

5th Innovations in Travel Demand Forecasting: A Conference

Baltimore, Maryland

April 27–30, 2014

Sponsoring Committees

Traveler Behavior and Values (ADB10)

Telecommunications and Travel Behavior (ADB20)

Network Modeling (ADB30)

Transportation Demand Forecasting (ADB40)

Research Briefs
Due
December 2, 2013

CALL FOR RESEARCH BRIEFS

Naturally the Innovations in Travel Modeling (ITM) conference is focused on innovations – in particular, bringing travel modeling innovations from the academic community and cutting edge modelers to practitioners. The organizing committee is looking for research briefs for presentation at the 2014 ITM conference on April 27-30 2014, in Baltimore, MD covering a wide range of innovation. Examples include briefs that describe progress along the dominant path in a particular field as well as branches away from that direction that may provide illuminating contrast. Evaluations of the effects of innovations on the practice are also sought for presentation, including theoretical effectiveness (accuracy, sensitivity, etc.), practical effectiveness (ease of use, maintenance, etc.), and innovations that deliver insight (including both new types of information and new visualization tools) to decision makers and community members. Since the conference strives to bridge the gap between researchers and practitioners, preference will be given to briefs that describe innovative models and techniques that can be incorporated in operational models used in practice. Respondents should address how their submitted work fosters these and/or other aspects of innovation and discuss possible applications of the innovation they propose. The committee encourages “concept” or “idea” papers in addition to studies focusing on empirical analyses.

Conference programs and selected papers from previous ITM Conferences may be found at –

[2006 - vol.1](#) | [2006 - vol.2](#) | [2010](#) | [2012](#)

The Research Brief Submission site will open October 18, 2013. Research briefs (**NOT abstracts**) should be submitted for possible inclusion in the

conference, through the [conference website](#) no later than **Monday, December 2, 2013**. Briefs should be between 2,000 and 3,000 equivalent words (each table/figure will count as 250 words). Briefs exceeding the word limit will not be considered. Briefs must clearly and succinctly describe (1) objectives, motivations and innovation, (2) methodology, (3) major results, and (4) implications for the science and/or practice of travel modeling. ***Pdf files are the only accepted file format.*** Each brief must be accompanied by a Statement of Innovation and a Statement of Financial Interest – each Statement is described further on the conference webpage. The evaluation criteria is also included on the conference web page – authors are encouraged to look at the criteria before beginning the writing process. ***Authors of selected high quality research briefs will also be invited to submit full papers for publication in two special journal issues: Transportation Research Part C and Journal of the Transportation Research Board.***

The following topic areas are provided to encourage work in these areas and to provide more information on the types of innovations authors could cover. This list is not exhaustive.

1. Integrations of major travel model components such as: (a) Supply-chain/logistics-based freight modeling; (b) Land-use & transport models; and (c) Transport & emissions/energy models; (2) Integrations in scale such as micro simulation and regional models; (3) Integrations of travel-demand & network simulation models, such as the successful application of DTA at the regional level. The committee is particularly interested in projects that approach the integration from the

behavioral foundations and not just feeding the output of one model into the next.

2. Innovations in Improving the Sensitivity of Models in Response to Policy Questions or Project Concerns – this topic covers two main aspects of sensitivity, one related aspect is to (statistically) measure the corresponding individual behavior sensitivity and perceptions. The second aspect is to incorporate these sensitivities in operational forecasting models. (1) Enhancing the resolution of models (such as continuous time/space models) including choice models and network simulations; (2) Capturing the impact of accessibility and urban structure on travel, including formation of various measures of density, accessibility, pedestrian environment, etc., and their incorporation in travel models; (3) Capturing sensitivity to different types of tolling or managed lanes; (4) Incorporating the supply-side of activities (e.g., the attractions); (5) Capturing sensitivity to reliability of travel times - the majority of travel models still operate with average travel times as the main input. Can travel time reliability be effectively incorporated in travel models and network simulation tools? How would this improve the model accuracy and what could be the policy implications associated with reliability? (6) Capturing macro-trends (i.e., rapid growth, economic recessions, ICT technology, household formation rates, fuel prices, etc) and their incorporation in travel forecasting models; (7) Improving the understanding of supply-side of activities (e.g., the attractions) and its representation in travel models. Supply side of activities that represents characteristics of different locations in terms of how they could meet the demand remains largely unexplored.
3. Innovations in Modeling Under-Studied Travel Markets, particularly those markets that are critical to our ability to make decisions (1) Non-resident / visitor travel; (2) Emerging modes such as electric vehicles, scooters, bike, walk, bike to/on transit and informal ride sharing; (3) Auto availability in a world of public and private forms of car-sharing; (4) Parking behaviors; (5) Short-distance commercial vehicles and long-distance freight; (6) Long-distance / external travel including inter-city travel within mega-regions; (7) Innovative uses of ICT for making travel choices; (8) Data issues and the modeling of rare/emerging travel markets.
4. Innovations in Data Collection, Usage, Statistical Techniques, and Models designed to utilize the new data - (1) Data from non-traditional data sources such as cell-phones and social media; (2) Using GPS for person and freight data collection; (3) Value of / issues with continuous data collection; (4) Innovative uses of new national and private datasets (US Census' SF1, ACS, LEHD, traffic data firms) and time-use / travel surveys (NHTS, ATUS); (6) Use of parcel-level land-use data; (6) Advances in survey techniques (establishment, transit on-board surveys, etc.)
5. Innovations in Model Validations & Transferability - (1) Use of predicted-actual studies for validations; (2) Implications of various spatial/temporal resolution and demographic stratification; (3) Transferability of travel-demand models; (4) Innovative ways of getting and processing validation data. (5) Borrowing data from other regions;
6. Innovations in Implementation and Application - (1) innovations in transitioning from a trip-based model to activity-based models & implications for transportation planning; (2) Determining project-level economic impacts & benefits of transportation investments using a regional travel-demand model; (3) Quantification and presentation of uncertainty in project-level demand forecasts; (4) Quality assurance and efficient workflows for advanced models; (5) Innovative use of advanced models to answer critical policy questions that we could not previously (physical activity, peak-spreading, pricing, and environmental justice analysis)
7. Innovations in Computation (1) Computational efficiency; (2) Computational methods; (3) Approaches for data storage and access; (4) Cloud computing; (5) software platforms and design for advanced models
8. Innovative Mathematical Models, Methods, Algorithms, and Model System Design for Travel Behavior - methods (beyond the traditional regression/utility maximizing discrete choice models) to achieve a better analysis of conventional and new data. (1) Continuous models and discrete-continuous models for treatment of temporal and spatial dimensions of travel. (2) Agent-Based Modeling (AgBM) paradigm provides a natural description of a complex system at multiple levels that is impossible with aggregate analytical equations. What can we learn from the other fields that simulate complex systems and apply to travel models? (3) Rule-based algorithms and other alternatives to standard discrete choice models that may better capture the multi-criteria and non-compensatory nature of decision making compared to utility maximization. (4) Genetic Algorithms, Spatial Statistics, and Machine Learning approaches to address the real world process of learning and adaptation in travel behavior. (5) Extension of Dynamic network models to incorporate Dynamic Transit Assignment

and individual preferences of transit users with respect to walk access/egress, convenience, productivity, and other characteristics of transit services. (6) Other innovative methods to address the inherent complexity of travel behavior and improve integrity of the model systems.

Other New Topics to Consider:

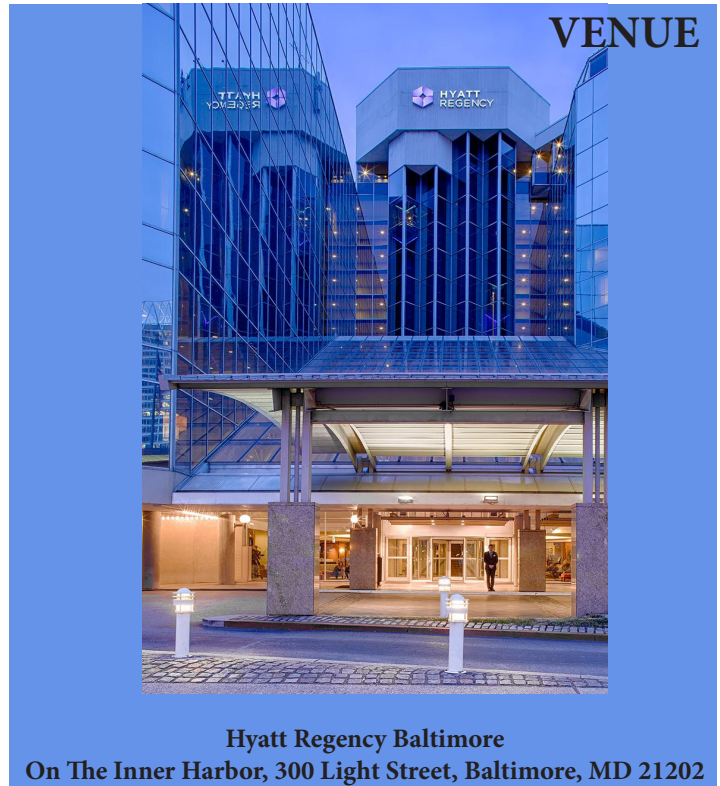
1. Visualization in model development, calibration, validation, and presentation of results (1) New applications of visualizing and using all the additional information we are getting as outputs from advanced models.
2. Advances in transit modeling, such as incorporation of capacity constraints, individualized walk propensities and other mode preferences, etc. This may also relate to the New Starts modeling requirements, including examples of using the new STOPS model
3. Actual applications where an Activity-Based Model proved to be the right tool for the job for example for highway pricing studies (as opposed to using an ABM to solve a traditional four step model problem like prioritizing highway projects).
4. Advances in bike and pedestrian modeling including incorporation of these modes in the model system, modeling their specific level of service, network assignments, etc.

Hotel Information

Make your reservation for the TRB special rate of \$145 (prevailing per diem) plus current tax of 15.5%. Group block expires March 31, 2014. Rooms may be at a higher rate after this date and are subject to availability

Online Reservation

Toll Free Reservations: 1-800-233-1234
Group Booking Code: TRB



Registration Fees

	Early Bird by January 31, 2014	Advance by February 28, 2014	Regular by March 1, 2014
General	\$325	\$375	\$450
Speaker & TRB Sponsor	\$250	\$275	\$325
Student	\$100	\$100	\$100
Exhibitor	\$1,200	\$1,200	\$1,200

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