

Transportation Research Board

AHB45 - DRAFT MINUTES

Committee on Traffic Flow Theory and Characteristics

Tuesday, January 25, 2011, 1:30pm – 4:30pm
Marriott Hotel, Washington B5
Washington, D.C.

1. Welcome and Call to Order

Robert L. Bertini

Chairman Robert Bertini called the committee to order at 1:35 p.m.
Agenda was distributed earlier:



Welcome and Call to Order	R. Bertini
Introductions – Members & Friends	All Attendees
Review and Approval of Minutes	R. Bertini
Committee Meeting of January 12, 2010	
Committee Meeting of July 9, 2010	
Committee Membership Rotation	R. Bertini
Chair's Report	R. Bertini
TRB Report	R. Cunard
FHWA Programs & Activities	R. Sheehan
Subcommittee Reports	
Paper Review and Sessions	R. Bertini
Mid-Year Meeting	
July 7-9, 2010, Annecy, France	C. Buisson
Proposed 2012	M. Hadi
Joint Subcommittee on Traffic Simulation Models	G. List
[see http://sites.google.com/site/trbcommitteeahb45]	
Sunday Workshop	J. Halkias
Committee Website [www.tft.pdx.edu]	R. Bertini
Committee Communications	S. Mattingly
Classic Papers Update	S. Ahn, J. Laval & N. Geroliminis
Research Problem Statements	M. Hadi
Greenshields Prize	N. Garther
Special Report on Traffic Flow Theory	H. Mahmassani
NEW Subcommittee on Operations Workforce Development	Need Volunteer!
Liaison with other Committees	All Attendees
International Liaison	International members and attendees
Announcements and Future Meetings	All Attendees
6th ISHC - June 28-July 1, 2011, Stockholm, Sweden	
ISTTT19 – July 18-20, 2011, Berkeley, CA (w/Midyear Meeting) [isttt19.org]	
TFTC Midyear Meeting – Summer 2012, TBD	
ISTTT20 – 2013, Berlin	
New Business	All Attendees
Triennial Strategic Plan 2011-2014 (due August 1, 2011)	Volunteer Needed
2012 Annual Meeting Call for Papers	All Attendees
TFTC Annual Meeting Paper/Presentation/Poster Webinars	Jorge Laval
Adjourn	All Attendees

The Chair's slide presentation underwent technical difficulties during the meeting; however, the slides are presented here within the meeting minutes.

2. Introductions – Members & Friends

All Attendees

Committee members and friends introduced themselves. Chairman Bertini reminded everyone that there is no difference between friends of the committee and members in terms of participation. All can and should participate. Please join a subcommittee or please propose to create a new

subcommittee.

3. Review and Approval of Minutes

R.L. Bertini

It was moved by N. Gartner, seconded by A. Skabardonis, and passed unanimously to approve the minutes of the Committee Meeting of January 12, 2010. It was moved by M. Hadi, seconded by L. Leclercq and passed unanimously to approve the minutes of the Committee Mid-Year Meeting of July 9, 2010. Thank you Marguerite Zarrillo for drafting the minutes. Minutes are available on the committee website (www.tft.pdx.edu)

- Robert Bertini welcomed new members to the Committee. The total membership stands at 35 (5 International + 4 Young + 1 Emeritus + 25). Chairman Bertini noted that all new members were in attendance. Special thanks went to members that rotated off, and they were strongly encouraged to remain active with the committee. It was agreed that mentoring the new members is an important activity for all members.



Welcome New Members

- George List, North Carolina State University
- Peter Vortisch, Karlsruhe Institute of Technology, Germany
- Bob Sheehan, FHWA
- Avinash Unnikrishnan, West Virginia University
- Majid Sarvi, Monash University, Australia
- Marco Ni, Northwestern University
- Hans van Lint, Delft University of Technology, the Netherlands
- Ludovic Leclercq, INRETS, France
- Nikolas Geroliminis, EPFL, Switzerland
- Soyoung Ahn, Arizona State University
- Samer Hamdar, George Washington University (YM)
- Stella So, Metropolitan Transportation Commission, Oakland, CA (YM)
- Jing Dong, Oak Ridge National Laboratory (YM)
- Monica Menendez, Swiss Federal Institute of Technology (YM)
- Total membership: 25 + 5 International + 4 Young + 1 Emeritus = 35



Special Thanks To....

Rotating Members

- Ken Courage
- Reinhard Kuehne
- Do Nam
- Ghulam Bham
- John Halkias
- Travis Waller
- Rick Denney
- Haris Koutsoupoulous
- SC Wong

4. Chairman's Report

R.L. Bertini

Chairman Robert Bertini began his report to the committee:

- TFTC committee is one of the most active of TRB committees in terms of paper activity and communications.
- TRB 2011 and 2012 themes were noted.
- Discussion occurred concerning the elimination of TRB's DVD containing the meeting's papers. There was voiced concern that the online proceedings had a limited availability of only one year. It was mentioned that for \$25, there is now the option to buy the DVD. It was mentioned that Portland State University copies all TRB-DVDs on an internal server with its own search tools for faculty and students. It was suggested that our own TFTC papers can be posted on our website. There was voiced concern for the loss of the paper-index listed by authors in the printed program. And although there is an online search engine, room numbers are not given making it difficult to connect with these authors.
- More of the Chairman's Report is dispersed throughout these minutes.




Chair Report

- TRB 2011 Theme: *Transportation, Livability and Economic Development in a Changing World*
- TRB 2012 Transportation: *Putting Innovation and People to Work*
- Need to update paper reviewer pool (~310 members)
- State DOT and MPO involvement



Chair Report

- Joint Subcommittees in Operations Group (AHB45 interest?):
 - Positive Protection in Work Zones
 - Active Traffic Management
 - Managed Lanes
 - Intersections
 - Advanced Traveler Information Systems



TRB Critical Issues

- CONGESTION: increasingly congested facilities across all modes;
- ENERGY, ENVIRONMENT, AND CLIMATE CHANGE: extraordinary challenges;
- INFRASTRUCTURE: enormous, aging capital stock to maintain;
- FINANCE: inadequate revenues;
- EQUITY: burdens on the disadvantaged;
- EMERGENCY PREPAREDNESS, RESPONSE, AND MITIGATION: vulnerability to natural disasters and terrorist strikes;
- SAFETY: insufficient improvement;
- INSTITUTIONS: 20th century institutions mismatched to 21st century missions; and
- HUMAN AND INTELLECTUAL CAPITAL: inadequate investment in innovation

6. FHWA Programs & Activities USDOT FHWA Office of Operations

R. Sheehan

ICM or Integrated Corridor Management Systems initiative (RITA, FTA, FHWA) <http://www.its.dot.gov/icms/index.htm> Corridors offer an opportunity to operate and optimize the entire system as opposed to the individual networks. Through the ICM Systems initiative, the USDOT will provide guidance to assist agencies in implementing Integrated Corridor Management, create supporting analysis tools, approaches, and technical standards, and demonstrate the value of ICM. There are 8 pioneer sites. They are applying dynamic simulation management strategies. The pioneer sites are developing multimodal ICM strategies that apply new institutional and operational approaches and advanced technologies to existing infrastructure to help to increase travel time reliability, manage congestion and empower travelers.

ATDM or Active Transportation Demand Management

This is the concept of addressing congestion before breakdown, a proactive approach using simulation tools or “Active Management” through Decision Support Systems that incorporate simulation tools. Conceptual foundation research is needed in such areas such as modeling/analysis, simulation methodology, cost analysis, shoulder lane usage, control devices, managed used lanes (MUL) and HOV lanes.

FHWA is reaching out to TFTC committee members and friends as they are important stakeholders and encourages their participation in the upcoming workshops: ATDM Guidance Workshops and Operations Benefit Cost Analysis Workshops.

Stakeholder Engagement

- ATDM Concept of Operations Workshops. Workshops to support the development of ATDM foundational research. Contact: Robert.Sheehan@dot.gov
- ATDM Program Peer Exchange. A workshop to bring together thought leaders to help frame a set of objectives, milestones, and research needs that would advance ATDM as a

national program area. Contact: Jim.Hunt@dot.gov

- ATDM Analysis Modeling and Simulation (AMS) Workshops. Workshops to bring together leading AMS researchers to review the analysis requirements for ATDM and help develop an ATDM methodology framework. : Robert.Sheehan@dot.gov
- Variable Speed Limit (VSL) / Automated Speed Enforcement (ASE) Field Operational Test Workshop Contact: Richard.Knoblauch@dot.gov

Research

- ATDM Conceptual Foundational Research. Contact: Robert.Sheehan@dot.gov
- ATDM Analysis, Modeling, and Simulation methodology development. Contact: John.Halkias@dot.gov
- ATDM Highway Capacity Manual ATDM analysis methodology. Contact: Jim.Hunt@dot.gov
- Operations Benefit Cost Analysis. Contact: Jim.Hunt@dot.gov
- Shoulder lane usage summary and safety analysis. Contact: GregM.Jones@dot.gov
- Evaluation of Traffic Control Devices for ATDM. Contact: Kevin.Sylvester@dot.gov
- Evaluation of the impacts of exempted vehicles on HOV lanes. Contact: Neil.Spiller@dot.gov
- Managed Use Lanes (MUL) Pooled Fund Study on the Benefit Cost methodology for Managed Lanes. Contact: GregM.Jones@dot.gov

Operational Tests and Deployment

- Variable Speed Limit/Automated Speed Enforcement Field Operational Test. Contact: Richard.Knoblauch@dot.gov
- Analysis, Modeling and Simulation Testbed: John.Halkias@dot.gov

Knowledge and Tech Transfer (KTT)

- ATDM Guidance. Contact: Greg Jones
- ATDM Case studies. Contact: Jim Hunt
- ATDM Informational Briefs. Contact: Jim Hunt
- Active Parking Management Primer. Contact: Allen.Greenberg@dot.gov
- Update the *Freeway Management and Operations* Handbook. Contact: Neil Spiller
- Update the *Managing Managed Lanes* Guidebook. Contact: Greg Jones
- ATDM Guidance Workshops.
- Operations Benefit Cost Analysis Workshops. Contact: Jim Hunt
- Highway Capacity Manual (HCM) ATDM Chapter Workshops/Webinars. Contact: Jim.Hunt@dot.gov

7. FHWA Report on Analysis, Modeling and Simulation

J. Halkias and R. Sheehan

The following report was summarized by John Halkias from FHWA. There are now eight test-bed sites for testing dynamic simulation management strategies. The Traffic Analysis Toolbox is an eleven volume collection of traffic analysis guidance documents and can be viewed and downloaded. It has added a toolbox for traffic analysis in such areas as work-zones, traffic analysis for weather impact and localized bottleneck congestion analysis. The HCM 2010 has a Chapter 35 placeholder that will contain performance measures and capacity calculations for these ATDM strategies. Traffic Analysis Pooled Fund 1 study is complete and Pooled Fund 2 study is now underway. Report on “Traffic Analysis Tools Consistency: Recommended Practices” is complete. Report on “Guidance on the Level of Effort Required to Conduct Traffic Analysis” is underway. Details of his report are provided below.

1. TRAFFIC ANALYSIS TOOLBOX SERIES

The Traffic Analysis Toolbox is a collection of traffic analysis guidance documents that have been developed to present a high-level overview of the different types of traffic analysis tools.

- Volume I: Traffic Analysis Tools Primer
- Volume II: Decision Support Methodology for Selecting Traffic Analysis Tools
- Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software
- Volumes IV: Guidelines for Applying CORSIM Microsimulation
- Volume V: Traffic Analysis Tools Case Studies: Benefits and Best Practices
- Volume VI: Definition, Interpretation, and Calculation of Traffic Analysis Tools Measures of Effectiveness
- Volume VII: Predicting Performance with Traffic Analysis Tools
- Volume VIII: Workzone Modeling and Simulation – A Guide for Decision-Makers
- Volume IX: Workzone Modeling and Simulation – A Guide for Analysts
- Volume X: Localized Bottleneck Congestion Analysis Focusing on What Analysis Tools Are Available, Necessary and Productive for Localized Congestion Remediation
- Volume XI: Weather and Traffic Analysis, Modeling and Simulation

All volumes of the Traffic Analysis Toolbox may be viewed and downloaded at

<http://www.ops.fhwa.dot.gov/trafficanalysistools/toolbox.htm>

<http://ops.fhwa.dot.gov/trafficanalysistools/index.htm>

2. HCM CHAPTER ON ACTIVE TRANSPORTATION AND DEMAND MANAGEMENT (ATDM)

Chapter 35 of HCM2010 is intended to provide recommended methodologies and measures of effectiveness for evaluating the impacts of Active Transportation and Demand Management (ATDM) strategies on highway and street system demand, capacity, and performance. However, at this point in time available information on the performance of ATDM strategies has not matured sufficiently to enable the development and presentation of specific recommended analysis methodologies. Consequently, this first generation of Chapter 35 limits itself to the description of ATDM strategies, a discussion of the mechanisms by which they affect demand, capacity, and performance, and general guidance on possible evaluation methods for ATDM techniques.

FHWA's Office of Operations is sponsoring a research project to develop the methods to evaluate the ATDM strategies that will be incorporated into the HCM. Application of the methodologies will assist in answering the following types of questions:

1. How much can I improve facility performance by implementing more aggressive ATDM strategies?
2. How much additional vehicle and person throughput can I achieve for a given facility through the application of aggressive ATDM strategies?
3. Which combination of ATDM strategies and at what levels produce a target quality of performance for a facility?

Report for the project is expected in **January 2011**, and a **Final Report, ATDM Resource Guide** and **Updated HCM ATDM Chapter** recommendations are due in **June 2011**.

3. UPDATE OF TRAFFIC ANALYSIS TOOLS WORKSHOP MATERIAL

FHWA has completed the Updated Workshop material of Traffic Analysis Tools and it is now an NHI Course.

4. PROMOTE GENERAL MODELS AND INNOVATIVE APPROCHES FOR PLANNERS TO INCORPORATE OPERATIONS INTO THE PLANNING PROCESS

This is being accomplished through the Traffic Analysis Workshops/webinars being held. In addition this is being accomplished in workshops sponsored by the Planning for Operations Program that will showcase innovative techniques that can be utilized for analyzing operations in the planning process.

5. TRAFFIC ANALYSIS POOLED FUND STUDY 1: “TRAFFIC ANALYSIS TOOLS CONSISTENCY: RECOMMENDED PRACTICE”

A Draft Final Report is complete. The Guidance offers:

- Advice on setting up consistent study assumptions and parameters and select measures of effectiveness (MOEs) that are as directly comparable as possible.
- Advice on how to prepare each type of analysis in a manner that allows the MOEs of different tools to compliment one another, while avoiding confusing or contradictory results.
- An approach to the development of a study scope in a manner which anticipates the analysis requirements throughout the life cycle of a study (from planning, through design and construction, and into operations). Consideration and guidance should be given on the benefits and limitations of conducting larger geographic studies as compared to multiple small scale studies, reflecting the work and requirements of multiple projects to realize consistency in the assumptions, impact assessments of one or multiple alternatives, and the use of one or multiple tools and/or tool types.

6. TRAFFIC ANALYSIS POOLED FUND STUDY 2: “GUIDANCE ON THE LEVEL OF EFFORT REQUIRED TO CONDUCT TRAFFIC ANALYSIS”

This study (UNDERWAY) will develop guidance/templates for State and local agencies, and consultants by demonstrating, through case studies and/or examples, the proper application of traffic modeling and simulation process, from cradle to grave; from system monitoring and problem identification through demand forecasting, into design and operational analysis and into deployment and Operations and Management resulting from the transportation decision. A boilerplate/template SOW will be developed so that State and local agencies can use in their RFPs to reflect the required level of effort and resources needed to effectively and efficiently carry out the work.

7. TOOLS FOR HOV TO HOT BENEFITS ANALYSIS: ASSESSMENT OF ANALYSIS TOOLS FOR HOV AND HOT LANE ANALYSIS.

Draft Final Reports complete.

8. TRAVEL AND EMISSIONS IMPACTS OF HIGHWAY OPERATIONS

STRATEGIES

Study is underway.

This research effort will address the short- and long-term impact of highway operations on travel and emissions. Strategies of particular interest include signal timing, ramp metering, traffic incident management, congestion pricing, active traffic and demand management strategies such as speed harmonization, queue warning, etc. The travel behavior component of this work will examine key factors affecting travelers' responses to these treatments.

Key research questions include:

- The extent to which highway operations strategies affect throughput, travel delay and travel time reliability
- the extent to which these improved travel conditions result in induced demand - defined as the additional travel across a system over both the short- and long-term (up to 40 years following deployment)
- the system-level traffic flow and emissions impacts of these projects, including the production of both criteria pollutants and greenhouse gases over a 40-year time horizon.

9. ACTIVE TRANSPORTATION AND DEMAND MANAGEMENT (ATDM) FOUNDATIONAL RESEARCH

Study is underway. This research project has three primary objectives designed to collectively create important foundational elements for Active Transportation and Demand Management (ATDM).

The three primary objectives include:

- Support the development of ATDM program efforts
- Support the development of an ATDM analysis and modeling framework
- Support the selection of ATDM field operational tests

10. ANALYSIS AND EVALUATION OF ACSLITE II IN SIMULATION

11. MODELING AND SIMULATION RESEARCH

- **Effective Integration of Analysis Modeling and Simulation Tools**
 - This project will define a model integration concept of operations and requirements that will enable harmonious information exchange, and data transferability among models of various domains and scale. These new methods and tools will be validated through a proof of concept and prototype(s) demonstration.
 - For more information contact Joe Bared, (202) 493-3314, joe.bared@dot.gov
- **National Virtual Data Access Framework**
 - This project will demonstrate effectiveness and efficiency in which a virtual data access can support regional and local multi-modal and multi-objective transportation analyses. With a virtual data access framework, states and localities will be able to integrate currently disconnected programs and processes and make more efficient decisions regarding enhancement and operation of the transportation infrastructure.

- For more information contact Gen McHale, (202) 493-3275, darren.timothy@dot.gov
- **Analysis of Network and Non-network impact upon Driver Behavior to improve analysis, modeling, and simulation techniques and accuracy**
 - A significant gap exists between current capability of existing traffic analysis tools and the ability of these tools to simulate and analyze complicated behavior of drivers. This research study will narrow such gap and advance our understanding of driver behavior to continue improving operations and safety of our nation's transportation systems.
 - For more information contact David Yang, (202) 493-3284, david.yang@dot.gov
- **Modeling and Forecasting of Toll Revenues**
 - A significant gap in this area concerns the modeling and forecasting of toll revenues. Specifically, there is a need for intermediate-level revenue analyses for toll projects between the "back of the envelope" calculations done in early planning stages and the more comprehensive investment-grade traffic and revenue studies that are required prior to obtaining financing. This project will develop intermediate analyses tool and procedure that would aid project sponsors in deciding which types of tolling options would warrant deeper consideration.
 - For more information contact Darren Timothy, (202) 366-4051, darren.timothy@dot.gov

12. NEXT GENERATION SIMULATION (NGSIM) COMMUNITY

The goals of this multi-million, multi-year project are:

- Improve the quality, trust and use of simulation tools
- Foster an environment of public-private cooperation
- Influence and stimulate the commercial modeling market

The objectives of NGSIM are to:

- Develop a core of driver behavior algorithms
 - Open source for free public use
 - Supporting documentation
- Collect new data sets to support algorithm development and validation

The current NGSIM products include:

- Vehicle trajectory data sets collected on freeways and arterials consisting of:
 - Eight hours of video using eight synchronized cameras
 - Vehicle positions every 0.1sec intervals
- NGSIM vehicle detection/tracking software to process video images
- Driver behavior algorithms, including:
 - Freeway lane selection with a target lane concept
 - Cooperative/forced merge
 - Oversaturated freeway flow
 - Arterial lane selection

All NGSIM products are freely available at <http://ngsim-community.org/>

8. TRB Report

R. Cunard

Rich Cunard welcomed everyone and provided the TRB staff report. This year there were 3,875 (last year 3,694) papers submitted. There were a total of 4,372 presentations, 768 sessions and workshops. More of the papers, 58%, were in poster sessions as compared to last year, 56%. There were approximately 15,000 reviews (with 3 to 5 reviews for each paper). There are over 11,000 registrations. Note, there were no long lines this year at the registration desk.

TRB is going electronic only. The Transportation Research Record is also heading in that direction. There is no DVD this year, but there is the launch of online papers, PowerPoint presentations and e-sessions. This site will be up for one year. There is the option to purchase the DVD online for \$25 by using as your password, the 6-digit reservation confirmation number printed on your nametag. Also, a limited number of DVDs were distributed to State DOTs and transportation libraries. There have already been over 10,000 visitors to the online papers. In addition, in the near future, posters, videos and power point presentation slides will be added to this online site.

TRB wants to reach out to those that do not and cannot come to TRB.

HCM 2010 comes out next month. It consists of 4 volumes: general concepts, uninterrupted flow, interrupted flow and applications guide. Volume 4 is an electronic-only volume that registered HCM users will be able to access over the Internet. Students have a 50% discount. Chapters can be purchased for \$20 for students.

The 18th ITS World Congress on ITS will be held in Orlando, FL, October 16-20. The TIFC committee should consider sponsoring a session.



TRB Report

- 3875 papers received (>3694 last year)
- 4,372 presentations, 768 sessions and workshops
- 58% of papers in poster sessions (56% last year)
- Smooth submission and review process
- 15,000 reviews (3–5 per paper)
- TRB Annual Meeting Online launched: papers, presentations and e-sessions (no DVD)
- 85 sessions and workshops address Transportation, Livability and Economic Development in a Changing World
- Please welcome, encourage and talk to “New Attendees” (ribbons)



TRB Report

Paper Submissions	2006	2007	2008	2009	2010	2011
Total Number	2862	3070	2847	3384	3694	3875
Total Presented	1688 (5%)	1849(6%)	1759(62%)	1882(56%)	2190 (5%)	2322 (6%)
Papers in Lecture Session	888 (5%)	935 (5%)	867(49%)	900 (8%)	921 (4%)	912 (3%)
Papers in Poster Session	728 (4%)	752 (4%)	861(49%)	952(51%)	1232 (5%)	1352 (5%)
Papers in Meeting	21 (1%)	34(2%)	31(2%)	28(2%)	20 (1%)	44 (19%)
Other Papers	2 (0.1%)	5 (0.2%)	0	2(0.1%)	17 (0.8%)	14 (0.6%)
Invited Presentations					1750	2050
Total Speakers					3100	3300

Sessions, Workshops and Meetings	2004	2005	2006	2007	2008	2009	2010	2011
Lecture Sessions	498	470	469	455	452	461	382	418
Poster Sessions	46	65	88	134	112	132	134	145
Workshops	62	62	73	79	86	89	99	110
Committee Meetings				425	442	424	444	503
Other Meetings							500+	500+
Total Meetings							>1500	>1500

9. Subcommittee Reports

R.L. Bertini



Subcommittees

- Paper Review and Sessions
- Mid-Year Meeting
- Joint Subcommittee on Traffic Simulation Models
- Committee Website
- Committee Communications
- Classic Paper Update
- Research Problem Statements
- Green Shields Prize
- Special Report on Traffic Flow Theory
- NEW Subcommittee on Operations Workforce Development

PAPER REVIEW & SESSIONS SUBCOMMITTEE

R.L. Bertini

Thank you to the subcommittee members (which include Ahn, Bertini, Mahmassani, Toledo, Geroliminis) and thank you to the many members and friends for their reviews. There were 120 papers received. Our committee had 4 podium sessions with a total of 20 papers presented. There were 2 poster sessions with a total of 60 papers presented. There was one podium session scheduled during one of the poster session time-slots. This was a mistake and we should try not to have that happen in the future. This time the growing trend indicates more papers submitted for presentation only, possibly indicating that authors are publishing elsewhere. There are 310 people listed in our review pool. There were 5 review requests sent out per paper and on average there were 4 reviews per paper.

Annual Meeting	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
Papers Received	119	101	92	82	88	70	69	80	40	42	25
Presentation only	22	13		7	9	7	3				
Publication only	1	4		2	2	5	2			3	
Present and publish	96	84		73	77	58	64				
Submitted for Presentation	118	97	87	81	86	70	67	75	40	39	
Lectern Sessions	4	4	4	4	4	4	4	4	4	4	
Lectern Papers	20	20	20	20	20	20	20	20	19	19	
Poster Sessions	2	2	2	2	2	2	2	2	0	0	
Poster Papers	60	40	39	33	39	32	25	30	0	0	
Subtotal	80	60	59	53	59	52	45	52	19	19	
Percent Accepted	67%	62%	68%	65%	69%	74%	67%	69%	48%	49%	
Rejected	38	37	28	28	27	18	22	23	21	20	
Submitted for Publication	97	88	78	76	79	63	66	71	40		
Accepted	2	0		1				4			
Revise and re-review	35	0	14	19	16	15		20	15		
To be determined	0	31	29	18	29	21		16			
Subtotal	37	31	43	38	45	36	42	40	15		
Publication Slots	-30	-25	-23	-21	-22	-17	-21	-24	-12		
Acceptance Rate	31%	28%	29%	28%	28%	27%	30%	30%	30%		
Rejected	49	57	35	38	34	27	24	31	28		
Reviews											
Assigned	568	441	394	332			269	356	200		
Assigned/paper	4.8	4.4	4.3	4.0			3.9	4.5	5		
Received	481	394	360	315			248	317	120		
Received/paper	4.04	3.9	3.9	3.8			3.6	4.0	3		
Response rate	85%	89%	90%	95%			92%	89%			
TFT Reviewers		189	150	140							
Number of Reviews		1-6									
Average		2.2									
TFT Reviewer Pool	310+	282									
Number of Reviews		1-34									
Average		6.2									
Total Reviews		1500									
Friends Email List	404	343									

Discussion occurred over whether reducing the number of reviews per paper was appropriate.

Discussion also arose over the impact factor; dividing by a large number results in inappropriate low numbers. It was suggested that by separating TRB journals, the impact factor problem would be resolved. B. Coifman made a motion for our committee to send a message to TRB administration/executive committee to consider separation of journals. S. Mattingly seconded the motion. **The vote to send this motion was approved without opposition.**



Paper Review & Sessions

- TRB Annual Meeting Activities: AHB45 Committee on Traffic Flow Theory and Characteristics • January 2011
- Workshop 169
Simulation Modeling and Analysis of Effect of Operational Improvements on Greenhouse Gas Emissions: Integrating U.S. EPA MOVES Model and Other Power-Based Emission Models with Simulation Models
Sunday January 23, Shoreham Palladian
- Committee Meeting
Tuesday January 25 1:30-5:30 PM Marriott Washington B5
- SimSub Meeting
Monday January 24 7:30-9:30 PM Marriott Wilson B & C
- Podium Session 361: Traffic Estimation and Control Methods
Monday January 24 3:45-5:30 PM Marriott Thurgood Marshall East
- Podium Session 601: Microscopic Models of Car Following and Lane Changing
Tuesday January 25 7:30-9:30 PM Marriott Thurgood Marshall South
- Podium Session 709: Driver Behavior and Traffic Microsimulation
Wednesday January 26 2:30-4:00 PM Marriott Thurgood Marshall East
- Podium Session 743: Macroscopic Properties of Traffic Flow
Wednesday January 26 4:30-6:00 PM Marriott Thurgood Marshall East
- Poster Session 603: Research in Traffic Flow Theory and Characteristics Part 1
Tuesday January 25 7:30-9:30 PM Marriott Salon 2
- Poster Session 663: Research in Traffic Flow Theory and Characteristics Part 2
Wednesday January 25 9:30 AM- 12 Noon Marriott Salon 2

MID-YEAR MEETING

N. Geroliminis

- Christine Buisson was the Organizing Committee Chair of the 2010 Mid-Year Summer TFTC Committee Meeting, *Does Traffic Data Support Traffic Models?* held from July 7-9, 2010, website www.tft2010.inrets.fr. The meeting was very successful and well attended. There were approximately 65 participants with 38 presentations. There is a special issue of *Transportation Research Part C* that will publish a select few of these papers: 6 papers are under revision and 5 are still under review. N. Geroliminis recommends that we repeat this activity of publishing a few select papers from the presentations in our next 2012 Midyear meeting.
- ISTTT19, the 19th International Symposium on Transportation and Traffic Theory will be in Berkeley, on July 18-20. M. Cassidy and A. Skabardonis are organizing this meeting. The editors of *Transportation Research, Parts A-F*, have agreed to publish papers accepted for this symposium. Thus, **all** symposium papers will be published in the *Transportation Research* series (unless an author opts out, of course). Visit the web at <http://www.isttt19.org>. The meeting will be held at the Claremont Resort & Spa, please visit <http://www.claremontresort.com>.
- The 2012 Midyear meeting was discussed. M. Hadi is the organizing Chair and suggested it be a joint committee meeting with HCQSC, Highways Capacity & Quality of Service Committee, in June. The HCQSC prefers Fort Lauderdale, FL, as the location site. **A motion was approved to hold the 2012 Midyear meeting jointly with HCQSC.** Volunteers S. Hamdar, R. Sheehan will assist M. Hadi organize this meeting.
- The 2014 Midyear meeting will be held outside the U.S. There will be a call for abstracts.



Mid-Year Meeting



JOINT SUBCOMMITTEE ON TRAFFIC SIMULATION MODELS

G. List (Chair) & J. Halkias & K. Courage



Sim Sub

SimSub Website

<http://sites.google.com/site/trbcommitteeahb45/>

Sunday Simulation Workshop: "Simulation Modeling and Analysis of the Effect of Operational Improvements on Greenhouse Gas Emissions: Integrating the EPA MOVES Model and other Power-Based Emission Models with Simulation Models"

A summary of the Simulation Sub committee AHB45(1) (SimSub) activities was provided.

- Two other TRB committees may join the joint SimSub committee: Committee on Work Zone Traffic Control, AHB55, and the Transportation & Air Quality Committee, ADC20. In addition, TRB's Highway Safety Performance Committee, ANB25, is interested.
<http://ops.fhwa.dot.gov/trafficanalysistools/index.htm>
- There were between 80 and 90 people in attendance at this year's Sunday SimSub Workshop, which included excellent presentations and lively discussion on topics such as Induced Demand and Sustainability Issues. Apparently, there is quite a discrepancy between outputs from the emission models and output emission predictions from simulation models. Possibly, the interpretation of the simulation models' prediction of emissions ought to be looking at relative numbers rather than absolute numbers. It was suggested that next years' Workshop focus on dynamic simulation tools for Decision Support Systems to manage traffic real-time.
- Discussion followed over reports from other task groups desiring the expansion of simulation model analysis tools to include other applications, not only emission-predictions but safety risks. Jim Bonneson from the Highway Safety Performance Committee suggested that next years' Workshop focus on the incorporation of safety analysis into simulation models. The Safety Assessment Task Group would like to see this incorporated into simulation models. Should we construct a problem statement on the incorporation into the simulation models of a module on safety measures? Byungkyu (Brian) Park volunteered to head a new Task Force or group to investigate how simulation models can assess safety.
- Another good topic suggested for next years' Workshop is dynamic traffic management or Integrated Corridor Management (ICM) using simulation models.
- Discussion follows on increasing the visibility of SimSub. It was mentioned that at the Midyear meeting SimSub Workshop in Annecy, France, there was approximately 60 in attendance. There are two additional TRB committees interested in joining the liaison with SimSub.
- Thank you Alex Stevanovic for the new updated website,
<http://sites.google.com/site/trbcommitteeahb45/>

Ken announced that he is again in charge of drafting the Newsletter. Publications are planned for April, October and December. There was some discussion concerning the SimSub's need for increased visibility.

CALIBRATION, VERIFICATION & VALIDATION GUIDELINES FOR SIMULATION

R. Benekohal

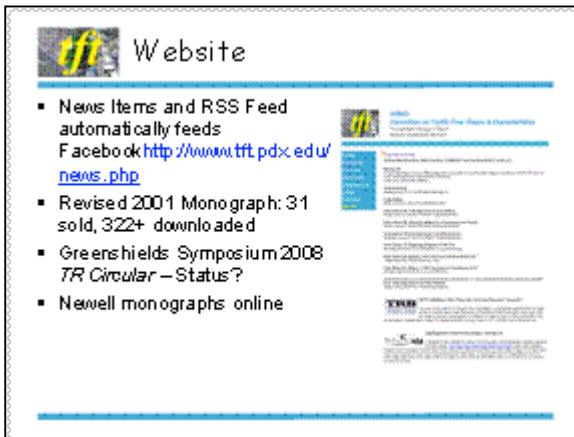
- The first draft of compiled literature or reference list of papers concerning the calibration, verification and validation of simulation models is now complete.
- A webinar concerning the general guidelines, user needs and other issues may be possible. Wisconsin DOT is developing guidelines as are other state DOTs. Europe's COST Action has observed that there are two separate and different approaches to calibration: one used by Universities and one by the Consultants. Should vendors be adding Calibration Modules to the simulation model packages?
- A problem statement was submitted twice and was unsuccessful.
- A white paper is being constructed.

WEBSITE SUBCOMMITTEE

R.L. Bertini & S. Mattingly

The question was raised as to whether the minutes of TRTC committee meetings ought to be login protected. S. Mattingly made a motion not to protect the meeting minutes and R. Sheehan seconded the motion. **The motion passed with everyone in favor, without opposition.** The username is AHB45 and the password is tft. *Update since meeting: the password protection has been removed.*

The website has excellent archived papers and is a good resource for members and friends. It also has a news page for current events. It also automatically posts to Facebook and anyone can post. R. Bertini gave a webinar to TRB about creating a good committee website.



RESEARCH PROBLEM STATEMENTS

M. Hadi

There was discussion concerning the lack of State DOT representation on the TFTC committee and how that might be affecting the success of TFTC's problem statement submission. It was agreed that more visibility and more State DOT representation would improve their success. There was discussion over forming a task group to reach out to State DOTs, similar to that which has been formed by the HC&QS committee. This task group formulated a list of recommendations for their committee. Maybe we can look at their recommendations. Pete Briglia, WA DOT, is willing to forward our problem statements through the Washington State DOT.

There are need priorities in the following research areas that we should consider for our problem statements:

- Emission modeling
- The effect of connected vehicles/cooperative systems on traffic flow
- Calibration and validation of Simulation Models
- Vehicle and pedestrian interaction models
- Interaction between large heavy vehicles and passenger cars
- Simulating roundabouts

The following are from Bertini's slides and lists specific topics:

- Investigation of synchronized flow and modeling of instability in flow

- Driver behavior under different congestion levels
- Influence of lane discipline on capacity
- Role of anticipation in microscopic driver behavior
- Using of trajectory data in model calibration and validation
- Modeling vehicle/pedestrian environment
- Probabilistic description (uncertainty) of road capacity
- Capacity and travel behaviors at bottlenecks
- Traffic flow theory in emergency and evacuation cases
- Psychological factors and their effect on traffic flow
- Gap acceptance behavior of different types of drivers
- Model the interaction of cars and trucks (longitudinal and lateral)
- Emission modeling as related to traffic characteristics
- Green flow – What flow is most “green”
- Fuel consumption modeling as related to traffic characteristics
- Developing microscopic crash prediction models
- Use of vehicle probe data to develop traffic flow model
- “Simulation abuse:” a collection of bloopers instead of a collection of successes
- Calibration, verification and validation of micro simulation models: guidelines and data needs
- Difference in characteristics of traffic among US and European Freeways
- Effect of longer cycle length on flow

Simulation Survey - TFF related

- Data needs for calibration
- Sensitivity of simulation model results to the degree of calibration
- Procedures and guidelines for calibration and validation of simulation/DTA models
- Standards of simulation program Performance measures
- Develop case studies and modeling handbook
- Work zone modeling
- Incident modeling
- Driver behavior under different congestion levels
- Air quality, noise, and fuel consumption modeling
- Effect of geometric design and sight restrictions
- Modeling of roundabout
- Improved Traffic Flow Models for Mesoscopic Simulation Modeling
- The effect of emerging IntelliDrive technologies.
- Effect of mixed vehicle types (trucks, trains, buses, etc.)
- Evaluation of safety based on simulation results
- Traveler behaviors during emergency events
- Effect of weather conditions (visibility/pavement conditions)

Next Steps

- Each member select 2 topics as the most important topics
- Scores will be given to the statements based on the number of votes
- Identify the top four statement
- Discuss in the annual meeting
 - Topics that are important but did not appear in the top four
 - Does the topic requires additional research
 - etc.
- Write statements for the four selected problems
- Engage with possible funding sources in the U.S. and Europe

GREENSHIELDS PRIZE

N. Gartner, R. Bertini, L. Leclercq H. Rahka

There are 5 to 10 papers that are in the process of being ranked. The prize will be awarded at the mid-year meeting. There are no formal criteria, other than the paper should link data with the fundamental diagram or the flow density plot. There was a suggestion that we could use the TRB Ranking Sheet template on the website. Nominations are taken over email.

SPECIAL REPORT ON TRAFFIC FLOW THEORY

H. Mahmassani

The chapters that need to be updated should be identified. In order to do this, help is needed to follow through chapter by chapter. Approximately by March of this year, we should have a new chapter draft on microsimulation models. A. Skabardonis volunteered to assist H. Mahmassani.

NEW SUBCOMMITTEE ON OPERATIONS WORKFORCE DEVELOPMENT

P. Briglia

The committee is charged with assessment of the workforce needs of the future. Wayne Kittelson of Kittelson & Associates, Inc. is the Chair. Other members include Pete Briglia, Michael Kyte, Mac Lister, Bob Plymale, Phil Tarnoff, Dan Turner and Richard Cunard. They would like another member from this committee. Marguerite Zarrillo volunteered to join this subcommittee and attend the subcommittee meeting on Tuesday, January 25, 2011, at 5:30 p.m. in Park Tower Suite 8222 of the Marriott Wardman Park Hotel. This will be an opportunity for members to get to know each other and to set the path of future activities. The subcommittee is a part of Standing Committee AHB00 (Section - Operations).

10. Liaison With Other Committees

Attendees

A. Skabardonis reports that the Freeway Operations Committee has connected well with State DOTs and we may want to work with them to improve our relationships with State DOTs. Freeway Operations Committee mid-year meeting will be in Clark County, Nevada (Las Vegas), July 18-20. A motion was made and seconded to become a parent of ATM (Advanced Traffic Management) Subcommittee. **The motion was passed unanimously.**

It was reported that the Signal Timing Manual is being processed by the Signal Committee.

It was suggested that the TFTC committee look for opportunities for joint calls for papers. There is now a TRB Transportation in Developing Countries Committee that we could connect with for a joint call. Also it was suggested that a joint call be done with the Pedestrian Committee for pedestrian flow.

11. Announcements and Future Meetings

Attendees

- International Symposium on Transportation and Traffic Theory (ISTTT19) Berkeley, California, to be held July 17-20, 2011, www.isttt19.org, over 500 papers submitted. TFTC committee will have a short midyear committee meeting during the symposium.
- ISTTT20 - Berlin, Germany – 2013
- ISTTT21 - possibly Japan – 2015, TBD
- 6th ISHC - June 28-July 1, 2011, Stockholm, Sweden
- TFTC Midyear Meeting – Summer 2012, Florida with HCQS Committee
- Upcoming meeting of ICEM (Evacuation Modeling) in Chicago, August 15-17, 2011.

12. New Business

Attendees

The TFTC committee's Triennial Strategic Plan 2011 - 2014 is due by August 1, 2011. Avinash Unnikrishnan and Marguerite Zarrillo volunteered to assist Robert Bertini with the update.

Jorge Laval announced the new capabilities of his Traffic Lab at Georgia Tech. It has the platform for presenting webinars. Facebook sends out the webinars.

It was proposed that a new Subcommittee on Teaching Traffic Flow Theory be created, led by Hans Van Lint. Technology transfer through the University Transportation Centers can fund this. Others expressed interest in joining Hans in this effort.

13. Adjournment

R. L. Bertini

Chairman Bertini adjourned the meeting.