

Midyear Report 2014

TRANSPORTATION RESEARCH BOARD
JOINT TRAFFIC SIMULATION
SUBCOMMITTEE



Chairman's Message

SimSub Chair
Dr. George List
NC State University

SimSub members,

Greetings. It is time to prepare for the SimSub midyear meetings. We will be holding two meetings, one in conjunction with the Highway Capacity and Quality of Service Committee, and the other with the Traffic Flow Theory Committee. The HCQS meeting is June 11-14 in Lexington, KY. The TFT meeting is August 11-13 in Portland OR. You can learn more about these events at <http://www.trb.org/Calendar/Blurbs/169870.aspx> and <http://www.tft.pdx.edu/tft50/tft50.htm>.

We will be receiving reports from the task group leaders and have a discussion about currently hot topics and future efforts. Our main objective is to identify topics for the simulation workshop to be held Sunday afternoon at TRB in January 2015. If you cannot attend, please send suggestions to the SimSub web administrator TRBCommitteeAHB45@gmail.com. We look forward to hearing from you.

Unfortunately, I will not be able to make either of the meetings this summer. But Mohammed Hadi has agreed to chair both meetings.

In addition to the midyear meetings, watch for the posting of this year's mid-year SimSub newsletter. David Hale has done a terrific job of preparing it.

Also, please take note of upcoming webinars with SimSub is sponsoring in partnership with SimCap (ITE), thanks to the efforts of Miranda Wells! You can find information about the webinars at <http://oregonite.org/> and at <http://www.trb.org/ElectronicSessions/ConferenceRecordings.aspx>. The next webinar is July 9th <http://www.trb.org/ElectronicSessions/Blurbs/170621.aspx>.

We look forward to seeing you at one of the two midyear meetings, and if not, then, at the TRB meeting this coming January (at the new venue!).

Sponsor Committees

AHB45: TRAFFIC FLOW THEORY
AHB40: HIGHWAY CAPACITY AND QUALITY OF SERVICE
AHB20: FREEWAY OPERATIONS
AHB25: TRAFFIC SIGNAL SYSTEMS
ADB30: TRANSPORTATION NETWORK MODELING
AHB55: WORK ZONE TRAFFIC CONTROL
ADC20: TRANSPORTATION AND AIR QUALITY

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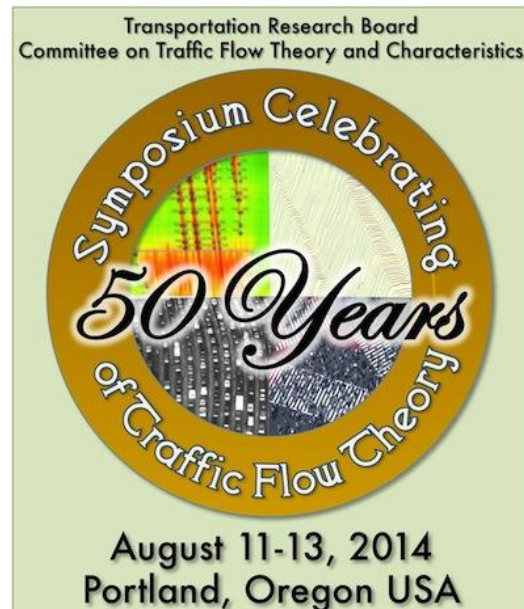
SimSub Web Site

Alex Stevanovic, Webmaster

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

2014 Upcoming Events

Traffic Flow Theory and Characteristics Committee (AHB45)
2014 Summer Meeting - August 11-13, 2014 - Portland, OR
Celebrating 50 Years of Traffic Flow Theory



Call For Papers

We are pleased to announce a call for papers for the Transportation Research Board (TRB) Committee on Traffic Flow Theory and Characteristics Symposium Celebrating 50 Years of Traffic Flow Theory and Midyear Meeting to be held in Portland, Oregon, USA, August 11-13, 2014. Selected top papers will have the opportunity to be considered for publication in special issues of two top transportation academic journals, and all presented papers will be published in a special issue of the *Transportation Research Circular* series.

Background: The predecessor committee focusing on traffic flow theory was organized 50 years ago, and this is an appropriate time to recognize the past accomplishments in the field, reflect on the present state of our research community and identify key future directions. Papers on all topics in the traffic flow theory and characteristics domains are welcome. This symposium builds on past successful symposia beginning with the *Greenshields Symposium* in Woods Hole, MA in 2008, the *Does Traffic Data Support Traffic Models Symposium* in Annecy, France in 2010 and the *Symposium on Advancements in Traffic Flow Theory and Highway Capacity and Quality of Service* in Fort Lauderdale, FL in 2012.

Important Dates:

March 1, 2014 Extended Abstracts Due
April 15, 2014 Authors Notified of Paper Decisions
July 25, 2014 Papers Due for Conference Proceedings

Instructions: For full consideration, [download](#) an extended abstract template, and [submit](#) a 4-page (maximum) abstract by March 1, 2014. Selected authors of the top papers will be asked to submit full papers by July 25, 2014 for further consideration for special issues by two top transportation academic journals. All accepted authors are asked to submit final papers by July 25, 2014 for inclusion in symposium proceedings and *TR Circular*.

For More Information: For additional information please contact the Symposium Chair, Prof. Robert Bertini (bertini@pdx.edu, 503-725-4249) at Portland State University.

2014 Upcoming Events

First International Workshop on Information Fusion for Smart Mobility Solutions (IFSMS14)

<http://www.multiagent.fr/Conferences:IFSMS14>

22-25 September, 2014, Halifax, Nova Scotia, Canada

Description

The 1st International Workshop on Information Fusion for Smart Mobility Solutions (IFSMS'14) provides an international forum on the latest technologies and research in the field of smart mobility solutions. We are living in a world where cars will soon all be very well-equipped with sensors such as GPS sensors, laser radars, infrared parking sensors, rear dead angle cameras, etc. Besides that, the infrastructure itself is likely to soon exploit technologies currently widely used, like smartphones, navigators and digital radio broadcast. Finally, there have been huge advances on traffic simulation, optimization, intensive computational techniques, distributed computing, data networks, wireless connectivity, and many others. If we combine all of this, there is the richest variety ever of information sources available for smart mobility solutions. The technology is out there, and now it is needed to take firm steps towards wisely combining the sources of information into smart applications that make roads safer and ensure a smooth mobility of individuals.

IFSMS 2014 will be held in Halifax, Nova Scotia, Canada (22-25 September 2014) in conjunction with the [5th International Conference on Emerging Ubiquitous Systems and Pervasive Networks](#) (EUSPN-2014).

Scope

The aim of the proposed workshop is to enhance profitable discussions on what techniques, software, methodologies, transportation and traffic models, and in general, data fusion techniques are being explored for its use for traffic simulation and mobility management and other intelligent transportation system applications for smart mobility.



Topics of interest include (but are not limited to):

- Agent-based modeling and simulation
- Data fusion and Smart Transportation
- Social and emergent behavior in MAS-T (multi-agent systems applied to traffic and transport)
- Implementation Issues such as Algorithmic Issues, Real-World Computational Demands, Real-Time Constraints in the context of Fusion systems for Transportation Infrastructures
- Environmental Aware Smart Data Fusion applications
- Advanced Architectures for Traffic Simulation using Data Mining as Real-World input
- Calibration and validation of agent-based models for traffic and transportation
- Role of multi-agent methodologies for complex systems
- Multi-modal routing of agents in a dynamic traffic environment

Important Dates

- Submission deadline: April 30, 2014
- Notification: June 24, 2014
- Final date for camera-ready copy: July 17, 2014
- Workshop: September 22-25, 2014



DATA SIM Summer School (14-17 July 2014)

www.datasim-fp7.eu

DATA SIM Summer School 2014






The **Transportation Research Institute (IMOB)** of Hasselt University organizes the first DATA SIM Summer School on 'Mobility modeling and big data sources'. This Summer School will take place at **Hasselt University, Campus Diepenbeek** (Agoralaan Building D, 3590 Diepenbeek, Belgium) from **Monday July 14th to Thursday July 17th**.

Topics

This Summer School will feature a series of lectures by renowned researchers in the following topics:

	<p>Mobility modeling: basic principles and tools.</p> <ol style="list-style-type: none"> 1. Behavior modeling, activity based models (activity selection, planning, daily schedule generation) 2. Multi-modal trips 3. Modeling cooperation, cooperative scheduling (e.g. carpooling) 4. Ontologies 5. Traffic and transportation related models, travel demand prediction models 6. Simulations in practice: what conclusions can be drawn?
	<p>Special focus: Agent based modeling and simulation for mobility, travel behavior, mobility market, electro-mobility (including smart grid, etc.).</p> <ol style="list-style-type: none"> 1. Delimiting the domain of applicability: where can agent based modeling be useful? 2. Models for cooperation, mutual influence, negotiation 3. Computability issues, scalability 4. Ontologies 5. How to interpret results? What can be expected?
	<p>Big data as source for modeling.</p> <ol style="list-style-type: none"> 1. Big data repositories 2. Annotation, semantic enrichment of big data 3. Data mining and process mining to extract information from big data 4. Crowd sourcing and publicly available data: pitfalls and challenges 5. Using data from different sources: how to align?

2014 Upcoming Events

	<p>Integrating big data and modeling.</p> <ol style="list-style-type: none">1. Using big data to feed models or to validate model execution results2. How to integrate semantically poor big data with small sets of semantically rich data as input for microsimulation or agent based modeling
	<p>Applications</p> <ol style="list-style-type: none">1. Electric vehicles (including smart grid concepts)2. Carpooling (cooperation on trip traveling)3. Multi-modality and car-sharing (cooperation on resource usage)4. Markets based on big data related to traffic<ul style="list-style-type: none">• Business models for EV, multi-modal trips, car-sharing, carpooling• Online support systems (ride sharing advisors)• Traffic load prediction systems5. Effect of EV characteristics (range anxiety, charging time, limited range) on household travel behavior
	<p>Research topics in transportation behavior, traffic safety and logistics.</p>

Target audience

The Summer School is suited for senior-researchers, early-stage researchers, practitioners and (PhD) students from the domain of transportation sciences, data mining, agent/activity based modeling and related topics.

Participants will have the opportunity to get feedback on their work during the graduate symposium sessions. Participants are strongly encouraged to present their work and to submit a 1 page (A4) abstract describing the main research objectives and methods used not later than 2014-jun-15.

Participation Certificates

Participation Certificates will be issued to all participants of the Summer School.

Contact

For more information please contact Luk Knapen (luk.knapen@uhasselt.be) for questions about the program, Edith Donders (edith.donders@uhasselt.be) for questions about registration and accommodation or consult the DATASIM Summer School web pages (<http://www.uhasselt.be/UH/datasim/Summer-School-2014/About-Summer-School-2014.html>).

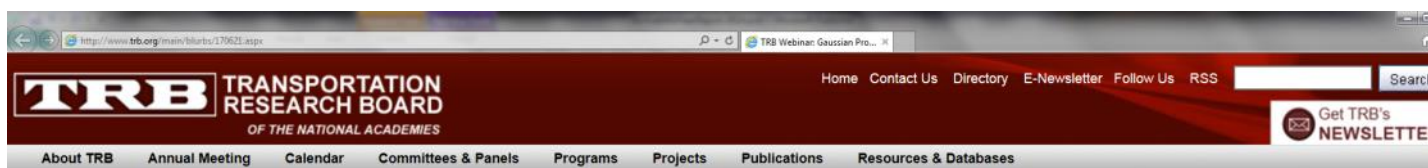
2014 Upcoming Events

TRB Webinar: Gaussian Process Metamodels for Sensitivity Analysis of Traffic Simulation Models

<http://www.trb.org/main/blurbs/170621.aspx>

Learning Objective

At the end of this webinar, participants will be able to summarize advanced methods for the analysis of traffic simulation models.



TRB Webinar: Gaussian Process Metamodels for Sensitivity Analysis of Traffic Simulation Models

Register Now

TRB will conduct a webinar on July 9, 2014, from 12:00pm to 1:30pm ET that will introduce a metamodel-based technique for model sensitivity analysis and discuss how it may be applied to the Aimsun mesoscopic model. The webinar is based on a [paper](#) presented at the 2013 TRB Annual Meeting that explains how sensitivity analysis can be applied to a traffic simulation model. Participants must register in advance of the webinar, and there is a fee for non-TRB Sponsor or non-TRB Sustaining Affiliate employees. A certificate for two Professional Development Hours (PDHs) will be provided to attendees who register and attend the webinar as an individual.

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Webinar Presenter

Biagio Ciuffo, European Commission – Joint Research Centre

Moderated by: George List, North Carolina State University

Webinar Outline

PART 1: Introduction to the TRB SimSub group
PART 2: Metamodel-based technique for model sensitivity analysis and how it can be applied to the Aimsun mesoscopic model
PART 3: Question and answer session
The first 60 minutes of the webinar will be for presentations and the final 30 minutes will be reserved for audience questions.

Registration Information

There is no fee for employees of TRB Sponsors or TRB Sustaining Affiliates who register using their work email address. In addition to employees of TRB sponsor organizations, the following are eligible to receive complimentary webinar registration: TRB and National Academies employees; Chairs of TRB standing committees, sections, or groups; CRP panel members who were involved with developing the report or project that is the subject of the webinar; Members of the media; Employees of tribal governments; and Members of Congress or their staff. Other sites must pay \$89 per site. View our pricing page for details. After registering you will receive a confirmation email containing information about joining the webinar.

Professional Development Hour Information

A certificate for 1.5 Professional Development Hours (PDHs) will be provided to Professional Engineers (PEs) who register and attend the webinar as an individual. For groups, only the person that registers and attends the session will receive a PDH certificate. Individuals registered as Florida PEs are required to email Reggie Gillum, RGillum@nas.edu, with their license number. Please check with your licensing board to ensure that TRB webinar PDHs are approved by your board.

2014 Recent Events

International Symposium of Transport Simulation, and the International Workshop on Traffic Data Collection and its Standardisation

Ajaccio, Corsica (France)

June 1-4, 2014

About the events

Following the success of the previous editions of both the International Symposia of Transport Simulation (ISTS) and the International Workshop on Traffic Data Collection and its Standardisation (IWTDCS), ISTS'14 and IWTDCS'14 aim to gather the world's transportation and traffic academics and practitioners, as well as people who are interested in contributing to or gaining a deeper understanding of the transport simulation field.

During the three-day conference plenary sessions featuring high level speakers and interactive breakout sessions will take place at the Conference Centre of Ajaccio (Corsica, France), where participants will have the opportunity to mingle with those at the forefront of data collection and standardisation, transport simulation thought, practice, and implementation as well as exchange experience and best practices. This event will focus on scientific challenges and issues raised by new theoretical development in the transport fields as well as new advances in Mobility Data collection and smart processing tools.



The organiser

The ISTS'14 and IWTDCS'14 is organised by the Transport and Traffic Engineering Laboratory (LICIT), a joint Research Lab. of ENTPE (the Post-graduate School of Civil Engineering & Sustainable Development) and IFSTTAR (a state-financed Research Institute in the areas of Transportation, Urban and Civil Engineering, Construction Materials and Natural Hazards). Within IFSTTAR, the LICIT is one of the 12 laboratories of the Components & Systems (COSYS) Department.

Established in 1993, the LICIT is recognized for its work in traffic modelling and engineering. The laboratory has already developed many successful applications for a real-time traffic information, network monitoring & management (including weather-sensitive traffic management), traffic simulation and dynamic assessment of the environmental impacts of transportation systems. For more information, please visit the Lab's website.

Register now and take advantage of early-bird registration discounts until March 15th, 2014.

Sponsored by:



The 5th International Conference on Ambient Systems, Networks and Technologies (ANT-2014)



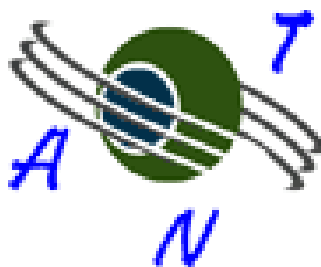
The 3rd International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications (ABMTRANS'14)

<http://www.uhasselt.be/UH/datasim/ABMTRANS.html>

*in conjunction with ANT-2014 conference
Hasselt, Belgium (2–5 June 2014)*

The 3rd International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications (ABMTRANS 2014) provides an international forum on the latest technologies and research in the field of traffic and transportation modeling using an agent-based approach. ABMTRANS 2014 is organized in the context of the European FP7 project DATASIM (<http://www.datasim-fp7.eu/>). ABMTRANS 2014 will be held in Hasselt, Belgium (2-5 June 2014) in conjunction with The 5th International Conference on Ambient Systems, Networks and Technologies (ANT-2014).

Transportation Research Institute
(IMOB)
Hasselt University
Wetenschapspark 5 bus 6
B-3590 Diepenbeek, Belgium



SCOPE

This workshop provides a multidisciplinary collaborative forum for researchers and practitioners to submit papers presenting new research results and novel ideas related to the theory or the practice of agent-based traffic and transportation modeling. This workshop also invites researchers to submit their work focusing on the data mining, management and configuration for agent-based traffic and transportation modeling.

Topics of interest include (but are not limited to):

- Agent-based modeling and simulation
- Agent-human interactions
- Environment modeling and interaction protocols
- Data mining, learning and adaptation
- Marketing decision support
- Collaboration, cooperation, competition, coalitions in traffic and transportation models
- Agent-based negotiation of QoS and SLAs in traffic and transportation models
- Social and emergent behavior in MAS-T (multi-agent systems applied to traffic and transport)
- Large scale simulation of agent-based microscopic traffic models
- Calibration and validation of agent-based models for traffic and transportation
- Role of multi-agent methodologies for complex systems
- Conceptual modeling of agent-based approach
- Agent-based freight transportation modeling
- Multi-modal routing of agents in a dynamic traffic environment
- Agent-based scheduling to establish synthetic agenda for day-to-day activities

SUBMISSION AND PROCEEDINGS

All papers accepted for workshops will be included in the ANT-2014 proceedings, which will be published by Elsevier. The authors must follow Elsevier guidelines as given in ANT-2014 website (<http://cs-conferences.acadiau.ca/ant-14/>). The number of pages for workshop papers is limited to 6 pages. Authors should submit their contributions electronically in PDF format at: <https://www.easychair.org/conferences/?conf=abmtrans2014>.

The submission processes will be managed by easychair.org. If you have used this system before, you can use the same user-name and password. If this is your first time using EasyChair, you will need to register for an account by clicking "I have no EasyChair account" button. Upon completion of registration, you will get a notification email from the system and you are ready for submitting your paper. You can upload and re-upload the paper to the system by the submission due date.

The selective outstanding papers presented at the workshops, after further revision, will be considered for publication in journals special issues. In case of any problem with submission, please contact the workshop chair for assistance.

All workshops accepted papers will be printed in the conference proceedings published by Elsevier Science in the open-access Procedia Computer Science series (on-line). Procedia Computer Sciences is hosted on www.Elsevier.com and on Elsevier content platform ScienceDirect (<http://www.sciencedirect.com>), and will be freely available worldwide. All papers in Procedia will also be indexed by Scopus (<http://www.scopus.com>) and Engineering Village (Ei) (<http://www.engineeringvillage.com>). This includes EI Compendex (<http://www.ei.org/compendex>). All accepted papers will also be indexed in DBLP (<http://dblp.uni-trier.de/>).

The selective outstanding papers presented at the workshops, after further revision, will be considered for publication in journals special issues at ANT'14.

IMPORTANT DATES

- Submission due: 28 January, 2014.
- Notification of acceptance: 1 March, 2014.
- Camera-ready due: 1 April, 2014.
- Workshop: 2– 5 June, 2014.

2014 Recent Events

PROGRAM COMMITTEE

- Tom Bellemans, IMOB - Hasselt University (Belgium)
- Davy Janssens, IMOB - Hasselt University (Belgium)
- Bruno Kochan, IMOB - Hasselt University (Belgium)
- Reinhilde D'Hulst, VITO (Belgium)
- Fjo Deridder, VITO (Belgium)
- Tom Holvoet, Katholieke Universiteit Leuven (Belgium)
- Rutger Claes, Katholieke Universiteit Leuven (Belgium)
- Davy Preuveneers, Katholieke Universiteit Leuven (Belgium)
- Ghasan Bhatti, OKTAL - University of Toulouse (France)
- Stephane Galland, UTBM (France) Nicolas Gaud, UTBM (France)
- Fabrice Marchal, CNRS (France)
- Theo Arentze, Eindhoven University of Technology (the Netherlands)
- Harry Timmermans, Eindhoven University of Technology (the Netherlands)
- Marco Luetzenberger, DAI-Labor (Germany)
- Anders Peterson, Linkoping University (Sweden)
- Paul Davidsson, Malmo University (Sweden)
- Rashid A. Waraich, ETH Zurich (Switzerland)
- Phuc V. Nguyen, Arkansas State University (USA)
- Daniel Keren, University of Haifa (Israel)
- Irith Ben-Arroyo Hartman, University of Haifa (Israel)
- David Yang, Federal Highway Administration, U.S. Department of Transportation (USA)
- Matthew Roorda, University of Toronto (Canada)
- Kai Nagel, TU Berlin (Germany)
- Oded Cats, KTH Stockholm (Sweden)
- Johan Holmgren, Blekinge Institute of Technology (Sweden)
- Michal Jakob, Czech Technical University (Czech Republic)

REGISTRATION

Please visit: <http://cs-conferences.acadiau.ca/ant-14/#registration> for more information.

VENUE, ACCOMMODATION & VISA REQUIREMENTS

Please visit: <http://cs-conferences.acadiau.ca/ant-14/#conferenceVenue> for more information.

WORKSHOP ORGANIZERS

Dr. Ansar-Ul-Haque Yasar Transportation Research Institute Hasselt University, Belgium ansar.yasar@uhasselt.be	ir. Luk Knapen Transportation Research Institute Hasselt University, Belgium luk.knapen@uhasselt.be
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If you have any further questions please contact one of the workshop organizers.

ANT-2014—Modeling and Simulation in Transportation Sciences



The 5th International Conference on Ambient Systems, Networks and Technologies (ANT-2014)

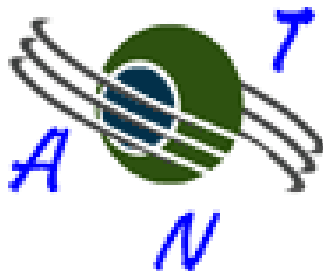
(Track on Modeling and Simulation in Transportation Science)

<http://cs-conferences.acadiau.ca/ant-14/>
Hasselt, Belgium (2 –5 June 2014)

The 5th International Conference on Ambient Systems, Networks and Technologies (ANT-2014) is a leading international conference for researchers and industry practitioners to share their new ideas, original research results and practical development experiences from all Ambient Systems, Networks and Technologies related areas. The ANT-2014 will be held in conjunction with [the International Conference on Sustainable Energy Information Technology \(SEIT\)](#).

ANT 2014 will be held in the city of Hasselt. Hasselt was founded in approximately the 7th century on the Helbeek, a small tributary of the [Demer](#) river. The name Hasselt came from *Hasaluth*, which means hazel wood. Hasselt is an old yet modern city which is home to multiple academic institutions and where visitors can enjoy a variety of activities and entertainment. ANT 2014 is co-organized & co-hosted by the [Hasselt University, Belgium](#).

Transportation Research Institute
(IMOB)
Hasselt University
Wetenschapspark 5 bus 6
B-3590 Diepenbeek, Belgium



SCOPE

The goal of the **ANT-2014** conference is to provide an international forum for scientists, engineers, and managers in academia, industry, and government to address recent research results and to present and discuss their ideas, theories, technologies, systems, tools, applications, work in progress and experiences on all theoretical and practical issues arising in the ambient systems paradigm, infrastructures, models, and technologies that have significant contributions to the advancement of ambient systems theory, practices and their applications.

At ANT-2014, there is a dedicated track on *Modeling and Simulation in Transportation Sciences (MSTS)* organized by the *Transportation Research Institute (IMOB), Hasselt University, Belgium*. This aim of this track is to bring together communities interested in the computation, knowledge discovery and technology policy aspects of transportation systems. The organizers of ANT-2014 (MSTS track) welcomes papers from researchers in the domains of transportation sciences and engineering, computer science, urban and regional planning, civil engineering, geography, geo-informatics and related disciplines to submit papers for consideration for presentation and for publication in the conference proceedings.

Topics of interest in the MSTS track include (but are not limited to):

- **Collaborative transport, including collaborative multi-modal transport**
- **Data mining and statistical learning for travel information**
- **Human factors including adaptive driving, travel behavior, persuasive technology**
- **Human-computer interfaces in intelligent transportation applications**
- **Logistics and transportation management**
- **Mathematical optimization in traffic engineering**
- **Novel applications targeted to health, mobility, liveability and sustainability**
- **Renewable energy sources in transportation**
- **Simulation of traffic, passenger flows, assisted driving or collaborative transport**
- **Social and institutional information related to travel**
- **Traffic flow and transportation model**
- **Travel information, including recommender systems and user feedback systems**
- **Uncertain information in collaborative transport and assisted traveling**

SUBMISSION AND PROCEEDINGS

All ANT-2014 accepted papers will be printed in the conference proceedings published by Elsevier Science in the open-access Procedia Computer Science series (on-line). Procedia Computer Sciences is hosted on www.Elsevier.com and on Elsevier content platform ScienceDirect (www.sciencedirect.com), and will be freely available worldwide. All papers in Procedia will also be indexed by Scopus (www.scopus.com) and Engineering Village (Ei) (www.engineeringvillage.com). This includes EI Compendex (www.ei.org/compendex). The papers will contain linked references, XML versions and citable DOI numbers. You will be able to provide a hyperlink to all delegates and direct your conference website visitors to your proceedings. All accepted papers will also be indexed in DBLP (<http://dblp.uni-trier.de/>).

Submitted technical papers must be no longer than 8 pages for full papers and 5 pages for short papers including all figures, tables and references.

Authors are requested to submit their papers electronically using the [online conference management system](#) in PDF format before the deadline (see Important Dates).

The submission processes will be managed by easychair.org. If you have used this system before, you can use the same username and password. If this is your first time using EasyChair, you will need to register for an account by clicking "I have no EasyChair account" button. Upon completion of registration, you will get a notification email from the system and you are ready for submitting your paper. You can upload and re-upload the paper to the system by the submission due date.

IMPORTANT DATES

- Submission due: 4 January, 2014.
- Notification of acceptance: 1 March, 2014.
- Camera-ready due: 4 April, 2014.
- Conference: 2—5 June, 2014.

2014 Recent Events

PROGRAM COMMITTEE (MSTS Track)

- Tom Bellemans, IMOB - Hasselt University (Belgium)
- Davy Janssens, IMOB - Hasselt University (Belgium)
- Bruno Kochan, IMOB - Hasselt University (Belgium)
- Reinhilde D'Hulst, VITO (Belgium)
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Please visit: <http://cs-conferences.acadiau.ca/ant-14/#registration> for more information.

VENUE, ACCOMMODATION & VISA REQUIREMENTS

Please visit: <http://cs-conferences.acadiau.ca/ant-14/#conferenceVenue> for more information.

PROGRAM VICE-CHAIRS

Prof. dr. Davy Janssens Transportation Research Institute Hasselt University, Belgium davy.janssens@uhasselt.be	Prof. dr. Tom Bellemans Transportation Research Institute Hasselt University, Belgium tom.bellemans@uhasselt.be	Prof. dr. Harry Timmermans Technical University Eindhoven The Netherlands h.j.p.timmermans@tue.nl
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If you have any further questions please contact one of the program vice-chairs.

You may also visit our website (<http://cs-conferences.acadiau.ca/ant-14/>) for more details.

2014 FSITE Winter Workshop Traffic Analysis Tools and Specialized Applications

The Florida Section of ITE is pleased to announce the 2014 Winter Workshop on **Traffic Analysis Tools and Specialized Applications**. The workshop will provide an overview of the latest updates for some popular analytical tools in Florida. New applications and emerging concepts will be discussed. Specific topics include:

- Guidance and framework for traffic analysis in FDOT's upcoming Traffic Analysis Handbook.
- FHWA's Traffic Analysis Toolbox and upcoming guideline revisions for applying micro-simulation software.
- Updates to 2010 HCS including the incorporation of new HCM chapters on alternative intersections, reliability and managed lanes.
- Advanced arterial analysis in Synchro/SimTraffic including alternatives intersection/interchanges, roundabouts and adaptive signal control.
- Self-calibration and sensitivity analysis in CORSIM
- Multi-resolution modeling in VISUM/VISSIM - integrating macro-, meso-, and micro-simulation models.
- Active Traffic Management modeling for freeways.

When: February 20, 2014

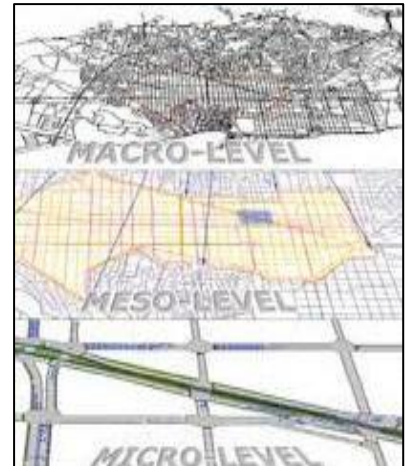
Where: Florida's Turnpike Enterprise Headquarters, Auditorium B
Turkey Lake Service Plaza, MP 265
Ocoee, FL 34761

Time: 10:00 AM to 4:00 PM

Target Audience:

The target audience for the workshop is transportation planners within MPOs and local, county and state organizations, transportation engineers, and traffic analysts.

PDH/AICP Credits: 6.0 hours



Registration Costs:

FDOT Employees = Free

Member = \$60

Non-Member = \$70

Retired Member = \$40

Retired Non-Member = \$50

Student = \$30

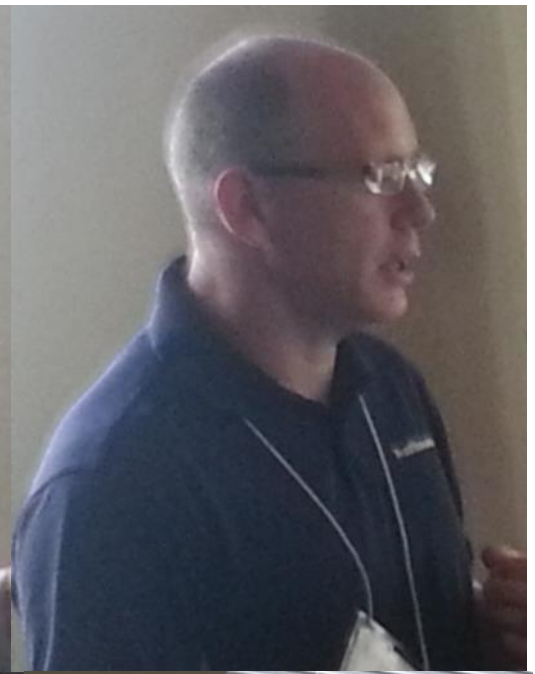
Registration include lunch and refreshments

FDOT employees can purchase lunch at the door.

Don't miss this opportunity to learn about the latest practices!

2014 Recent Events

Andrew Velasquez (FDOT, FSITE), organizer and moderator
Bill Sampson (McTrans), discussing HCM updates
Michael Trueblood (Trafficware), discussing alternative intersections
Derek Miura (FHWA), discussing planning for ATDM
Steve Perone (PTV America), discussing multi-resolution modeling
Thomas Bauer (Traffic Technology Solutions), discussing ATM strategies





OR ITE Simulation Roundtable Webinar: Panel Discussion - Analysis Tools, Design Hours, and Other Needs to Know

Thursday, June 5, 2014

11:30 AM - 1:00 PM PDT

REGISTER NOW



Join us for a Webinar on June 5

The OR ITE Simulation Roundtable will be hosting a panel discussion to discuss different analysis tools, what design hours we should be analyzing and building for and other needs to know related to analyzing and designing traffic networks. The questions will consider the differences between cities and rural areas as well the importance of bicycles, pedestrians and transit in the equation. Panel members include:

Doug McInahan, WSDOT
Miranda Wells, HDR
Peter Koonce, PBOT
Scott Harmon, DEA

The panel discussion is being held at DEA Headquarters in Portland, OR. In person attendees will get priority on questions, but webinar attendees will still be able to ask questions. You may also submit questions ahead of time to: ritesimulationroundtable@gmail.com.

System Requirements

PC-based attendees

Required: Windows® 8, 7, Vista, XP or 2003 Server

Mac®-based attendees

Required: Mac OS® X 10.6 or newer

Mobile attendees

Required: iPhone®, iPad®, Android™ phone or Android tablet

Reserve your Webinar seat now at:

<https://www1.gotomeeting.com/register/924163009>

2014 Research Results

Calibration of Work Zone Impact Analysis Software for Missouri

by Praveen Edara, Ph.D., P.E., PTOE,
Carlos Sun, Ph.D., P.E., JD,
and Zhongyuan (Eric) Zhu

University of Missouri-Columbia



tions, e.g., a one-lane closure on a two-lane segment, a two-lane closure on a three-lane segment, etc. Obtaining the data needed for calibration can be challenging. In order to avoid congestion in urban areas, MoDOT makes an effort to close lanes only during off-peak hours or at night. Thus, finding work zone sites that result in queuing and delays is a challenge. To facilitate future calibration efforts, the current study makes the following recommendations:

This project calibrated two software programs used for estimating the traffic impacts of work zones. The WZ Spreadsheet and VISSIM programs were recommended in a previous study by the authors. The programs were calibrated using field data from two work zones in Missouri. Both work zones involved a single lane closure on a three-lane section of roadway. The I-44 work zone was a long-term work zone, while the I-70 work zone was temporary, lasting only a few hours. The capacity values required for calibration were similar for the two programs: 1,575 veh/hr/ln for the WZ Spreadsheet and 1,514 veh/hr/ln for VISSIM. The VISSIM driving behavior parameters CC1, CC2, and SRF were also computed. The study found that a calibration based on delay or travel time exhibited better overall performance than a calibration based on queue length.

In the future, additional case studies could be added to further calibrate the two models. Such studies could involve different work zone lane configura-

1) When travel time monitoring equipment such as Bluetooth is deployed, travel time upstream of the work zone taper should be measured if possible. Work zone analysis software compute queuing and delays as a result of capacity reduction starting at the taper. Thus, software can be calibrated only if data are available upstream of the work zone taper. However, the primary purpose of Bluetooth monitoring is to inform drivers of the travel time through the work zone or between two points of interest near the work zone - not necessarily to report travel time to reach the taper. In such situations, deploying one additional Bluetooth unit near the taper is recommended to obtain the data necessary for calibration.

2) The use of private sector data (e.g., INRIX) for travel times and queue length could generate a sufficiently large sample of work zones to use for calibration. However, such data should first be validated using ground truth, since such data are still relatively new and have not been fully validated.



Replication of Work Zone Capacity Values in a Simulation Model

by I. Chatterjee, P. Edara, and C. Sun, University of Missouri–Columbia; and S. Menneni, PTV America

Transportation Research Record: Journal of the Transportation Research Board, No. 2130, Transportation Research Board of the National Academies, Washington, D.C., 2009, pp. 138–148.



Evaluating the traffic impacts of work zones is vital for any transportation agency to plan and schedule work activity. Traffic impacts can be estimated by using microscopic simulation models. One challenge in using these software models is obtaining the desired work zone capacity values, which tend to vary from state to state. Thus, the default parameter values in the model that are suitable for normal traffic conditions are unsuitable for work zone conditions, let alone for conditions specific to particular states. Although a few studies have been conducted on parameter selection to obtain desired capacity values, none of them have provided a convenient look-up table (or chart) for the parameter values that will replicate field-observed capacities. Without such provision it has not been possible for state agencies to use any of the research recommendations. This study provides the practitioner a simple method for choosing appropriate values of driving behavior parameters in the VISSIM microsimulation model to match the desired field capacity for work zones op-

erating in a typical early-merge system. The two most significant car-following parameters and one lane-changing parameter were selected and varied to obtain different work zone capacity values. CC1 is the desired time headway, CC2 is the longitudinal following threshold during a following process, and the safety distance reduction factor is representative of lane-changing aggressiveness. It has been verified that the recommended parameter values not only produce the desired capacities but also create traffic conditions consistent with traffic flow theory.

Departments of transportation (DOTs) in the United States face the challenge of scheduling road construction and maintenance activities with as little traffic impact as possible. Traffic impacts include safety concerns, travel delays, and air pollution. Typically, construction and maintenance activities involve single or multiple lane closures for a certain duration of time. The scheduling of lane closures and work activity is done primarily based on the expected length of queues at the work zone. Traffic engineers determine the expected queues on the basis of a combination of their past experience and analysis tools. Analysis tools such as QUEWZ, QuickZone, and CA4PRS as well as custom spreadsheet models use a deterministic queuing model to compute the queue lengths, a procedure documented in the *Highway Capacity Manual* (HCM 2000). The core input for the analytical tools is the value of lane capacity.

Traffic simulation tools arrive at queue lengths on the basis of car-following and lane-changing models. Unlike the analytical tools, for the microsimulation mod-

2014 Research Results

els capacity is not a direct input, but rather a measure that is a result of driver behavior. Other studies, for example, Birst et al. have compared different traffic simulation models with the HCM 2000 methodology. The present study focuses on the use of simulation to model work zones and does not include the use of any analytical tools.

Simulation tools are being increasingly adopted by DOTs for various traffic analysis studies, including assessing work zone traffic impacts. This is due, in part, to their ability to model individual vehicle and driver behavior at a highly detailed level to assess traffic performance. In order to accurately use the simulation models for traffic analysis of work zones, the models must be calibrated to match the field conditions (such as lane capacity and queue lengths) by adjusting the driving behavior parameters. Unfortunately, there is little guidance on choosing the driving behavior parameters in simulation models that will replicate the actual field conditions in work zones.

Roadway capacities at work zones are lower than the capacities under normal operating conditions.

Furthermore, empirical studies have shown that these reduced capacity values are not uniform across all states (see Table 1). This disparity means that a unique driving behavior parameter set cannot be used by all states; instead, the parameter values should be chosen so as to reproduce the state-specific capacity values.

The following conclusions were drawn from this research effort:

- This study provides the practitioner a simple method for choosing appropriate values of driving behavior parameters in the VISSIM microsimulation model to match the state-specific desired capacity for work zones operating in a typical early-merge system. To apply this method, a transportation agency with the knowledge of lane distribution at specific points upstream from the work zone chooses a unique set of driving behavior parameters from the table to match the observed capacity.
- Capacity values resulting from the chosen driving behavior parameter ranges were found to be

TABLE 1 Variation of Roadway Capacities Across States

State	Two Lanes to One	Three Lanes to One	Unit	Source
Texas	1,340	1,170	vphpl	Dudek and Richards (3)
North Carolina	1,690	1,640	vphpl	Dixon et al. (4)
Connecticut	1,500–1,800	1,500–1,800	vphpl	Sarasua et al. (5)
Missouri	1,240	960	vphpl	Missouri DOT (6)
Nevada	1,375–1,400	1,375–1,400	vphpl	Sarasua et al. (5)
Oregon	1,400–1,600	1,400–1,600	pcphpl	Sarasua et al. (5)
South Carolina	950	950	vphpl	Sarasua et al. (5)
Washington	1,350	1,350	vphpl	Sarasua et al. (5)
Wisconsin	1,600–2,000	1,600–2,000	pcphpl	Sarasua et al. (5)
Florida	1,800	1,800	vphpl	Elefteriadou et al. (7)
Virginia		1,300	vphpl	Virginia DOT
Iowa	1,400–1,600		pcphpl	Maze et al. (8)

NOTE: vphpl = vehicles per hour per lane and pcphpl = passenger cars per hour per lane.

2014 Research Results

between 1,200 and 2,100 vphpl for both two-to-one and three-to-two lane configurations except for a few instances. In order to obtain capacities outside this interval (<1,200 or >2,100 vphpl) either the parameter ranges have to be extended or additional parameters, such as CC0 and lane-changing deceleration thresholds, have to be explored. However, this could result in an unrealistic car-following and lane-changing driver behavior.

- In this study, although the input demand was fixed at 3,000 and 5,000 vph for the two-to-one and three-to-two configurations, respectively, the resulting capacity is not a function of this demand as long as the demand is sufficiently high to generate queues. Nevertheless, queue lengths will depend on the demand, and they can be recorded from the simulation model with the

use of parameters recommended in the charts.

- With selection of the appropriate driver behavior parameters from the developed charts, the impact of variables such as work zone intensity and lane width reduction on work zone capacity can also be modeled. For example, if the impact of lane width reduction on capacity has been quantified on the basis of empirical studies, the corresponding set of parameters for the reduced capacity can be obtained from the charts developed in this paper.
- To further facilitate the use of the results the authors are developing a spreadsheet macro in which the look-up process is automated. The smart spreadsheet will be made available for free download upon its completion.

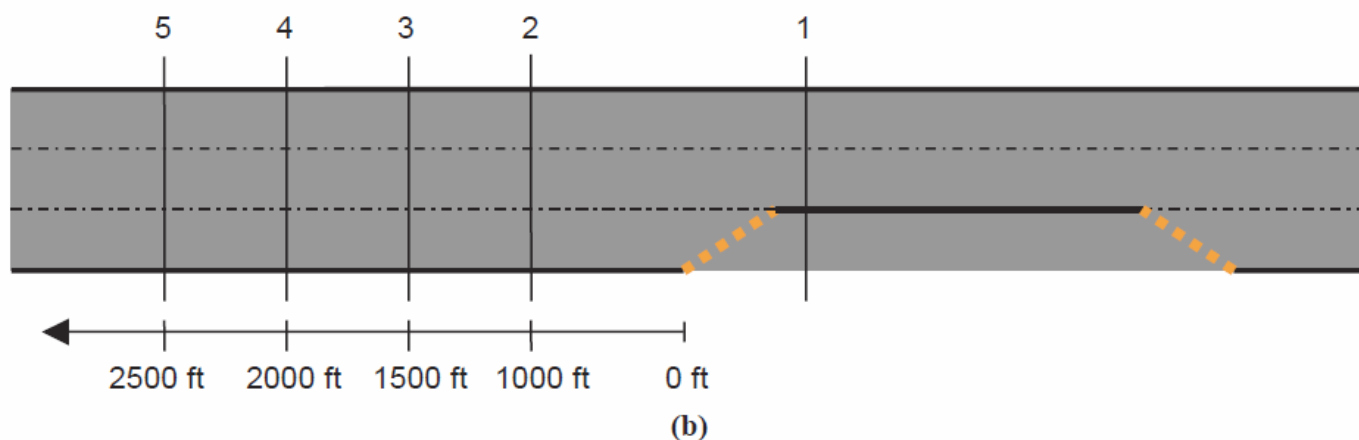
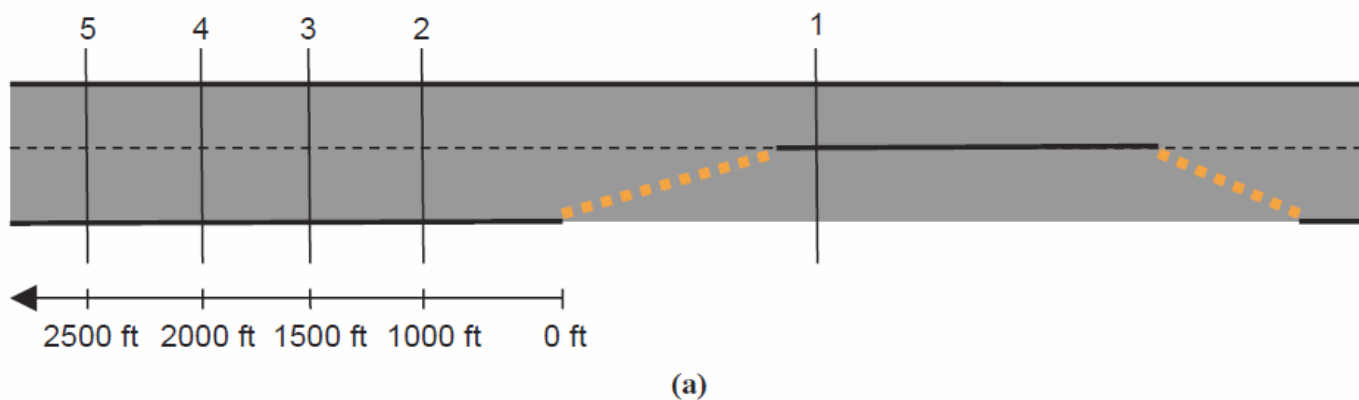


FIGURE 1 Layout of data collection points for (a) two-to-one and (b) three-to-two work zone lane configurations (figure not to scale).

2014 Research Results

Using Micro-Simulation to Evaluate the Potential Traffic Impact of Proposed Removal of Street Cutting-Through Central Park



by Pong Wu, Transportation Planner
and John Adams, Transportation Technical
Director, Richland County Regional Plan-
ning Commission



I. Project Description

The Central Park located in the center of the City of Mansfield, Ohio was about three acres in area. In 1958 the Park Avenue cutting-through from Central Park was constructed by public vote for mitigating the CBD areas' traffic congestion and gaining more parking spaces. The Park Ave., since then, becomes an east-west, four-lane divided arterial serving the CBD area with an ADT at 27,400. The areas on North and South of Central Park became a one-aisle parking space respectively (Figure-1).



Figure-1

Beginning from 2011, there is a concerning by local groups to restore the Central Park back to its original layout it had before the year of 1958 and keeping the parking spaces on both north and south of the Park as it is now currently.

Meanwhile, one another concerns by other local groups about the plans to reunify Central Park is whether the removal of Park Avenue from Central Park would result in any impacts on operational performance to the nearby streets surrounding Central Park. To provide decision makers and stakeholders involved with information on how traffic operates and travelers will respond to system changes and potential traffic impacts to the surrounding streets under the "Build" alternative, Richland County Regional Planning Commission (RCRPC), the designated Metropolitan Planning Organization for the region's transportation planning and study, was requested by stakeholders to perform a potential traffic impact study using modeling analysis and simulation tools Cube/Voyager and TSIS/CORSIM.

II. Simulation Model Development and Analysis Methodology

To identify how traffic operates and travelers respond to system changes under proposed alternative "Build" condition over current "No-Build" condition, following tasks for simulation analysis were developed:

- a. Identifying the extents of the study area
- b. Traffic data collection and analysis
- c. Existing "No-Build" conditions model development
- d. Validation and calibration of existing "No-Build" conditions including error checking
- e. Proposed "Build" condition analysis and comparison
- f. Safety performance simulation
- g. Findings and Conclusion of Simulation Study

The study area identified for traffic impact and simulation analysis covers all major functionally classified roadways with including 42 signalized intersections and 6 non-signalized intersections surrounding

2014 Research Results

the proposed development. Traffic turning movements for all intersections in the study area were counted and the identified PM peak hour traffic and intersections' peak hour factors were used in the simulation modeling. The CORSIM'S network was converted from SYNCHRO created years ago for a similar downtown traffic study. **Figure-2** illustrates the modeling network in the study area.



Figure-2

The traffic impact analysis is performed in accordance with the City of Mansfield standards using the Highway Capacity Manual (HCM) methodology. The Level of Service (LOS) "D" or better is desirable in both the City of Mansfield and the MPO's urbanized area. LOS "E" and "F" are considered to be unacceptable or deficient.

III. Simulation Analysis and results

As mentioned, the tools used in this traffic impact analysis including CUBE/Voyager for static trip path assignment and LOS analysis identifying changes of trips traversing a specific link or a preferred path between networks with and without Park Avenue at study area. And, the CORSIM for dynamic traffic assignment evaluating traffic flows in a network, which result from the decisions of individual travelers seeking for the best paths en-route over a given area and result in the changes of MOE indicating the state of traffic flow in the network, such as average speed, Travel time, stop delay etc. under Build and No-Build conditions. Comparing with the

running results of CORSIM simulation between existing network (No-Build Condition) and proposed removal of Park Avenue from Central Park (Build), the traffic conditions on some streets under Build do show increases in traffic volumes and the deterioration in level of service at study area surrounding the proposed project as Park Avenue is one of region's major arterials handling significant portion of traffic in the downtown area. **Figure-3** shows the simulation result of traffic condition under "No-Build" scenario and **Figure-4** shows the simulation results of traffic impacts to the surrounding streets in the network under "Build" scenario and the deterioration of LOS. Table-1 summarizes the simulation results from Build and No-Build conditions.



Figure-3

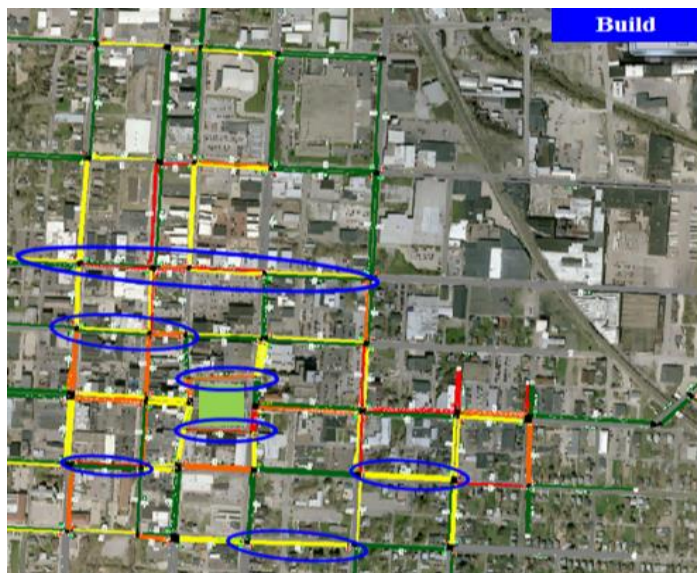


Figure-4

2014 Research Results

The Roadway Level of Service (LOS)
Comparing Average Speed (Cumulative) Under Scenario No-Build Vs. Build
 (East-West Direction)

Street Segment		Bowman-Mulberry		Mulberry-Walnut		Walnut-Main		Main-Diamond		Diamond-Admas	
		No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build
5th St.	West Bound	C	C	D	D	A/B	A/B	E	E	C	C
	East Bound	C	C	D	D	E	F	C	D	C	C
4th St.	West Bound	C	D	A/B	C	C	E	E	F	A/B	D
	East Bound	C	C	F	F	F	F	C	D	C	C
3rd St.	West Bound	C	C	C	D	C	E	D	D	D	D
	East Bound	C	C	A/B	C	E	E	C	C	C	C
N Park St.	West Bound							D	E		
Park Ave.	West Bound	C	C	D	D	E	D	C	Cut Off	C	C
	East Bound	C	C	D	E	A/B	D	D	D	D	D
5 Park St.	East Bound							C	F		
2nd St.	West Bound	C	C	D	F	C	D	E	E	C	C
	East Bound	E	D	C	C	D	D	E	E	C	C
1st St.	West Bound	C	C	D	D	A/B	C	D	D	C	D
	East Bound	D	D	A/B	E	E	E	D	D	C	D

Table-1

In the traffic impact analysis for proposed changes on Park Avenue, the CORSIM's safety performance simulation was also executed to identify potential traffic crashes influenced by a number of traffic and geometric factors. The CORSIM's safety simulation highlighting potentially unsafe traffic conditions is based on the reaction thresholds of the individual drivers and the distance between vehicles or traffic interactions between vehicles in a traffic stream. Figure-5 in the last page illustrates one of potential traffic crashes identified by CORSIM safety performance simulation under Build condition.

IV. Findings

Comparing simulated Build and No-Build results, the key findings of the traffic simulation analysis are as follows:

- There are some impacts on system performance and the state of traffic flow in study area's network when comparing Measures of Effectiveness (MOE) under Build and No-Build conditions;
- Traffic conditions deteriorated for some streets surrounding proposed removal of Park Avenue under Build network;

- Potential locations of incidents were identified with simulation model due to increased traffic and geometric factors; Both N. Park St (one aisle on North of Central Park) and S. Park St. (one aisle on South of Central Park) may need to be widened from their current one-lane one way to two-lane one way and upgrade their functional classification from current local streets to Arterial that matches the functional classification of surrounding streets at Central Park such as Main St., Diamond St. and Park Ave.;
- The Main St. between N. Park St. and S. Park St. may need to be straightened;
- The following issues and impacts identified by model or simulation model may need to be further and comprehensively studied by hiring private consulting firms. Those issues include:

1. Potential ROW and Capacity issues for 3rd Street, 4th Street
2. Street widening issues on N. Park St., and S. Park St.
3. Street straightening on Main St. (Between North and South Park St.), etc..

V. Conclusions

One of MPO's planning tasks in regional planning process is to make sure the mobility and roadway users' safety on maintained regional network with proposed street changes in the area. Use of simulation tool analyzing travel activities and visualizing dynamic network performance for potential or proposed transportation projects have increased significantly in transportation planning, and has helped the decision maker to make transportation decisions more reasonable. The simulation model creates a similar roadway network and transportation environment in the interested study area as to the real-world traffic condition observed on-street, and it provided a comprehensive view of the whole network; excellent for comparing and evaluating the network's traffic operation performance, such as traffic flows, intersection offsets, vehicle queues, etc. under different conditions proposed through planning process.

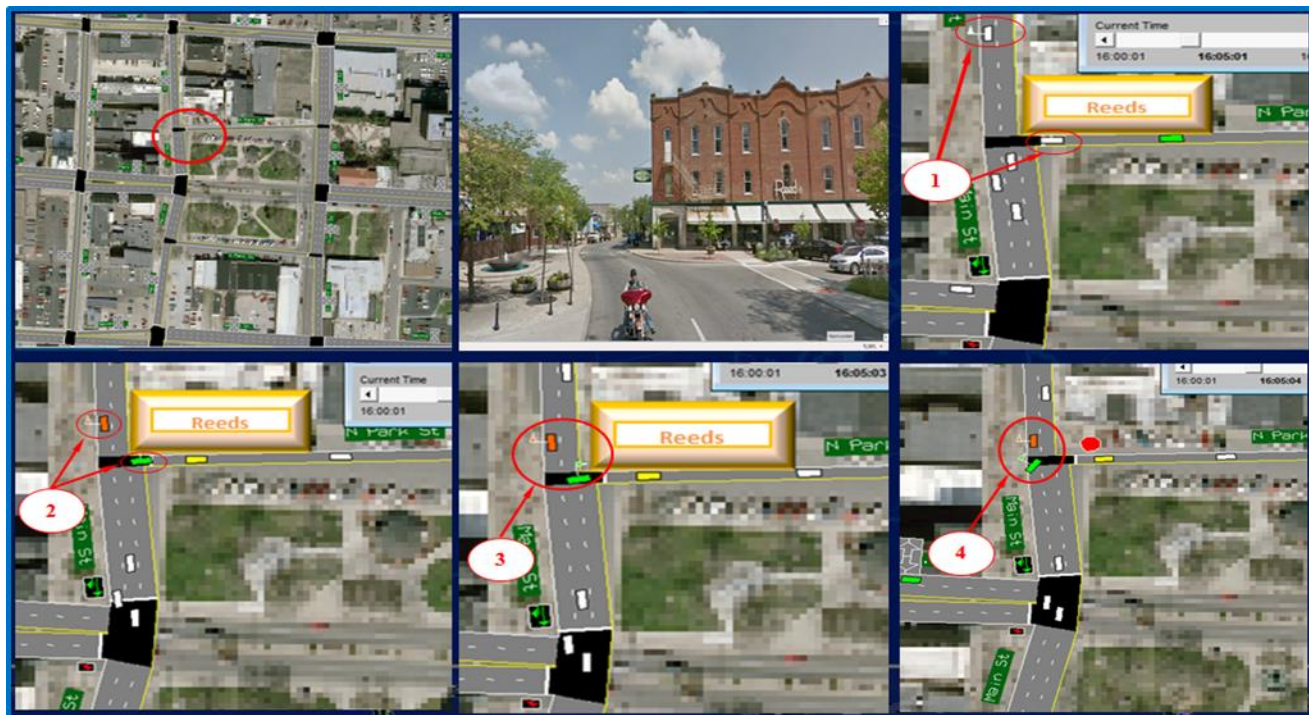


Figure-5

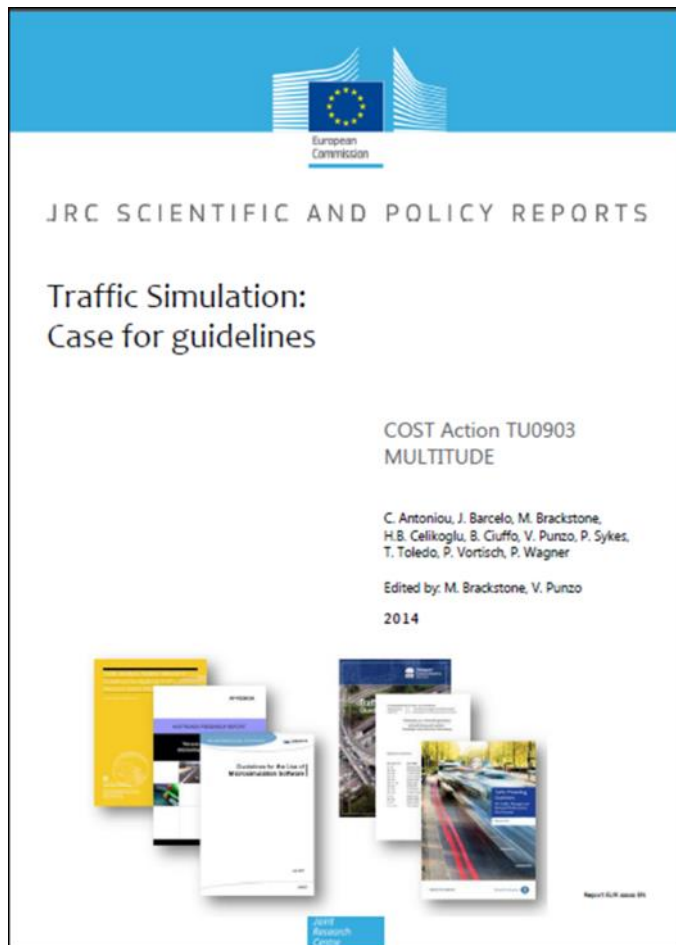
References

- TSIS/CORSIM Reference Manual
- TSIS/CORSIM User Guide
- Newsletters by TRB Joint Simulation Sub-Committee
- Dynamic Traffic Assignment: A Primer - *June 6, 2011 TRB Transportation Research E-Circular E-C153*
- Traffic Analysis Toolbox Volume IV: Guidelines for Applying CORSIM Micro-simulation Modeling Software – *January 2007 FHWA-HOP-07-079*

Official Release of the MULTITUDE Case for Guidelines

The MULTITUDE COST action concluded with its final conference in Naples in December 2013. The Case for Guidelines is now officially available here for download, through JRC press:

<http://publications.jrc.ec.europa.eu/repository/handle/111111111/30680>



Traffic Simulation: Case for Guidelines. Brackstone and Punzo (Eds.). JRC Scientific and Policy Report, EUR 26534 EN. European Commission, Luxembourg. 2014. ISBN 978-92-79-35578-3.

This document assesses the current situation regarding guidelines for traffic simulation model calibration and validation worldwide, discusses the problems currently faced, and suggests potential ways in which they can be addressed, both directly, and indirectly through the development of the overall field of traffic simulation as a whole.



Best Simulation Paper of 2013

Title:

From theory to practice: Gaussian process meta-models for the sensitivity analysis of traffic simulation models. A case study of the Aimsun mesoscopic model.

Authors:

Biagio Ciuffo, Jordi Casas, Marcello Montanino, Josep Perarnau, and Vincenzo Punzo



Award Ceremony Picture: Ed Lieberman (far left), Vincenzo Punzo (second left), Jordi Casas (second right), and George List (far right)



Best Paper Award

From theory to practice: Gaussian process metamodels for the sensitivity analysis of traffic simulation models. A case study of the Aimsun mesoscopic model.

Presented at TRB, Washington, January 2013

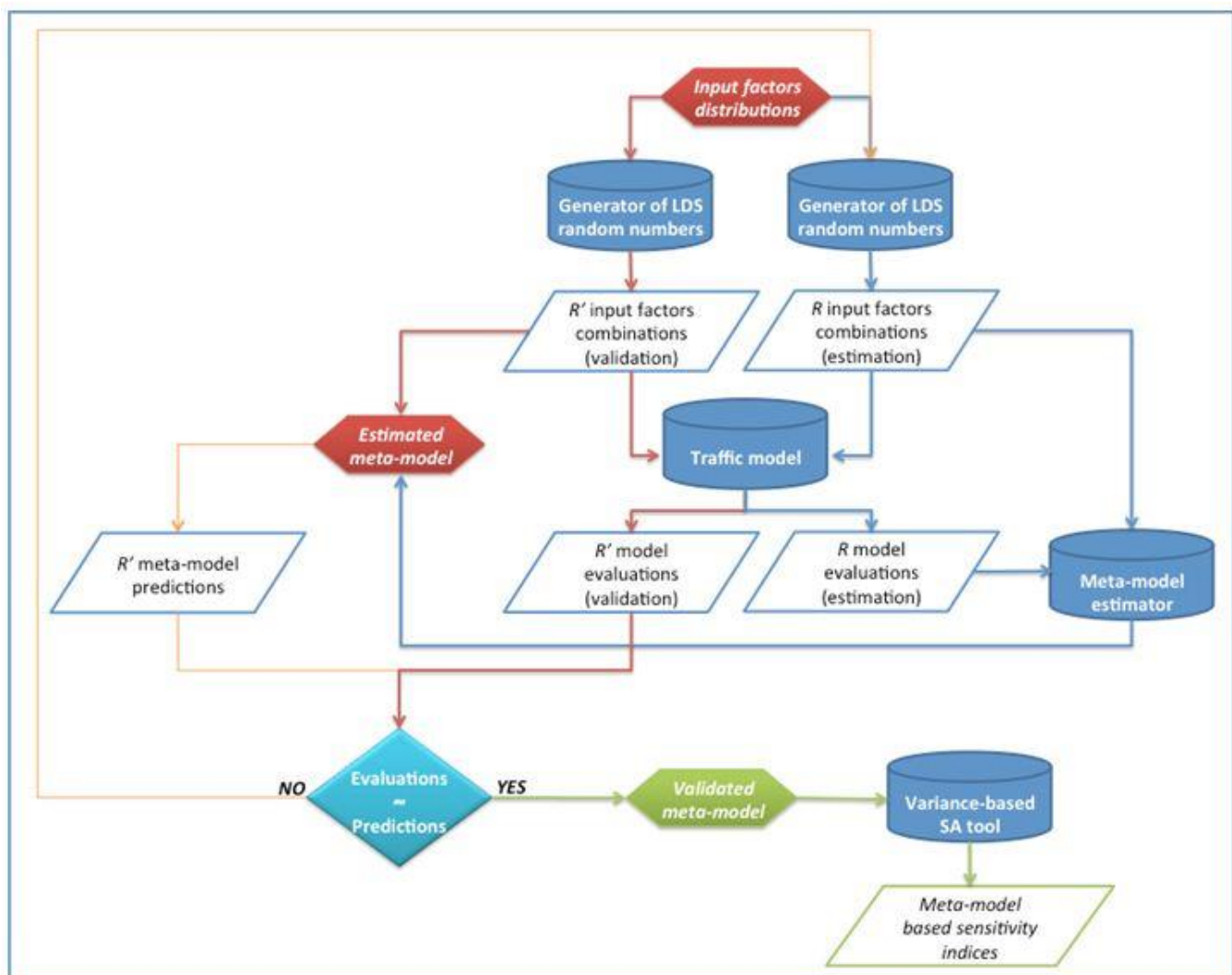
This paper discusses a metamodel-based technique for model sensitivity analysis and applies it to the Aimsun mesoscopic model.

The authors argue that the application of sensitivity analysis is crucial for the true comprehension and correct use of the traffic simulation model while also acknowledging that the main obstacle to an extensive use of the most sophisticated techniques is the high number of model runs that is generally required.

To read the full paper, please visit:
<http://www.aimsun.com/wp/?p=3826>

Authors:

- Biagio Ciuffo (Institute for the Environment and Sustainability European Commission – Joint Research Centre)
- Jordi Casas (TSS-Transport Simulation Systems and Universitat de Vic)
- Marcello Montanino (Department of Transportation Engineering, Università di Napoli “Federico II”)
- Josep Perarnau (TSS-Transport Simulation Systems)
- Vincenzo Punzo (Institute for Energy and Transport European Commission – Joint Research Centre)



Joint Traffic Simulation Subcommittee

Draft Meeting Agenda

Transportation Research Board Annual Meeting

Monday, January 13, 2014, 7:30-9:30PM Marriott, Washington B1

- A. Introductions - George List
- B. Sponsoring Committee Chair Remarks - attending chairs or liaisons
- C. Task Group Reports
 - a. Annual Workshop Report (brief synopsis) – Rob Bertini
 - b. Research Needs and Resources Task Group - Mohammad Hadi
 - c. Calibration, Verification and Validation Task Group - Ray Benekohal
 - d. Awards – Ed Lieberman
 - e. Liaison and Outreach Task Group – David Hale
 - f. Mesoscopic Task Group – Yi-Chang Chiu
 - g. Safety Simulation Task Group – Bill Young
 - h. Agent-Based Simulation Task Group – Monty Abbas
- D. FHWA Update – James Colyar
- E. New Business
 - a. TRB Circular based on 2014 Workshop – Rob Bertini
 - b. Joint ITE Webinars – Miranda Wells
 - c. 2014 Midyear activities – George List
 - d. 2015 Annual Workshop Planning – George List
- F. Multitude Project Report - Vincenzo Punzo
- G. Other Items (including new task groups and upcoming conferences)
- H. Closing



2014 TRB Sunday Workshop on Simulation (SimSub): Looking Back and Looking Ahead

Program

Welcome from George List SimSub Chair 1:30

Moderator: Constantinos Antoniou

- 1) Femke van Wageningen-Kessels, Traffic Flow Modeling: A Genealogy 1:30-1:45
- 2) Ed Lieberman, History of the Use of Simulation in Traffic Analysis 1:45-2:00
- 3) Tom Rioux, Evolution of the TEXAS Model and Traffic Simulation 2:00-2:15
- 4) Peter Vortisch, History of VISSIM Development 2:15-2:30
- 5) Peter Wagner, Evolution of SUMO Simulation Model 2:30-2:45

Break 2:45-3:00

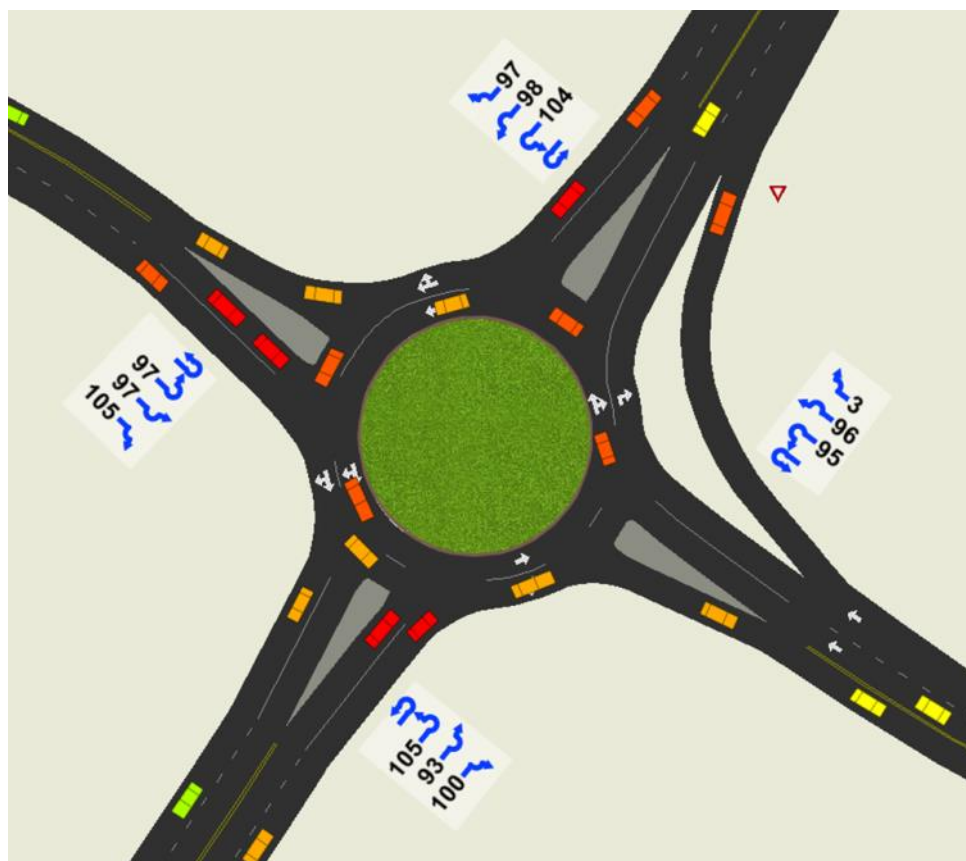
Moderator: Robert Bertini

- 6) Alex Skabardonis, Thoughts on Traffic Simulation Models 3:00-3:15
- 7) Vincenzo Punzo, Future Directions for Managing Uncertainty in Stochastic Traffic Models 3:15-3:30
- 8) Kaan Ozbay, Big Data and the Calibration and Validation of Traffic Simulation Models 3:30-3:45
- 9) William Young, Looking Back and Forward at Modeling the Safety System 3:45-4:00
- 10) Audience Input Panel: Nate Gartner, Hani Mahmassani, George List, Jeff Lindley 4:00-4:30

2013 Product Updates



Caliper has been working toward the release of TransModeler 4.0 and will soon announce the release of a new product, TransModeler SE. TransModeler SE is a traffic analysis solution that integrates high-fidelity traffic microsimulation with traffic impact analysis tools and simulation-based signal optimization.



TransModeler SE offers the same microsimulation models that are featured in TransModeler, allowing for operational analysis of the full range of roadway facilities, including urban street, rural highway, and freeway systems, unsignalized and signalized intersections, and traditional and innovative interchange and roundabout designs. SE simulates up to 20 intersections or 100 links.



Both products introduce a novel simulation-based signal optimization technique for coordinated arterials. The technique is based on performance measurement concepts, including the Purdue Coordination Diagram, from recent and emerging traffic signal systems research.

New features in both products also include traffic impact analysis tools, which allow analysts to generate and distribute trips from ITE 9th Edition and previous or custom trip rates, and simulation-based HCM 2010 levels of service (LOS) for a broad range of facilities.

Whereas TransModeler SE is designed for smaller projects, the list of innovative, wide-area microsimulation projects to which TransModeler has been successfully applied continues to grow. Recent examples include a county-wide model of Whatcom County, WA, a city-wide model of Virginia Beach, VA, and a model of 50 miles of the I-70 Mountain Corridor west of Denver, CO.

