**ANB20(3) MEETING MINUTES**

**95th Transportation Research Board, Annual Meeting 2016**

**ANB20(3) Surrogate Measures of Safety Subcommittee**

7:30 pm – 9:30 pm, January 11, 2016 (Marriot Marquis, Ballroom Salon 13)

**Co-chairs:** Nicolas Saunier, Andrew Tarko

1. **Opening Remarks.** Andrew Tarko
2. **Introduction of participants:** All
3. **Discussion and approval of the 2015 meeting minutes** The 94th TRB subcommittee meeting minutes are approved by all the participants.
4. **TRB Annual Meeting Update** – Bernardo Kleiner

* 12,000-13,000 people attending current meeting
* Discussion of the potential for the subcommittee to become a committee. Discussion of the growing number of committees and the possibility of joining similar committees to help offset the growth.

1. **NDS projects sponsored by FHWA** - Clayton Chen (not present)
2. **Integration of SSAM in the open traffic simulation software ETFOMM** – Li Zhang

A new open source version of SSAM is being prepare for FHWA (<http://sourceforge.net/projects/etfomm/>). Upcoming updates to SSAM include:

* Allow the software to run independently
* Compatibility with Windows 7/8/10
* Improve computing performance by providing the following:
* Parallel computing
* Native 64-bit compilation
* Converting Java to C++
* Include severity index
* Visualization of severity by zone
* 3D Bar charts
* 3D Contour map
* 3D Heat map
* API to SSAM
* Interface with simulation vendors – VISSIM

1. **Update on the European project In-depth Understanding of Accident Causation for vulnerable Road Users (InDeV)** <http://www.indev-project.eu> – Nicolas Saunier

* The WP3 – Observational Studies of InDeV aim to calibrate and validate surrogate measures of safety (SMoS) and behavioral indicators against accident statistics and in-depth accident investigations based on new data.
* Lund University is updating the Swedish Traffic Conflict Technique developed in the Twentieth Century.
* To accomplish the objectives of the project, mobile tools for automated data collection and analysis are required. Currently, InDeV is collecting information by using direct observation at fixed sites (short term (weeks) and long term (months)) and from users (using an app).
* One of the project deliverables will be a handbook of methods for the analysis of vulnerable road user safety.
* Comment: Innovative tools for data collection are under development at Purdue University. LiDAR data collection is an innovative tool for analysis.

1. **Updates from liaisons with other TRB groups and International Associations**
   1. Salvatore Cafiso – Transportation Safety Management (ANB10) and Geometric Design (not present)
   2. Hillel Bar-Gera – ANB20(5) Joint Subcommittee on Speed and Safety (not present)
   3. Amir Sobhani – Task Force on System Simulation (not present)
   4. John Ivan – Highway Safety Performance (ANB25) and Future Directions in Safety Analysis ANB20(1)

* SMoS have been repeatedly mentioned as future directions for safety analysis.
* SMoS likely will not be introduced in second edition of the Highway Safety Manual (HSM) (expected to be completed in 2019).
* One proposal is to change ANB20(3) into a joint subcommittee of ANB20 and ANB25 for promoting the introduction of SMoS into the HSM.
* The correlation between SMoS and crashes is an important step for demonstrating a strong level of reliability and predictability of the method.
* Other methodological approaches such as structural equation modeling are being encouraged in addition to crash prediction models.
* The HSM2.org is running a survey and has a specific suggestions database where SMoS can be mentioned.
  1. Nicolas Saunier – International Co-operation on Theories and Concepts in Traffic Safety (ICTCT) Workshop
* Previous workshop in Israel, October 29th-30th, 2015. The primary Statement of the workshop:

“We don’t need accidents in order to prevent accidents!”

Because we are aware of “danger indicators”

* Danger indicators are related with SMoS: traffic conflicts, near-accidents, as well as behavior and interaction patterns.

1. **SMoS at the 95th TRB Annual Meeting – Synthesis of papers.** Thomas Hall

* 15 Papers presented at the 95th TRB Meeting related with SMoS
* Validation, improvement, and/or implementation of new methods for measuring SMoS are examined in 10 papers
* Proactively estimated risk and/or crash severity estimation covered in 3 papers
* Major topics include:
* Intersection safety (8 papers)
* Pedestrians and cyclists (5 papers)
* Methods used fit into the following categories:
* Field observations (11 papers)
* Naturalistic driving (3 papers)
* Microsimulation (2 papers)
* Self-reported data (1 paper)

3 papers use data collected in real-time from mobile devices of roadway users

* Conflicts (8 papers) and speed (5 papers) most used:
* TTC/post-encroachment time (5 papers)
* Deceleration (3 papers)
* Speed profiles of red and yellow light runners compared in 1 paper

1. Current Activities
   1. Subcommittee website (https://wiki.umn.edu/view/TRB\_ANB203/) – John Hourdos.

* Compilation of papers including the abstracts can be presented on the webpage.
  1. Survey on SMoS in use (“best practices”) – Karim Ismail
* This is a US and International survey.
* The purpose of the survey is to evaluate how successfully the subcommittee is promoting SMoS.
* The results presented at the meeting were preliminary statistics indicating important findings.
* The majority of respondents were from research organizations.
* Most of the researchers have used SMoS in the last 5 years. For those who provided a negative response, SMoS seem to be an interesting field for future research directions.
* Regarding the analysis supported by SMoS, diagnosis of safety problems is the most common choice. Selection of countermeasures is also a representative response.
* Among the SMoS used, the traffic conflict technique is the most popular. Speed is also represented with associated measures like speeding or speed variation.
* Time to collision is the most commonly used indicator.
  1. SMoS Synthesis Project (NCHRP problem statement); new initiatives for guidelines, practitioner-oriented white paper - Majed Al-Ghandour
* NCHRP Problem statement was not chosen. More work is needed for a new evaluation.
  1. Research needs statements (RNS): revise and update – Nicolas Saunier.
* The idea of SMoS from traffic simulation is proposed for further development. Carlos Lima Azevedo and Haneen Farah will work on the RNS.
  1. Ideas of special sessions for TRB 2017 meeting – Andrew Tarko.
* Special lectern session where some presenters are invited. It may also involve an open call for papers. Deadline: October 1st, 2016.
* Inviting insurance company representatives to explain the basis of risk evaluation based on naturalistic driving data.
* Purpose of the session: Why SMoS must be included in the Highway Safety Manual. Possible working title: “Why surrogate measures?”
  1. Converting ANB20(3) into a joint subcommittee of ANB20 and ANB25 – ongoing progress and discussion.

1. Coming conferences, meetings, research opportunities and other matters – All
   1. Report on the 2015 Road Safety & Simulation International Conference, held on October 6-8, 2015, Orlando, organized by the University of Central Florida and the University of Tennessee, Knoxville - Andrew Tarko.

* 2015 conference statistics:
* 200 registered attendees
* 3 keynote speakers
* 22 podium paper sessions
* 2 large poster sessions
* 161 total papers; papers had option to be forwarded to international journals
* Every two years, the Road Safety & Simulation International Conference is held. It is a high-quality conference which not only covers road safety simulation but is open to innovative ideas related to safety. It includes naturalistic driving, SMoS driving simulation, computer simulation, and others. Next meeting will be in Europe in 2017.

1. Meeting Adjourned

Minutes Prepared by:

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