpe Center is preparing the Safety Pilot data (from U Michigan and NHTSA) for public release. There is also data available from Europe. Toyota is funding a large number of research projects in various universities and making data available. Other OEMs are also considering.

9:15 to 9:30 am: ABJ80 Triennial Strategic Plan (Linda Boyle)

Linda distributed the ABJ80 Triennial Strategic Plan and noted that it is available electronically. When Simon Washington became chair, he brought in people outside the safety area to help with statistical data analysis for the broad range of transportation. The committee had some comments on the Plan including a suggestion that we try to impact university-based curricula. We are not able to do that for the timeframe of the strategic plan. But we can help educate within the TRB framework. We could look at education and awareness of available software tools. The final version is due in December. Linda presented the ABJ80 mission statement as follows:

The ABJ80 Committee is concerned with the appropriate application of statistical methods in the field of transportation. The committee serves as a resource on statistical matters for all TRB committees and related committees for the National Academies; fosters understanding and use of statistics through dissemination of educational activities; and identifies and fosters research needed in statistics within the transportation community.

9:30 to 9:40 am: TRB Circular on Analytical Tools for Transportation Researchers and Practitioners (Linda Boyle)

Linda (upon the suggestion of Rick Pain) started this effort as a circular appear needed. There is a need across TRB for more knowledge of what methods and tools are available. Linda suggested a change in scope. The original objective was to serve as a beginner tutorial. The feedback was that it wasn't unique enough. The new objective would be to compile papers based on past educational workshops sponsored by ABJ80. It is intended to provide transportation state agencies, graduate students, and researchers insights on common statistical methods.

This change makes it unique to ABJ80, and not just another "intro stats" book. Well written introductions for each grouping of papers would be useful. It should have one of the original presenters from each of the sessions (if possible) writing the lead-in. It would be good to poll other committees for the most common errors seen in papers, and at least have the overall introduction talk about those issues and then point to chapters that address them. Panos said that he would be willing to email the paper review chairs of other committees to ask about common problems.

Another suggestion was the use of the datasets from the TRB Data Analysis Contest for case examples. The circular can include “hot topic” style of benefit to graduate students, and a list of relevant resources/text books for further study.

The new, restated objective for the circular is:

This TRB circular is a compilation of papers based on past EDUCATIONAL workshops sponsored by the Statistical Methods committee (ABJ80). It is intended to provide state transportation agencies, graduate students, and researchers insights on commonly asked statistics questions. Each chapter will use the TRB author guide.

Linda collected volunteers for heading up each of the anticipated chapters based on the previous presentations/workshops, as follows:

1. Handling Missing Data (Guarav Mehta)
2. Sampling Weights (Promod, Priyanka)
3. Ensuring Data Quality: What are the Pitfalls and How Can We Overcome Them? (Bob Scopatz & Thomas Jonsson)
4. Bayesian Statistics (Jonathan, Gord, Bo Lan)
5. Time Series Modeling (Brisen Donmez, Deo)
6. Traditional Statistics vs Artificial Intelligence (Anuj, Naveen, Ramana Duddu)
7. Statistical Challenges with Naturalistic Data (Carol F., Karin B., Ken Wu, Mohamed Ahmed)
8. Spatial (Ghazan Khan, Yiyi Wang, Matt Volovski, Lise Hensdill)

The Appendix can include TRB Data Contest data sets, codes, etc. and references to relevant text books. Linda said that we would send the presentation or paper materials from the previous workshops to the people who volunteered for each. Naveen said the presentations should be on the website.

TIMELINE: we would like to see some progress by the mid-year meeting at JSM.

9:40 to 9:50 am (floating): TRB initiatives and Data Section News (Bernardo Kleiner)

Bernardo Kleiner welcomed everyone to TRB and the new venue and gave an overview. Attendance is up 5% from last year (~12,000). There were 5,400 papers submitted this year. He thanked this committee for helping other committees with statistical reviews. He said that this will continue and he would explore ways to get papers to this committee earlier. Linda asked Bernardo to look into having a “statistics review” check box for paper submissions so that committee chairs could get an immediate heads up when the paper is assigned. Bernardo said that TRB is very interested in our responses to the post-meeting survey. The group made comments about the good and bad of the new venue. Bob Skinner is stepping down. The new TRB executive director will be Neil Pederson, from the SHRP2 program and prior to that, Maryland State government.

MyTRB.org—please create or update your profile. There will be many functions feeding off of that, but most importantly you can update your own contact information.

The theme for next year’s TRB: Research convergence, delivering on our connected multi-modal future. The TRB app is NOT connected with the online schedule, and it is not going to be connected next year.

9:50 to 10:00 am: Research needs statements

We attempted to get something developed related to SHRP2, but that has not worked well. We also need buy-in with other committees. Thomas Jonsson said ANB20 has agreed. Karin Bauer talked to David Harkey and he agreed that this is a good idea and they will discuss more after TRB. Feng Guo talked about liaison relationship with the ITE Trip Generation effort and he will continue to work with them.

10:00 to 10:15 am: Future Committee Activities and Sessions (*Linda Boyle, TBD*)

Big Data/Data Analytics in Transportation (Feng Guo; Karin Bauer): Suggested speakers include industry speakers, automakers, and Federal Highway BAA. Also, Citrix purchases data access and they come to TRB. Feng Guo said there is a session being planned for GSM this year. Perhaps a narrower topic would be prudent.

- Bootstrapping Methods (Linda Boyle). Definitions and appropriate use.
- Using Twitter and Facebook data for studying transportation issues. Might still be too much in the infancy.
- Crash severity modeling. Originally suggested by John Ivan. Can include the many ways of classifying injuries, different impacts of missing data. Thomas J said we could dovetail with the TRB contest.
- For beyond 2015, there was some recommendation on Text Mining, which can include Twitter and Facebook data for studying transportation issues and as a basis for activity and location analysis.

10:15 to 10:25 am. ABJ80 Mid-year meeting/JSM Conference: Invited Papers in Transportation Statistics (*Feng Guo*)

Last meeting was Aug 2-7, 2014, Boston, MA, next meeting is in Seattle, WA. If you are interested in presenting a paper, please let Linda know. Feng Guo is coordinating. The session proposal is due this Thursday and a one-paragraph description is due February 2nd. Feng said that he has expressions of interest from 9 presenters. There is enough speakers for two sessions and we can add a third.

A show of hands indicated that several people do plan to attend. We will hold our ABJ80 Mid-Year meeting during the conference. This will also be coordinated with the TSIG. Linda offered to provide some food!

10:25 to 10:30 am: Call to Audience/relevant activities of other committees, conferences, etc. Bob Scopatz reported that the Traffic Records Forum will be held in October 2015 in California and in August of 2016 in Maryland. Information is available at www.atsip.org and a www.trafficrecordsforum.org

10:30 pm: Adjourn