TRB ABJ80 Statistical Methods

Linda Ng Boyle, Chair, ABJ80
Professor and Chair, University of Washington
linda@uw.edu
Tuesday, Jan 12, 2016, 8:00-12:00 pm

Agenda

- 8:00 to 8:10 am: Introductions

- 8:10 to 8:15 am: 2015 Meeting Minutes (*Bob Scopatz*)

- 8:15 to 8:20 am:
  Update on Committee Rotation Requirements &
  Membership

- 8:20 to 8:30 am: Workshops/Sessions Sponsored
  & Co-Sponsored by ABJ80 for 2016
  (*Linda Boyle, Peter Savolainen*)

Committee Membership

- Membership rotation: last updated 2014
- Balance of disciplines & geographic region
- Appropriate balance of employer types, affiliations
- Appropriate representation of the various modes
- Proper consideration of women and minorities
- No more than one member from any single organization
- No more than two committee membership Appropriate representation from state DOTs

Membership Roster

- 28 members (chair included)
  - 6 International members
- 4 "young" members (35 years or younger)
- 2 state DOTs

Membership Expectations

- ACTIVE participation, which includes:
  - Attending committee meetings
  - Paper reviews
  - Chairing and/or being actively involved subcommittees
  - Helping with sessions/workshops

Activities

- Secretary: *Bob Scopatz*
- Committee Research Coordinators:
    - *Karin Bauer, Thomas Jonsson*
- Paper Review Chair: *Panos Anastasopoulos*
- Best Paper Review:
    - *Peter Savolainen (Chair),*
      Carol Flannagan, Jonathan Aguero-Valverde, Bo Lan
- TRB Data Contest: *Naveen Eluru*
- Triennial Strategic Plan: *David Reinke*
- Social Media: *Mazharul [Shimul] Haque*
- Coordination of Future Sessions/Workshops: *OPEN*
- TRB Circular: *OPEN*

8:20–8:30: Sponsored Workshops/ Sessions

1. Workshop: <u>Doctoral Student Research in Transportation Safety</u> (Sunday, 9:00-12:30 pm)

2. Workshop 109: <u>Big Data Analytics and Applications: Role of Artificial Intelligence and Machine Learning</u> (Sunday: 9:00-12:00 pm)

3. Transportation Statistics Interest Group (TSIG)

4. Lecture<u>: Innovations in Statistical Methods for Transportation Researchers and Practitioners</u> (Monday, 3:45–5:30)

8:20–8:30: Sponsored Workshops/ Sessions

5. Poster: Research in Statistical Methods in Transportation (Tuesday, 2:00–3:45 pm)

6. Panel: Using Naturalistic Driving Study Data for Road Safety Analysis: Connecting Crashes to Safety-Critical (CC-101, Tuesday, 3:45-5:30).

TRB Data Contest

- Seeking dataset(s) for 2017 Data Contest
  - Research Question(s)
  - Data Dictionary
  - "Call Center": someone to answer questions from contestants
  - Reviewers
  - Data needs to be POSTED by June 15, 2016
  - Submissions (with short paper) due November 30, 2016

Paper Review Process

8:40 to 8:55 am: Paper review process, statistics, and identification of issues (*Panos Anastasopoulos*)

Paper Reviews

Received 29 papers:

- 19 papers submitted for publication/ presentation
    - 4 papers recommended for publication
    - 4 papers accepted for presentation (lectern session)
    - 6 papers accepted for presentation (poster session)
- 10 papers submitted for presentation only
    - 7 papers accepted for presentation (poster session)

- In total:
    - 17 papers accepted for presentation
    - 4 papers recommended for publication

Paper Reviews

- Received 29 papers
- Requested 139 reviews: 123 sent by deadline
  - 88.5% response rate (last year: 85.8%)
  - 4.25 reviews per paper

- THANK YOU!

- Reviews for ~10 other TRB committees
  - Recommended 53 Reviewers for 24 papers

A Cordial Thank You to ABJ80 Reviewers!

Abdul Pinjari	Gary Davis	Kun-Feng Wu	Sheldon Qiu
Amr Kandil	Gordon Lovegrove	Linda Boyle	Simon Washington
Anuj Sharma	Gudmundur Ulfarsson	Lindsay Lucas	Siva Srinivasan
Atiyya Shaw	Helai Huang	Mary Anne Jeffers	Srinivas Geedipally
Bidisha Ghosh	Hongtai Yang	Md. Mazharul Haque	Tarek Sayed
Billy Williams	Jean-François Lécuyer	Michael P. Cohen	Thomas Jonsson
Birsen Donmez	Jenny Guarino	Michael Pawlovich	Tony Sze
Bo Lan	Jianming Ma	Mohamed Abdel-Aty	Venkata Duddu
Carol Flannagan	John Haddock	Mokbul Khan	Venky Shankar
Chandra Bhat	John Handley	Nadia Gkritza	Xiao Qin
Cynthia Augustine	John Ivan	Naveen Eluru	Xiaokun Wang
Danny Xiao	John Milton	Panos Anastasopoulos	Ximiao Jiang
David Reinke	Jonathan Aguero-Valverde	Paul Jovanis	Yajie Zou
Dominique Lord	Jonathan Wood	Peter Savolainen	Yiyi Wang
Eleni Vlahogianni	Jorge Prozzi	Priyanka Alluri	Youjia Fang
Erica Miller	Kara Kockelman	Raul Avelar	Zhirui Ye
Eun Sug Park	Karin Bauer	Robert Scopatz	
Feng Guo	Karl Kim	Sal Hernandez	
Fred Mannering	Kevan Shafizadeh	Samuel Labi	

ABJ80 Best Paper Award

Best Paper Award Committee (2015, 2016):
- Chair: Peter Savolainen, Iowa State U.
- Jonathan Aquero-Valverde, Universidad de Costa Rica
- Carol Flannagan, UMTRI
- Bo Lan, UNC

Thank You, Best Paper Award Committee!

ABJ80 Best Paper Award

Criteria:

- Overall Top Contender
- Novelty of approach
- Contribution to the existing/current body of knowledge
- Potential impact

TRB TRANSPORTATION RESEARCH BOARD

OF THE NATIONAL ACADEMIES

2015 Best Paper Award

for TRB Committee on Statistical Methods (ABJ80)

Presented to

Emanuele Sacchi, Tarek Sayed, and Karim El-Basyouny

Paper Title: Multivariate Full-Bayesian Hotspot Identification and Ranking: A New Technique

Improving TRB Manuscript Reviews

- Reviewing TRB papers is the main obligation of committee members and friends

- Maintains quality of the conference

Notify Chair/Review Coordinator

- Inadequately qualified or lack time to judge fairly
- Potential conflict of interest or personal bias
- Know it was presented elsewhere OR under review for another journal
- Have convincing evidence that a manuscript contains plagiarized material or falsified research data
- Paper exceeds word + figure limit by a large amount
- Writing quality is poor: unable to understand what was done
- Paper contains overt commercialism
- REMEMBER: All manuscripts and reviews should NOT be shared and must be treated as confidential

Paper Review Process

- It is okay to reject a paper
- Your grading/rankings should be consistent with the comments.
  - Say a paper is great in comments, but give 1's and 2's for each category
  - Say a paper should be rejected, but give 4's and 5's
- USE the Comments to the Chair. This is private and VERY HELPFUL.
  - You want to be polite to authors, but always tell the chair any concerns you may have
  - May note that the issues with paper are not related to ranking

Getting Hip with Social Media

- *Mazharul [Shimul] Haque*

- ABJ80 LinkedIn Site
- Website: http://trbstats.weebly.com/
- Twitter site

TRB Circular: Statistics for Transportation Practitioners

Background

Objective: 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 transportation state agencies, graduate students, and researchers insights on commonly asked statistics questions.

Each chapter will use the TRB author guide.

Proposed Outline

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

Appendix can include TRB Data Contest data sets, codes, etc.

And relevant textbooks

Agenda

9:20 to 9:30 am (floating)

TRB initiatives and Data Section News (Bernardo Kleiner)

Research Needs Statements

9:30 to 9:45 am: Research needs statements (*Karin Bauer, Thomas Jonsson*)

- Timely and innovative
- Requires buy-in from some transportation agencies
  - John Milton, Gordon Lordgrove
  - Trade-off analysis

- Potential Topic: Transportation Energy, Mobility
  - What data is available, what kind of needs?, and what statistical help can we provide.
  - *Nanda Srinivasan*
    - *John Handley: reduce energy consumption, travel behavior, mobility app, Big Data*

Agenda

9:45 to 10:05 am: Future Committee Activities and Sessions (Feng Guo)

- Proposed sessions (for 2017)
  - Data Fusion: How to work with disparate datasets
    - e.g., matching, linking issues I(Data User Group? talk to J. Milton, R. Souleyrette)
  - Dealing with small samples
    - e.g., nonparametric, Full Bayes, bootstrapping
  - Quantifying risks associated with increasing vehicle automation (co-sponsor: Safety Section)
  - Big data methods (co-sponsor with ABJ70 [AI])
- Beyond 2017?
  - Text mining
  - Crowd source data (e.g., Uber, Lyft, Waze)
    - Activity and location analysis

TSIG and JSM updates

10:00 to 10:15 am: Feng Guo

- Joint Statistical Meeting, Chicago, IL, July 30-Aug 4, 2016
  - Papers due Jan 14!!
  - Coordination with TSIG (Transportation Statistics Interest Group)
  - ABJ80 Mid-year meeting

Picture Taking

LAST AGENDA ITEM

- 10:20 to 10:30 am:
  - Roya Amjadi, FHWA Turner Fairbanks
  - Call to Audience/relevant activities of other committees, conferences, etc.