



# Welcome to AHB45 Committee on Traffic Flow Theory and Characteristics

January 13, 2015



# Self-Introductions Members/Friends

Please don't forget to sign in!





## Review and Approve Minutes

- January 14, 2014
- August 13, 2014
- Thanks to Sue Ahn and Danjue Chen for preparing the minutes!





#### Membership Update





TRB has recently authorized two additional standing committee membership slots for employees of state departments of transportation. We are thrilled to welcome Dr. Zhongren Wang from the California Department of Transportation and Mr. Soumya Dey from the Washington D.C. District Department of Transportation as new members of our committee! Please join me in welcoming our two new members aboard!



- Welcome Zhongren
   Wang and Soumya Dey
   (New State DOT
   Members)
- Chair Robert Bertini rotates off committee effective 4/15/15
- New chair Soyoung Ahn receives the gavel effective 4/15/15



### **Chair Report**



- TRB 2015 "Corridors to the Future: Transportation and Technology"
- All are encouraged to participate—no real difference between
   Member and Friend
- Celebrated 50th Anniversary of Committee last year
- Producing 2 TR Circulars and 2 Journal Special Issues
- Always possible to update paper reviewer pool (526 members)
- Encourage State DOT and MPO involvement
- Subcommittees; Young Members; Products
- What's Next for the Committee?



#### Blue Ribbon Award





The TRB Technical Activities Council has selected the Committee on Traffic Flow Theory and Characteristics as a **2015 Blue Ribbon Committee** in the area of **Community Building and Mentoring** - specifically we were cited as *engaging diverse participants* through innovative and inclusive outreach; and collaboration in research, education and training. Congratulations and thank you to all for your efforts! Special thanks to the team who prepared the nomination.



# TRB Report



Paper Submissions	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
•	2004	2005										2010
Total Number			2862	3070	2847	3384	3694	3875	4226	4771	5200	
Total Presented			1688 (59%)	1849 (60%)	1759 (62%)	1882 (56%)	2190 (59%)	2322 (60%)	2550 (60%)	2765 (58%)	2912 (57%)	
Papers - Lectern			888 (53%)	935 (51%)	867 (49%)	900 (48%)	921 (43%)	912 (39%)	979 (38%)	1048 (38%)	978 (34%)	
Papers - Poster			728 (43%)	752 (41%)	861 (49%)	952 (51%)	1232 (56%)	1352 (58%)	1515 (59%)	1655 (60%)	1872 (64%)	
Papers - Meeting			21 (1%)	34 (2%)	31 (2%)	28 (2%)	20 (1%)	44 (1.9%)	40 (2%)	49 (2%)	73 (2%)	
Other Papers			2 (0.1%)	5 (0.2%)	0	2 (0.1%)	17 (0.8%)	14 (0.6%)	16 (1%)	13		
Invited Presentations							1750	2050	1990	2143	2200	
Total Speakers							3100	3300	4700	5100	>5100	
Total Agencies/Orgs							1700	?	2350	2500	2550	
Sessions, Workshops, and Meetings												
Lectern Sessions	498	470	469	455	452	461	382	418	448	460	450	
Poster Sessions	46	65	88	134	112	132	134	145	162	180	195	
Workshops	62	62	73	79	86	89	99	110	108	110	135	
Committee Meetings				425	442	424	444	503	530	550	525	
Other Meetings							500+	500+	500+	500+	500+	
Total Meetings							>1500	>1500	>1500	>1500	>1500	



#### TRB Report



- Refer to Critical Issues in Transportation report
- Connected-Automated vehicles (<a href="https://vimeo.com/114264596">https://vimeo.com/114264596</a>)
- Provide input regarding new venue via survey after meeting
- Collaborate with other committees for cross-cutting issues
- Use MyTRB online tools (<u>www.MyTRB.org</u>)
- Involve young professionals, state DOT employees, professionals from outside the US and non-traditional stakeholders
- Suggest a TRB Webinar for 2015 (March 1, 2015 deadline)
- Communications (website and social media)
- Research (RNS)



#### TRR Update

- ISI Impact Factor = 0.441 for 2012
- TRR ranks 25 out of 30 Transportation
   Science and Technology journals
- See other measures
- 643 articles published in 2012 (next two journals 393 and 164)
- High half lives
- We have posted lists of our committee
   TRR published papers:

http://tft.ceng.calpoly.edu/pdf/20 ication\_post.pdf



YEAR	TRR IMPACT FACTOR							
2012	.441							
2011	.471							
2010	.482							
2009	.298							
2008	.259							
2007	.206							
2006*								
2005	.145							
2004	.072							
2003	.093							
*No impact factor was computed for 2006								

\*No impact factor was computed for 2006

MEASURE	TRR RANK IN 2012							
Citation Impact Factor	25th							
Total Cites	1st							
# of Articles	1st							
Cited Half-Life	5th							
Eigenfactor Score*	2nd							



# Discussion with Javy Awan TRB Director of Publications



#### **Issues with TRR process**

Slow process

- Lack of time to make major revisions
- Impact factor diluted by large number of articles published in TRR

#### **Proposed solution**

- Provide TRR issue number in February for appropriate "in press" citations
- Online appearance of unedited articles in Feb/March
- Allow authors until January 15 to submit revised papers for TRR consideration
- Consider splitting into different areas; e.g.,
   Transportation Research Part X



# TRB Report – Young Member Council

#### WHAT ARE YMC'S ACCOMPLISHMENTS AND PLANNED ACTIVITIES?

- January 2015: TRB Annual Meeting (Washington, DC)
  - YMC-TAC business meeting and Group-level YMC meetings
  - YMC-sponsored technical sessions on career development, entrepreneurial skill-building, and emerging professional research and innovations.
  - YMC Reception with Young Professionals in Transportation—National
  - TRB's Outstanding Young Member Award to be presented during the Deen Lecture
  - Expanded Freight Systems and Marine mentoring pilot program
  - TransportationCamp 2015, a technology-oriented "unconference"
- Interactive online community at <a href="http://ymc.groupsite.com">http://ymc.groupsite.com</a>
- Resources for New and Young Members at <a href="https://sites.google.com/site/youngmemberscouncil/">https://sites.google.com/site/youngmemberscouncil/</a>
- And many more!

For more information, contact YMC Chair Alison Conway (aconway@ccny.cuny.edu), Vice Chair Bevan Kirley (kirley@hsrc.unc.edu) or YMC's TRB Liaison Bernardo Kleiner (bkleiner@nas.edu).







- Transportation Systems Simulation Manual
  - December Webinar
  - Simulation Task Force Proposed
  - Next Steps
- ATDM/DMA Testbed
- Traffic Analysis Tools Volume III Revision
- Trajectory Validation Engine Project
- Predictive Engine Project





#### Transportation System Simulation Manual (TSSM)

- Inspired by HCM, HSM, AMM, TCQSM
- Discussion at 2011 Midyear Meeting
- Support from FHWA for initial project
- TRB Task Force on the Transportation System Simulation should be approved soon (~22 members) looking for volunteers/diversity
- Webinar held December 16
- Mini Workshop held Sunday January 11
- Project web space: <a href="http://sites.kittelson.com/TSSM">http://sites.kittelson.com/TSSM</a>
- Synthesis Proposal due February 13, 2015
- Future funding via NCHRP process need state DOT stakeholders



#### Subcommittees



1.	Joint Subcommittee on Traffic Simula	tion Models	List
2.	Research Problem Statements		Hadi
3.	Paper Review		Bertini
4.	Greenshields Prize & Awards		Gartner/Leclercq
5.	Mid-Year Meetings		Bertini
6.	Outreach and Diversity		Hamdar
7.	Strategic Planning		Bertini/Ahn
8.	Classic/Historic Papers	Ahn/Laval/Ger	oliminis/Gayah/Xuan
9.	Special Report on Traffic Flow Theory	•	Mahmassani
10.	Crowd Flow Dynamics, Modeling, and	d Management	Sarvi/Hoogendoorn



#### SimSub



#### SimSub Website:

http://sites.google.com/site/trbcommitteeahb45/
To join, send email to:

TRBCommitteeAHB45@gmail.com

Within few days you will get an invitation to join "Friends of SimSub" which is a Google group through which we post announcements and distribute emails about SimSub activities.

2015 Sunday Simulation Workshop: *Using Simulation for Decision Support Systems: Past, Present and Future* 



#### SimSub



- Sunday Workshop
  - 2014 → TR Circular (Spring 2015)
  - **2015**
  - 2016 Topic?
- Newsletters
- Task Groups and Chairs
- 2014 SimSub Webinars
  - Best Simulation Paper 2013 in July 2014
  - Other upcoming webinars



#### SimSub







#### Research Problem Statements

- 1. Driver behavior in response to advanced strategies (both existing and emerging)
- 2. Collection of NGSIM-Type databases
- 3. TFT/Simulation Models that deal with variations in driver behaviors under different congestion levels/ congestion types/instability in flows and develop models that produce vehicle trajectories that better reflect driver behaviors under different conditions (e.g., for emission/safety modeling)
- 4. Simulation Manual
- 5. Dealing with connected and autonomous vehicles





# Research Problem Statements



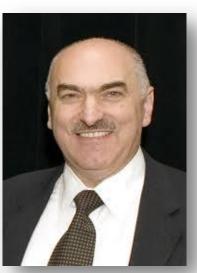
#### Paper Review & Sessions



# Special thanks to subcommittee members, authors and reviewers!









965 papers since 2009







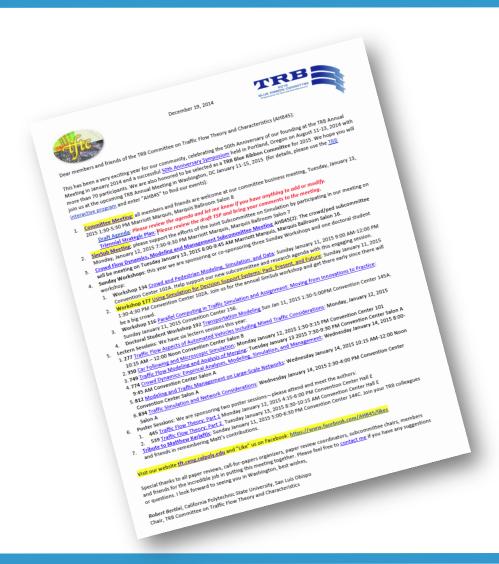
- Crowd Dynamics: Empirical Analyses, Modeling, Simulation and Management
  - Organizers: Winnie Daamen, Serge Hoogendoorn, Majid Sarvi
  - 12 papers received
  - 1 podium session
- Modeling and Traffic Management on Large-Scale Urban Networks
  - Organizers: Vikash Gayah, Nikolas Geroliminis, Victor Knoop, Majid Sarvi
  - 35 papers received
  - 1 podium session
- Special Calls for 2016 Due in May 2015
  - Topics?

Annual Meeting	10-15	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
Papers Received	965	201	195	172	177	119	101	92	82	88	70	69	80	40	42	25
Percent increase	+118%	+4%	+13%	-3%	+49%	+18%	+10%	+12%	-7%	+26%	+1%	-14%	+100%	-5%	+68%	
Presentation only	174	48	32	27	32	22	13		7	9	7	3				
Publication only	22	4	3	5	5	1	4		2	2	5	2			3	
Present and publish	769	149	160	140	140	96	84		73	77	58	64				
Submitted Presentation	943	197	192	167	172	118	97	87	81	86	70	67	75	40	39	
Lectern Sessions	30	6	5	6	5	4	4	4	4	4	4	4	4	4	4	
Lectern Papers	145	27	23	30	25	20	20	20	20	20	20	20	20	19	19	
Poster Sessions	16	2	2	3 (+1)	4	2	2	2	2	2	2	2	2	0	0	
Poster Papers	406	80	84	69 (+6)	67	60	40	39	33	39	32	25	30	0	0	
Subtotal	545	107	107	99	92	80	60	59	53	59	52	45	52	19	19	2
Percent Accepted	58%	54%	56%	59%	53%	67%	62%	68%	65%	69%	74%	67%	69%	48%	49%	1
Rejected	398	90	85	68	80	38	37	28	28	27	18	22	23	21	20	0
Submitted Publication	790	152	163	145	145	97	88	78	76	79	63	66	71	40		_2
Accepted	3	0	1	0	0	2	0		1				4			กร
Revise and re-review	218	42	44	53	44	35	0	14	19	16	15		20	15		9
To be determined	43	5	4	3	0	0	31	29	18	29	21		16			9
Subtotal	264	47	49	56	44	37	31	43	38	45	36	42	40	15		E
Publication Slots	189	~30	35	33	36	30	25	23	21	22	17	21	24	12		Numbe
Acceptance Rate	27%	20%	22%	23%	25%	31%	28%	29%	28%	28%	27%	30%	30%	30%		Z
Rejected	504	105	95	89	109	49	57	35	38	34	27	24	31	28		<u></u>
Reviews																th
Assigned	4086	804	811	750	712	568	441	394	332			269	356	200		
Assigned/paper	4.2	4.0	4.2	4.4	4.0	4.8	4.4	4.3	4.0			3.9	4.5	5		Ву
Received	3521	720	695	634	597	481	394	360	315			248	317	120		Ш
Received/paper	3.6	3.6	3.6	3.7	3.4	4.0	3.9	3.9	3.8			3.6	4.0	3		
Response rate	86%	90%	86%	85%	84%	85%	89%	90%	95%			92%	89%			
TFT Reviewer Pool		526	476	433	440	310+	282									
Number of Reviews		0-38	0-36	0-33	1-32		1-34									
Average		4.7	5.5	5.5	5.3		6.2									
Total Reviews		2469	2622	2368	2330		1500									
Friends Email List	+103%	696	666	471	411	404	343									
Annual Meeting Att			90	113	101	?	79	?	65	58	72	57	<b>80</b> +	+08	50+	?
Midyear Meeting Att			72	25	30	25	65	-	39	-	-	-	-	-	-	-
SimSub Attendance			40			61										
Sunday Workshop Att			150													
Facebook "Likes"		497	421	302	215											
1																



#### **Chair Letter**







#### Sessions



Lectern Sessions: We have six lectern sessions this year:

- 1.277 <u>Traffic Flow Aspects of Automated Vehicles Including Mixed Traffic Considerations</u>: Monday, January 12, 2015 10:15 AM – 12:00 Noon Convention Center Salon B
- 2.350 Car Following and Microscopic Simulation: Monday January 12, 2015 1:30-3:15 PM Convention Center 101
- 3.749 Traffic Flow Modeling and Analysis of Merging: Tuesday January 13 2015 7:30-9:30 PM Convention Center Salon A
- 4.774 Crowd Dynamics: Empirical Analyses, Modeling, Simulation, and Management: Wednesday January 14, 2015 8:00-9:45 AM Convention Center Salon A
- 5.812 Modeling and Traffic Management on Large-Scale Networks: Wednesday January 14, 2015 10:15 AM-12:00 Noon Convention Center Salon A
- 6. 834 <u>Traffic Simulation and Network Considerations</u>: Wednesday January 14, 2015 2:30-4:00 PM Convention Center Salon A

Poster Sessions: We are sponsoring two poster sessions—please attend and meet the authors:

- 445 <u>Traffic Flow Theory: Part 1</u> Monday January 12, 2015 4:15-6:00 PM Convention Center Hall E
- 539 <u>Traffic Flow Theory: Part 2</u> Tuesday January 13, 2015 8:30-10:15 AM Convention Center Hall E
   <u>Tribute to Matthew Karlaftis</u>: Sunday January 11, 2015 5:00-6:30 PM Convention Center 144C. Join your TRB colleagues
   and friends in remembering Matt's contributions.



#### Workshops



Sunday Workshops: this year we are sponsoring or co-sponsoring three Sunday Workshops and one doctoral student workshop:

- Workshop 134 <u>Crowd and Pedestrian Modeling, Simulation, and Data</u>: Sunday January 11, 2015 9:00 AM-12:00 PM Convention Center 102A. Help support our new subcommittee and research agenda with this engaging session.
- Workshop 177 <u>Using Simulation for Decision Support Systems: Past, Present, and Future</u>: Sunday January 11, 2015 1:30-4:30 PM Convention Center 102A. Join us for the annual SimSub workshop and get there early since there will be a big crowd.
- Workshop 116 Parallel Computing in Traffic Simulation and Assignment: Moving from Innovations to Practice: Sunday January 11, 2015 Convention Center 156.
- Doctoral Student Workshop 192 <u>Transportation Modeling</u> Sun Jan 11, 2015 1:30-5:00PM Convention Center 145A.



#### Greenshields Prize 2014



TRB Paper No. 14-0816

Transportation Research Record No. 2422, pp. 1-11

Empirical observations of congestion propagation and dynamic partitioning with probe data for large scale systems

Yuxuan Ji, EPFL; Jun Luo, Shenzhen Institutes of Advanced Technology; Nikolas Geroliminis, EPFL

This paper presents innovative computational methods to dynamically partition networks into homogeneous sub-regions. This work is supported by extensive data analysis based on 30 to 50 million GPS daily records corresponding to 20,000 taxis for the city of Shenhzen (China). The research shows that homogeneity conditions are not stable during the onset and the offset of congestion at a city scale. This is clearly illustrated with the results of the Macroscopic Fundamental Diagram (MFD) within the different sub-regions. The formation of congestion is modeled by investigating individual links and their connections between multiple dynamic clusters. Contributions from this paper are very significant because they open the door to the application of the MFD concept for designing efficient control strategies by only dynamically adapting the control perimeter. They also highlight that the key parameters (critical flow, critical density,...) of the MFD are remarkably stable when the congested region grows. Moreover, the paper provides the basis for a better understanding of the dynamics of congestion in dense urban areas.

The Traffic Flow Theory and Characteristics Committee peer-reviewed this paper, which was selected to receive the 2014 Greenshields Prize awarded by the committee, honoring the contributions of Bruce Greenshields to the field of traffic flow theory.







- Papers/presentations being reviewed this week
- Announcement at mid-year meeting in Kobe





#### **Cunard Award for 2014**



2014 Best 1st Young Author Paper in the area of Operations:

A Clustering Approach to Assess the Travel Time Reliability of Arterials

Paper 14-0390

#### **Etienne Hans**

University of Lyon, France

Co-authors:

Nicolas Chiabaut

**Ludovic Leclercq** 

University of Lyon, France





#### TRB Wide Awards



#### D. Grant Mickle Award

- Established 1976
- Outstanding paper published in the field of operation, safety, and maintenance of transportation facilities.
- Honors fifth executive director, later 33rd Executive Committee Chair

#### **Fred Burggraf Award**

For next year, please mention on the first page of your paper is your are eligible to this award

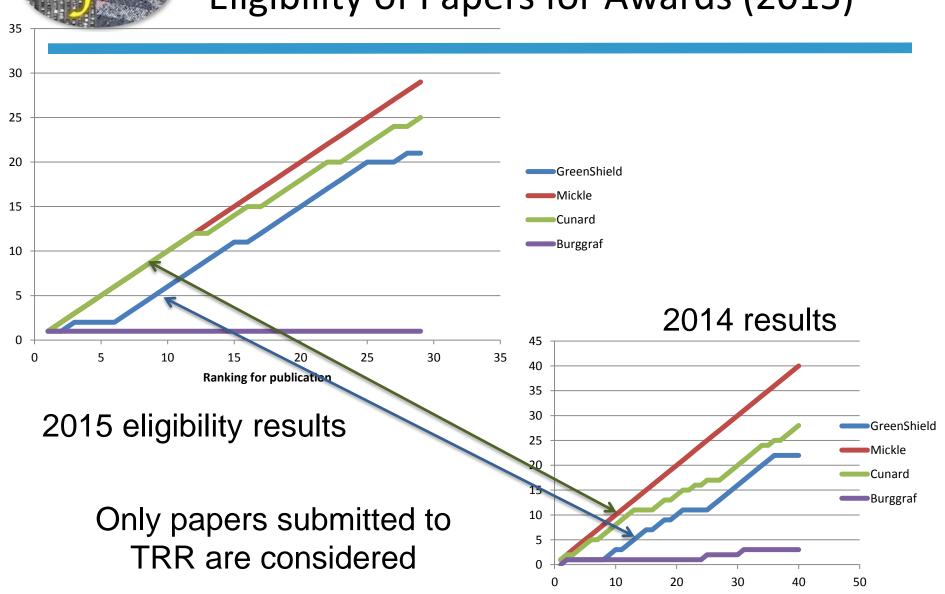
- Established 1966
- Stimulate and encourage young researchers
- Recognition of excellence in transportation research by researchers 35 years of age or younger whose papers have been published under the sponsorship of any Division A Standing Group
- Accompanied by a cash prize
- Honors TRB director from 1951-1964

As usual, we have provided one recommendation for each award in 2014 → no success. We will go on in 2015!!!





#### Eligibility of Papers for Awards (2015)





#### Some insights



- Almost all papers submitted for publication in TRR have a young author as first author
- Only one paper seems eligible to the Burggraf award (hard to check in practice)
- On the contrary to last year, the Greenshields (data) requirement is not really restrictive. Following the conclusion of last year TFT meeting, we have decided not to award (this yea)r a second prize for theoretical papers. We keep this idea in mind for the coming years.

We are currently working on the 2015 award season! The 2015 greenshield prize will be announced during ISTTT21 in Kobe!



# Mid-Year Meetings

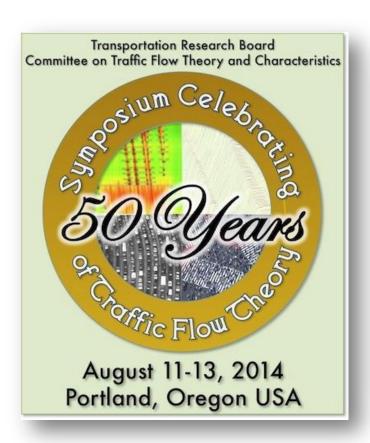


- 2007 ISTTT London (in pub)
- 2008 Greenshields Symposium, Woods Hole
- 2009 ISTTT Hong Kong (lunch table)
- 2010 Does Traffic Data Support Traffic Models? Annecy, France
- 2011 ISTTT Berkeley (one hour w/SimSub)
- 2012 Joint Summer Meeting with HCQS Committee, June 19-22, Fort Lauderdale, Florida
- 2013 ISTTT, July 17-19, Noordwijk, the Netherlands
- 2014 Portland, Oregon, USA, Symposium Celebrating 50 Years of Traffic Flow Theory
- 2015 ISTTT Kobe
- 2016 Proposal for Australia Decision
- 2017 ISTTT Chicago
- 2018 TBA Woods Hole or Irvine?



#### Welcome to Portland!









#### By the Numbers



- All presentations, posters, papers, and photos are posted on Symposium Website (<a href="http://tft.ceng.calpoly.edu/tft50/tft50.htm">http://tft.ceng.calpoly.edu/tft50/tft50.htm</a>)
- 73 total registrants from 18 states and 7 countries
- 5 sponsors, financially balanced
- 1 committee meeting
- 1 FHWA workshop
- 1 OR/WA simulation roundtable meeting
- 1 welcome reception, 1 symposium dinner
- 1 bridge pedal
- 1 panel discussion
- 4 keynote addresses
- 49 abstracts submitted
- 27 papers presented
- 10 posters
- TR Circular in the works
- 2 Journal special issues







#### **Organizing Committee**

- Robert Bertini, Portland State University, Chair
- Ludovic Leclercq, IFSTTAR / ENTPE
- Nikolas Geroliminis, École Polytechnique Fédérale de Lausanne
- Haizhong Wang, Oregon State University
- Victor Knoop, Delft University of Technology
- Vikash Gayah, The Pennsylvania State University
- Yanfeng Ouyang, University of Illinois at Urbana Champaign
- Soyoung Ahn, University of Wisconsin
- Tegan Enloe, DKS Associates
- Miranda Wells, HDR



# Sincere Appreciation



- DKS Associates
- Ariel Lewis, PSU CEE
- Renata Tirta, OTREC
- TriMet
- Josh Anderson, DEA
- FHWA
- OR/WA Simulation Roundtable
- Authors, Presenters, Moderators, Keynote Speakers
- All Participants



# Special Journal Issues & TR Circular



Best papers will be published in:

- Transportmetrica B
- Journal of Intelligent Transportation Systems

All presented papers will appear in a special TR Circular (May 2015)

Special thanks to the journal editors for their support!











# Thank you to our sponsors!





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- 2015 Kobe
- 2015 Other Simulation Task Force?
- 2016 Australia

# MONASH University Engineering



# Traffic Flow Theory and Characteristics Committee (AHB45)

2016 Summer Meeting - August 2016
Proposal for
Gold Coast, Queensland Australia



# **Surfers Paradise Gold Coast**







# Why Australia

#### **Best timing:**

This is a convenient time for colleagues coming from northern hemisphere. In August, most of the participants (especially those coming from US, Europe and Asia) could combine the event with their summer vacation.

#### **Location:**

It is proposed to hold the symposium at Surfers Paradise, Gold Coast, in Queensland. This is an attractive and well known holiday resort in Australia.



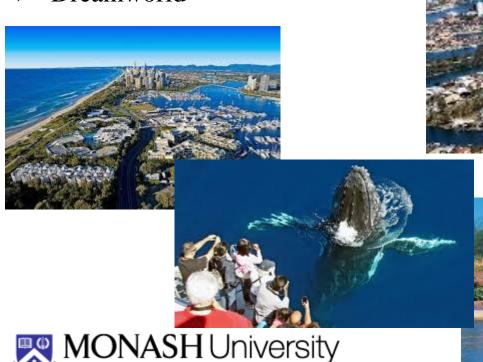


# **Why Australia**

#### **Some of the attractions:**

- > Sea World
- > Movie World
- ➤ Wet and Wild
- Dreamworld

Engineering







# Why Australia

#### **Access:**

The Gold Coast region is serviced by the Gold Coast International Airport, with frequent domestic services from Melbourne, Sydney, Adelaide, and International services from New Zealand, Japan and Asia.

Brisbane's International Airport also provides smooth links with the United States and Europe.













# Outreach and Diversity

- AHB45 newsletter well established and being further streamlined
- Common activities with the American Society of Civil Engineers (ASCE) are already being planned i.e. TGF 2015/2017 Conference/Special Issue; aiming for further collaboration with IEEE
- Subcommittee identified three members from Industry (IBM & Volkswagen America and Google) as possible future members when possible already have representation from state/districts Departments of Transportation (special session/workshop TRB 2016)
- Continuous use of social media (Google, Facebook) to communicate with members and friends.
- Young Volunteering Team: Zhijie (Sasha) Dong, Justin P. Schorr, Sandeep Mutigonda → AHB45 News Outlet/Channel (2015-2016)
- Thanks to Jing Dong, Vikash Gayah, Meead Saberi, Ethan Xuan, Stephen Mattingly, and Monica Menendez



## **Newsletters**



#### Transportation Research Board Traffic Flow Theory and Characteristics

#### EVENTS/ANNOUNCEMENTS

Committee-AHB 45

Newsletter



#### Message from the Chair & TRB Committee Meeting Agenda

"This has been a very exciting year for our community, celebrating the 50th Anniversary of our founding at the TRB Annual Meeting in January of 2014 and a successful 50th Anniversary Symposium held in Portland, Oregon on August 11-13, 2014 with more than 70 participants. We are also honored to be selected as a TRB Blue Ribbon Committee for 2015. We hope you will join us at the upcoming TRB Annual Meeting in Washington, DC January 11-15, 2015 (for details, please use the TRB interactive program and enter "AHB45" to find our events) (...)". The AHB45 Committee Meeting will be held on Tuesday January the 13, 2015, between 1:30 PM and 5:30 PM, at the Marriott Marquis, Marquis Ballroom, Salon 8, Washington, DC. The agenda may be found through the AHB45 Committee website.

More Details

#### TRB "Crowd and Pedestrian Modeling, Simulation, and Data" Workshop

The AHB45 Traffic Flow Theory and Characteristics Committee is co-sponsoring a workshop on "Crowd and Pedestrian Modeling, Simulation, and Data". The Workshop 134 will be held on Sunday January the 11th, between 9:00 AM and 12:00 PM at the Convention Center, Room 102A.

More Details

#### TRB Meet the Author Session: Erza Hauer, "The Art of Regression Modeling in Road Safety"

A special session is scheduled at the 2015 TRB Annual Meeting allowing attendees to meet Dr. Erza Hauer who has long been one of the key scholars bridging traffic behavior and safety. Dr. Hauer, a Professor Emeritus at the University of Toronto, will be discussing her book titled "The Art of Regression Modeling in Road Safety". The Session 732 will be held on Tuesday January the 13, 2015, between 5:45 pm and 7:15 pm, at the Convention Center, Room 103B.

More Details



Volume 3, Issue 1, January 2015

#### **Newsletter Spotlight**

Message from the AHB45 Committee Chair — Committee Meeting Agenda

2015 TRB Annual Meeting Sessions/Workshops

Connected Automated Vehicles Webinar

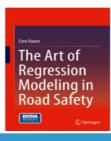
TR-C Special Issue

PhD Positions: Linkoping University and George Washington University (3rd Announcement)

Traffic in the Media: "Google Auto Faces German Resistance as Audi Guards Data"

Congratulations: Professor Vincenzo Punzo





- Launched July 2013 (25 issues threshold at ISTTT 21)
- 1 January 2015 issue
- 12 issues in 2014
- 5 issues in 2013
- Archived at: <a href="http://tft.ceng.calpoly.edu/news.htm">http://tft.ceng.calpoly.edu/news.htm</a>
- Contact Prof. Samer Hamdar <u>hamdar@gwu.edu</u>
- What do you want to see?
- Additional Volunteers?
- Ideas/Suggestions/Input Welcome!



# Friends Google Group



#### Join Our Committee Friends List!

Click here: <a href="https://groups.google.com/d/forum/tft\_friends?hl=en">https://groups.google.com/d/forum/tft\_friends?hl=en</a>

Our committee relies on an active and important group of friends who participate in our meetings and webinars, serve as paper reviewers and volunteers on projects including mid-year meetings, cooperation with other committees and other special products and projects. Our Friends list currently consists of about 650 members worldwide.

We are moving our email list from <a href="mailto:tft\_friends@lists.pdx.edu">tft\_friends@googlegroups.com</a>. You will soon receive a notification email on being added to the new tft\_friends group. The previous email list will no longer be active. To modify your membership settings, you can visit: <a href="https://groups.google.com/d/forum/tft\_friends?hl=en">https://groups.google.com/d/forum/tft\_friends?hl=en</a>

# Click Here to Find Committee Friends (Google Doc)

- To join the group visit: <a href="https://groups.google.com/d/forum/tft\_friends?hl=en">https://groups.google.com/d/forum/tft\_friends?hl=en</a>
- To post to this group, send email to <a href="mailto:tft\_friends@googlegroups.com">tft\_friends@googlegroups.com</a>
- To unsubscribe from this group, send email to tft friends+unsubscribe@googlegroups.com
- For more options, visit <a href="https://groups.google.com/d/forum/tft\_friends?hl=en">https://groups.google.com/d/forum/tft\_friends?hl=en</a>



Status Photo / Video @ Offer, Event +

AHB45 Committee on Traffic Flow Theory and Characteristics
January 2 (A)

Our activities at the TRB Annual Meeting begin in only 9

days! Please join us! http://www.tft.pdx.edu/docs/

AH845 Committee on Traffic Flow Theory and Characteristics shared a link.

December 19, 2013 @

Papageorgiou on Freeway Traffic Control: https://meeting.banckle.com/recording?id=323931241

Here is the link to the recorded webinar by Prof. Markos

2014\_chair\_letter.pdf

Like - Comment - Share

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# AHB45 Committee on Traffic Flow Theory and Characteristics You are posting, commenting, and liking as AHB45 Committee on Traffic Flow Theory and Characteristics — Change to Robert L. Bertinl Admin Panel Edit Page — Build Audience — See Insights Help — Show AHB45 Committee on Traffic Flow Theory and Characteristics 421 likes — Jauking about this Add A Category This committee is concerned with the development, validation, and dissemination of theoretical, experimental, and applied research on traffic flow About Photos Likes Map Notes: 55

43 Friends
Like AHB45 Committee on Traffic Flow Theory and

Robert L. Bertini

8. TRB AH845 Committee on Traffic Flow Theory and ...

2 · November 3, 2013 at 12:22pm

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Seth Young

5-7 Josh Crain

€1 Boost Post →

Mark Hansen

Recent Posts by Others

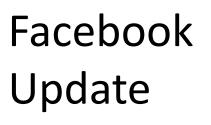
- TFT Facebook Page: 498 "Likes" (up from 421 last year)
- www.facebook.com/AHB45



# The second

#### **Total Reach**

The number of people who were served any activity from your Page including posts, posts by other people, Page like ads, mentions and checkins.







#### Total Page Likes as of Today: 497



#### BENCHMARK

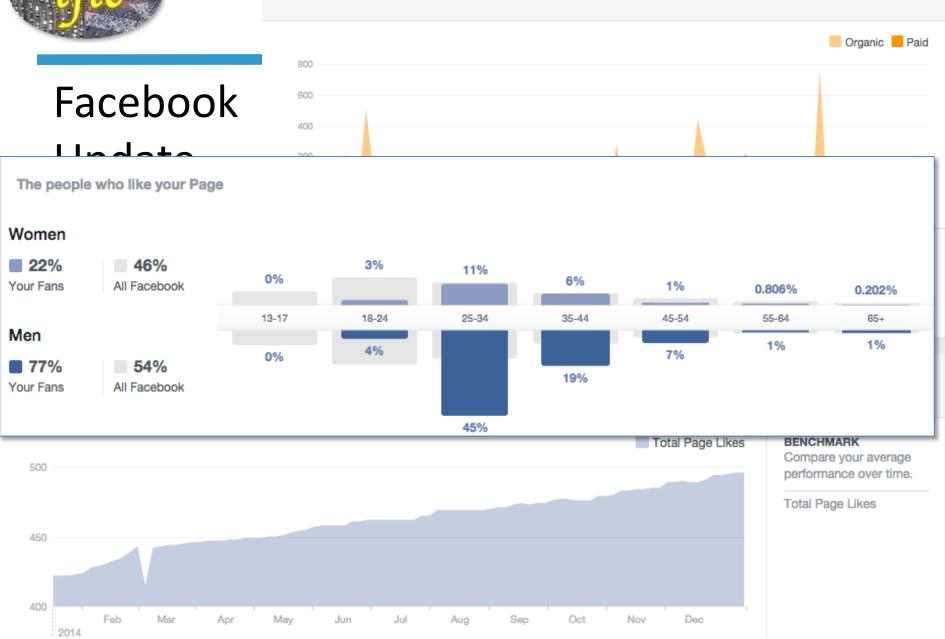
Compare your average performance over time.

Total Page Likes



#### Total Reach

The number of people who were served any activity from your Page including posts, posts by other people, Page like ads, mentions and checkins.





### **Webinars**



- 5 Webinars in 2014, total of 128 participants
- List of 45 Archived Webinars since 2010:
   <a href="https://docs.google.com/spreadsheet/ccc?key=0AuX5B7unfMSEdDJQUT11VGtxZ3IUREMyX0tRQlkzOVE&usp=sharing">https://docs.google.com/spreadsheet/ccc?key=0AuX5B7unfMSEdDJQUT11VGtxZ3IUREMyX0tRQlkzOVE&usp=sharing</a>
- Webinar Google Calendar:
   <a href="https://www.google.com/calendar/embed?src=fjpilf4qddonoo8r94isp3">https://www.google.com/calendar/embed?src=fjpilf4qddonoo8r94isp3</a>
   qsr4%40group.calendar.google.com&ctz=America/Chicago
- Vision for 2015
  - One webinar every other month
  - Greenshields Prize
  - Highly cited author
  - ISTTT
  - TRB



## Website Updated (did anyone notice?)



- http://tft.ceng.calpoly.edu/
- Anyone can contribute items
- Revised 2001 Monograph
- 1964 and 1975 Monographs
- Greenshields Symposium 2008 TR Circular
- 2010 and 2014 Symposium Pages
- Greenshields Prize page
- **Historic Papers**
- Meeting Materials



Transportation Research Board AHB45

Committee on Traffic Flow Theory and Characteristics



TRB

Welcome to the home page of the TRB Committee on Traffic Flow Theory and

This volunteer TRR committee is concerned with the development, validation, and dissemination of theoretical, experimental, and applied research on traffic flow theory and traffic flow characteristics and the determination of the relationship of traffic flow



Joint Simulation Subcommittee (SimSub)

We jointly sponsor the TRB Joint Simulation Subcommittee AHB45(1), chaired by George List (North Carolina State University). SimSub is the focal point for coordinating advancements in traffic simulation which crosses multiple committee boundaries. You can volunteer in one of SimSub's task groups: Annual Workshop; Liaison and Outreach; Newsletter; Research Needs and esources: Simulation Calibration: Verification and Validation: Mesoscopic Simulation: Safety Modeling and Simulation: or Agen





TRB Publications: Since 1963 the Committee on Traffic Flow Theory & Characteristics has contributed 520 papers to 50 ssues of the Transportation Research Record (previously Highway Research Record). These papers have been cited nearly 3.000 times according to Google Scholar (thanks to E. Xuan). We invite your comments on these papers—how have they influenced research or practice? Do you cite them? The International Symposium on Traffic and Transportation Theory (ISTTT) has produced 645 papers since 1959, that have been cited nearly 14,000 times according to Google Scholar (thanks to V



Free Traffic Flow Webinars: Since 2010 we have hosted more than 40 free Traffic Flow Theory and Characteristics Webinars. From 2010–2011, this was done in partnership with the TrafficLab at Georgia Tech. You can join the Traffic Flow pinar Google Group to make sure you are notified and also be sure to follow us on Facebook. If you have a topic to suggest o you would like to present a webinar, please contact us.



2015 TRB Annual Meeting: Click here for a guick summary of our meetings, sessions, and workshops to be held during the TRB Annual Meeting, to be held January 11-15, 2015 in Washington, D.C.

2014 Summer Meeting and Symposium Celebrating 50 Years of Traffic Flow Theory: Our 2014 Summer Meeting and Symposium in Portland, Oregon USA from August 11-13, 2014 is now concluded, papers, presentations and

Greenshields Prize: The 2014 Greenshields Prize has been announced and will be presented at the TRB Annual Meeting in January 2015 in Washington DC.

ISTTT 21: The 21st International Symposium on Transportation and Traffic Theory will be held in Kobe, Japan from 5-7 August, 2015. We will hold a short summer meeting at the Symposium.

We look forward to your active participation and involvement with this committee. Very sincerely yours

Robert Dr. Robert L. Bertini, Chair Department of Civil & Environmental Engineering California Polytechnic State University, San Luis Obispo

Disclaimer: Any opinions, findings or conclusions expressed on this website are those of the authors and do not necessarily reflect the views of the Transportation Research Board or the National Academies. Contact home page administrator. Last updated: Friday, November 14, 2014 11:47 AM





# Strategic Planning 2015-2018

- Led by Sue Ahn
- Thanks to Hani, Nate, Ludovic, Nikolas, Marguerite, Majid, Koohong,
   Costas and Winnie for review, input and comments
- Need to formally approve Triennial Strategic Plan today
- Highlights
  - Primary Activities
  - Committee Membership and Management
  - SimSub
  - Traffic Flow Characteristics
  - Research Problem Statements
  - Communications and Outreach
- Think "products"
- Engage non-traditional partners/participants who can't travel



# **TFT Historic Papers**

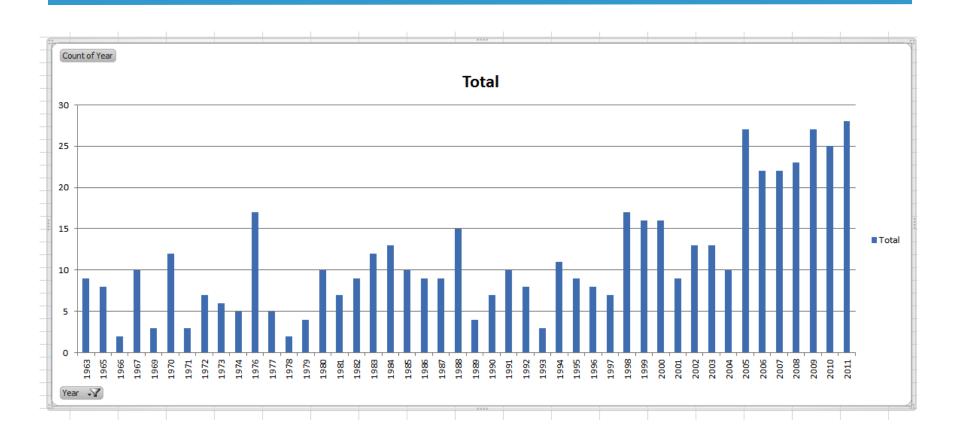


- 619 papers and 66 issues of HRR/TRR since 1963
- Some topics now covered by newer committees
- Predecessor committees:
  - Committee on Traffic Flow Theory (1963-1970)
  - Committee on Characteristics of Traffic Flow (1965-1970)
  - Committee on Speed Characteristics (1963-1965)
- Lists available via website on Google Docs
- Comments have any papers influenced research and practice?
- Are any papers highly cited?
- Literature review or annotated bibliography?



## TRR Timeline









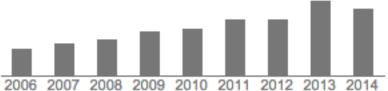


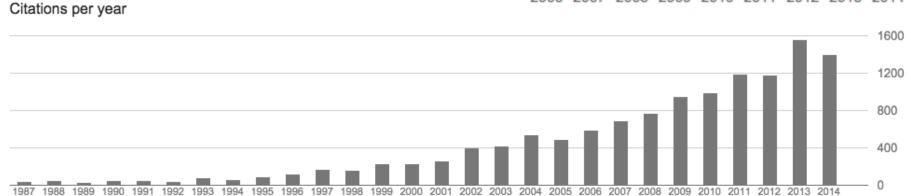


#### TRR by TFTC Committee

TRB traffic flow theory and characteristics No verified email

Citation indices	All	Since 2010
Citations	13270	7254
h-index	59	39
i10-index	302	213









# TRR Google Scholar Top Ten

Title 1–20	Cited by	Yea
ALINEA: A local feedback control law for on-ramp metering M Papageorgiou, H Hadj-Salem, JM Blosseville Transportation Research Record	491	1991
Simulation laboratory for evaluating dynamic traffic management systems  Q Yang, HN Koutsopoulos, ME Ben-Akiva Transportation Research Record: Journal of the Transportation Research Board	292	2000
Flow processes at a freeway bottleneck  JH Banks  Transportation Research Record	207	1990
MAXBAND: A program for setting signals on arteries and triangular networks JDC Little, MD Kelson, NH Gartner Transportation Research Record	198	1981
Cellular automata microsimulation of bidirectional pedestrian flows VJ Blue, JL Adler Transportation Research Record: Journal of the Transportation Research Board	194	1999
General lane-changing model MOBIL for car-following models A Kesting, M Treiber, D Helbing Transportation Research Record: Journal of the Transportation Research Board	185	2007
Effect of adverse weather conditions on speed-flow-occupancy relationships AT Ibrahim, FL Hall Transportation Research Record	184	1994
Peak-period control of a freeway system-Some theoretical investigations  JA Wattleworth, DS Berry  Highway Research Record	178 *	1965
Peak-period analysis and control of a freeway system  JA Wattleworth	<del>172</del>	1965
Emergent fundamental pedestrian flows from cellular automata microsimulation VJ Blue, JL Adler Transportation Research Record: Journal of the Transportation Research Board	165	1998



# **ISTTT Google Scholar**

Follow T





## International Symposium of Transportation and Traffic Theory

Unknown affiliation Transportation and Traffic Theory Verified email at engr.psu.edu

Title 1–20	Cited by	Year
TRANSYT: a traffic network study tool DI Robertson	525	1969
The Godunov scheme and what it means for first order traffic flow models JP Lebacque Internaional symposium on transportation and traffic theory, 647-677	353	1996
A modified logit route choice model overcoming path overlapping problems:  Specification and some calibration results for interurban networks  E Cascetta, A Nuzzolo, F Russo, A Vitetta  Proceedings of the 13th International Symposium on Transportation and	321	1996
Some possibilities for using traffic control to influence trip distribution and route choice RE Allsop Transportation and Traffic Theory, Proceedings 6	249	1974
A STATISTICAL ANALYSIS OF SPEED-DENSITY HYPOTHESES. IN VEHICULAR TRAFFIC SCIENCE J Drake, J Schofer, A May Proceedings of the Third International Symposium on the Theory of Traffic Flow	225	1967

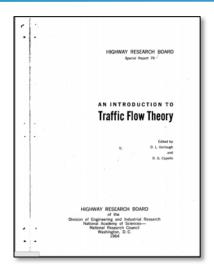


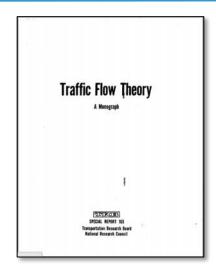
## 645 Papers Thanks to Vikash Gayah

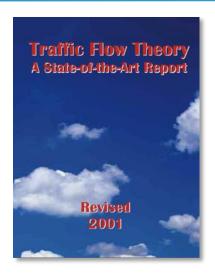






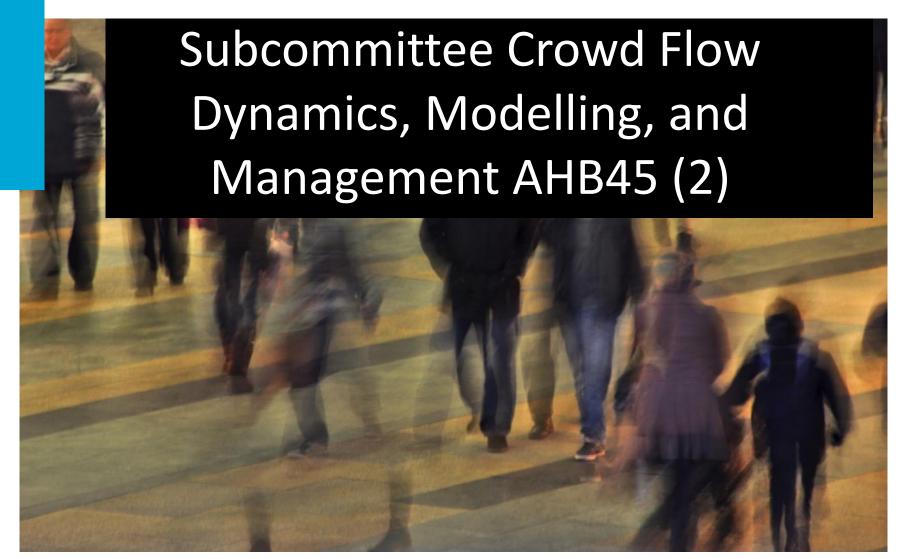






1964 1975 2001

Classic Papers Retreat Idea?



# **Activity Report**

(Serge Hoogendoorn, Majid Sarvi, Winnie Daamen)

# Subcommittee's Aims and Objectives:

- 1. Brings together scientists and practitioners from different disciplines working on crowd flow theory, modeling, operations, and management
- 2. Further theoretical development and understanding of crowd dynamics
- Focus on application perspectives in flows and crowd management and design of crowd/pedestrian facilities

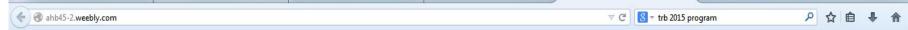
# Subcommittee's Activities in 2014:

- 1)TRB especial call for papers
- 12 papers received
- → Lectern session on Wednesday 14<sup>th</sup> (8AM-9:45AM), session 774
- 2) Subcommittee meeting on Tuesday 13th
- 3) Sunday 11<sup>th</sup> Workshop (2<sup>nd</sup> workshop)
- 4) Actively working with other disciplines (PED2014, etc.)
- 5) Seeking co-sponsorship from Network and Emergency Evacuation committees?

# **Facebook Page**



# **New Webpage**



#### CROWD FLOW DYNAMICS, MODELING, AND MANAGEMENT SUBCOMMITTEE



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Membership, posting all workshop presentations, list of papers in crowd the for both podium and poster sessions, etc.

# 2015 Sunday Workshop



9:00	Wellcome	Bertini
9:10	Subcommittee activities in the last year	Sarvi
9:20	PED conference 2014 activities and report	Daamen
9:30	Menge: A Modular Framework for Simulating Crowd Movement	Manocha
10:00	Data collection to calibrate pedestrian models	Hoogendoorn, Sarvi and Sobhani
10:40	ACP-based emergency evacuation for metro transfer hubs	Dong
11:10	Calibration work for PTV Viswalk	T. Kretz
11:40	Round table discussion	Hoogendoorn

# Subcommittee Future Agenda

- Research challenges
- Set-up a list of critical issues
- Future topics/List, research statement
- Joint research agenda based on identified critical issues
- Subcommittee main activates considering the topics above
- Webinars in Crowd Dynamic to establish collaboration with other disciplines



# **Liaison With Other Committees**





## International Liaison



NEARCTISW. Daamen

- MULTITUDE
  - Summerschool June 10-12
- MOCoPo Trajectory Data Enhancement C. Buisson

# 2015 Summer School Advanced Traffic Simulation

University of Cyprus, Nicosia, Cyprus

Building on the summer school series by: COST Action TU0903 - MULTITUDE.



June 10-12, 2015

Max. number participants: 40 Registration: January 30 - April 15, 2015

Fee: 50 Euros (includes coffee-breaks, lunches and a social dinner)

Applications and more information soon at: www.multitude-project.eu

Organising committee:

Constantinos Antoniou (NTUA)

Mark Brackstone (TSS – Transport Simulation Systems)

Loukas Dimitriou (UCY)

Vincenzo Punzo (UniNA)

Contacts:

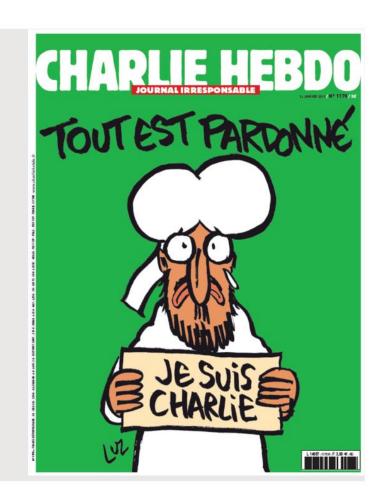
lucdimit@ucy.ac.cy

antoniou@central.ntua.gr

# MOCOPO

# TRAJECTORY DATA ENHANCEMENT

Christine Buisson
AHB45-TFTC committee meeting
13th January 2015





# What do we have from the MOCoPo experiment? (see <a href="mailto:mocopo.ifsttar.fr">mocopo.ifsttar.fr</a>)

- More than 9 hours of films taken from a helicopter in three locations of a freeway with 2 lanes in both directions
- Numerical treatment (colab. TUDelft) produced trajectories
- Those trajectory data are not perfect (see film)







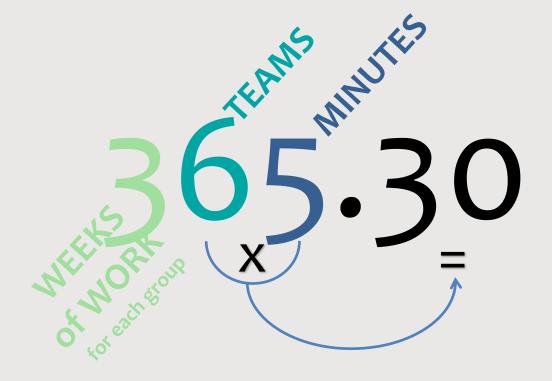




#### What needs to be done?

- For previous researches, we focused on some of the vehicles
- Obtaining a complete and therefore fully usable trajectory dataset means a first step forward:
  - Making sure each vehicle is associated with one and only one trajectory, this has to be done manually to ensure quality
- Objective of today: generating a "trajectory cleaning team" of 6 groups devoting themselves to clean 5 minutes of data
- The amount of work is about 3 weeks per team (120 hours).
- RESULT: A set of 30 minutes of complete and exploitable trajectory data each group can fully exploit during 365 days
- Side effect: making those tasks collectively might prevent some questions /difficulties our community had before with the NGSim dataset





The resulting 30 minutes of trajectory data will be shared among the 6 teams during 365 days of exclusivity



## Your time schedule as a member of a group belonging to the MOCoPo cleaning team:

#### Today

 If you are interested to join, please meet after the TFTC meeting or send an email to <u>christine.buisson@lfsttar.fr</u>

#### January-February

- Contribute to recruit other groups!
- Choose the period that is suitable to all groups of the team

#### March

Receive the interface for doing the job, the imperfect trajectory data set,
 the corresponding images, and the tutorials through a dropbox link

#### April-May

- Do the job of cleaning the trajectories with the help of our hotline
- At the end of May I will verify and fuse enhanced 5' datasets together
- June 2015 to May 2016: use the data to do whatever you want!
- June 2016: the data will be available for everyone



## What will be your benefit?

- A set of more than 1,500 trajectories collected on stretch of 500 meters of a representative freeway
- Car-following and lane changing (mandatory and discretionary) data of unpreceded quality
- This permits you to
  - Analyze precisely various traffic conditions
  - Test and calibrate microscopic models CF, MLC, DLC
  - Quantify extreme behaviors
- Having contributed to their enhancement give you a clear view of their drawbacks and qualities
- You gain exclusive access for 365 days





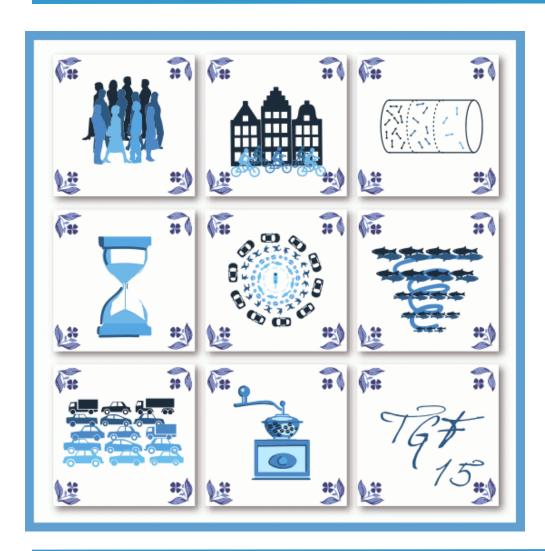
## Announcements/Future Meetings

- ISTTT21 August 5-7 Kobe, Japan
- Traffic and Granular Flow October 28-30 Nootdorp, the Netherlands
- AVS15 July 21-23 Ann Arbor
  - Workshop? Break out session?





#### Traffic and Granular flow 2015



- Conference on Traffic Flows
- Microscopic and Macroscopic
- Organisation TU Delft
- 28-30 October 2015
   Nootdorp (greater Delft area)
- Abstract submission before 1 April 2015

# Connected and Automated Vehicle Systems: State of the Art and TRB Activities

Prepared by:

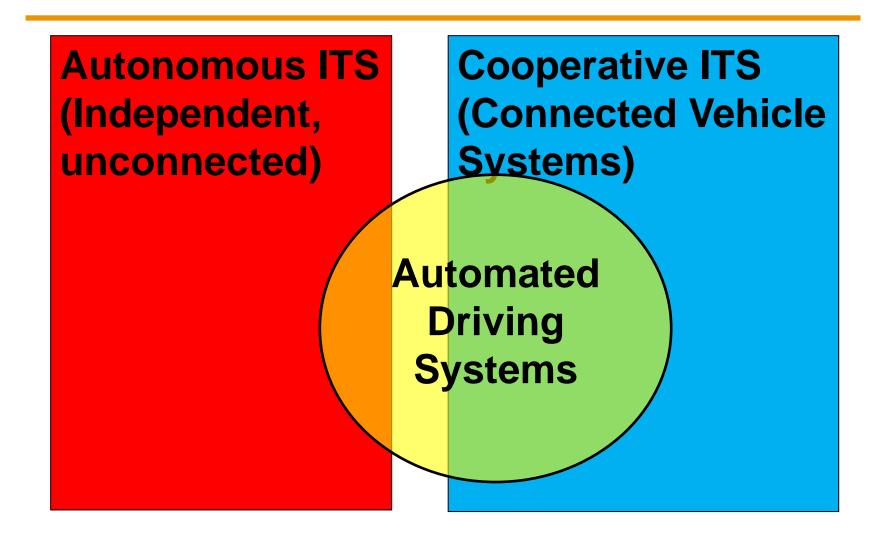
Steven E. Shladover, Chair AHB30 (Vehicle-Highway Automation) Jane Lappin, Chair AHB15 (Intelligent Transportation Systems)

TRB Annual Meeting January 2015

## New Technology Opportunities in Road Transportation

- Traditional transportation technologies have matured to the point of diminishing returns
  - Civil infrastructure
  - Mechanical vehicle systems
- Basic intelligent transportation systems (ITS) have been developing gradually for 25 years
  - Electronic implementations of traditional functions, separately on vehicles and infrastructure
- Connectivity integrates vehicles and roadway infrastructure into a transportation system
- Automation overcomes driver limitations

## **Autonomous and Cooperative ITS**



## Why connectivity?

- Anything you can do unconnected (autonomously) you can do better connected.
- Providing better information about vehicle movements to infrastructure operators (V2I)
- Providing better information and guidance about traffic, road and weather conditions to drivers and vehicle systems (I2V)
- Providing better information about vehicle movements to other vehicles and drivers (V2V)

## **Automated Driving Systems**

- Deep historical roots back to 1939 GM Futurama
- Intermittent technical progress since 1950s
- Recent resurgence of interest motivated by DARPA Challenges and Google publicity
- Intense media and public attention, but based largely on hype and misinformation, compounded by misleading vocabulary:
  - "driverless"
  - "self-driving"
  - "autonomous"

## Automation is a Tool for Solving Transportation Problems

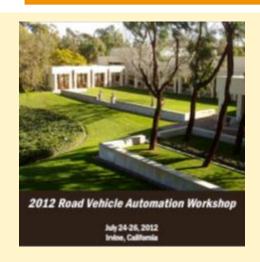
- Alleviating congestion
  - Increase capacity of roadway infrastructure
  - Improve traffic flow dynamics
- Reducing energy use and emissions
  - Aerodynamic "drafting"
  - Improve traffic flow dynamics
- Improving safety
  - Reduce and mitigate crashes (by far the hardest)
    - Fatal crash MTBF > 3 M veh-hours today
    - Injury crash MTBF > 65 K veh-hours today

...BUT the vehicles need to be connected

#### **Example Systems at Each SAE Automation Level**

Level	Example Systems	Driver Roles
1	Adaptive Cruise Control OR Lane Keeping Assistance	Must drive <u>other</u> function and monitor driving environment
2	Adaptive Cruise Control AND Lane Keeping Assistance Traffic Jam Assist (Mercedes)	Must monitor driving environment (system nags driver to try to ensure it)
3	Traffic Jam Pilot Automated parking	May read a book, text, or web surf, but be prepared to intervene when needed
4	Highway driving pilot Closed campus driverless shuttle Driverless valet parking in garage	May sleep, and system can revert to minimum risk condition if needed
5	Automated taxi (even for children) Car-share repositioning system	No driver needed

### **Automated Vehicle Symposia - History**



- 125 participants
- Educated transportation community on recent progress in automation research, especially activities outside the U.S.
- Co-sponsored by 5 TRB committees



- 335 participants
- Hosted by Stanford University
- Focused on challenges and opportunities for road vehicle automation
- Resulted in 40+ research needs statements
- Co-sponsored by 7 TRB committees

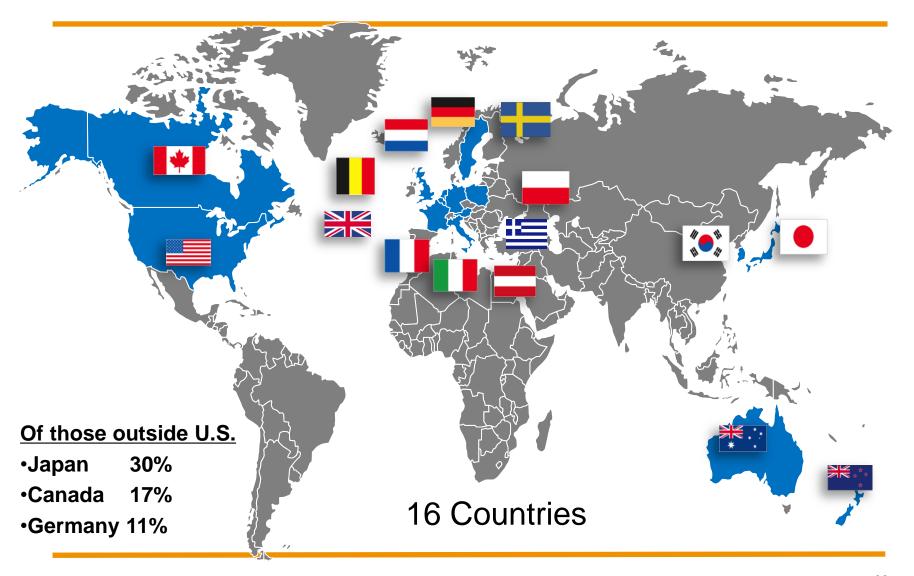


- 572 participants
  - 44% industry
  - 34% acad/research
  - 22% government
  - (25% international)
- Produced in partnership with AUVSI
- Details in following slides

## **TRB Sponsoring Committees (2012-14)**

- Intelligent Transportation Systems | AHB15
- Vehicle-Highway Automation | AHB30
- Emerging Technology Law | AL040
- Major Activity Center Circulation Systems | AP040
- Emerging and Innovative Public Transportation and Technologies | AP020
- Vehicle User Characteristics | AND10
- Cyber Security | ABE40(7)
- Transportation Energy | ADC70
- Managed Lanes | AHB35
- Travel Analysis Methods | ADB00 (2014)
- Transportation Demand Forecasting | ADB40 (2014)
- Statewide Multimodal Transp. Planning | ADA10 (2014)

#### **AVS 2014 International Attendees**



## **Plenary Sessions -**



#### Plenary Day 1

#### Plenary Day 2

#### Plenary Day 3

#### **Opening Keynote:**

Ralph Herrtwich, Daimler AG

## Manufacturer and Supplier Briefings:

Bosch, BMW Group, Nissan Research Center

## Digital Infrastructure Panel:

Nokia HERE, Google

## Technology Issues Panel:

VisLab, Technical University of Crete, Carnegie Mellon University, MIT

## Clifford Nass Memorial Lecture:

Don Norman, UCSD

## Manufacturer and Supplier Briefings:

GM, Continental, Valeo, Google

## **European Automation Projects:**

CityMobil2, AdaptIVe, Drive Me (Volvo)

#### Societal and Non-Technical Issues and Challenges Panel:

Texas A&M, Stanford, Toyota Research, J.D.

## Public Sector Addresses:

U.S. Department of Transportation

National Highway Traffic Safety Administration

U.S. Department of Energy

**European Commission** 

Japan Ministry of Land, Infrastructure, Transportation, and Tourism

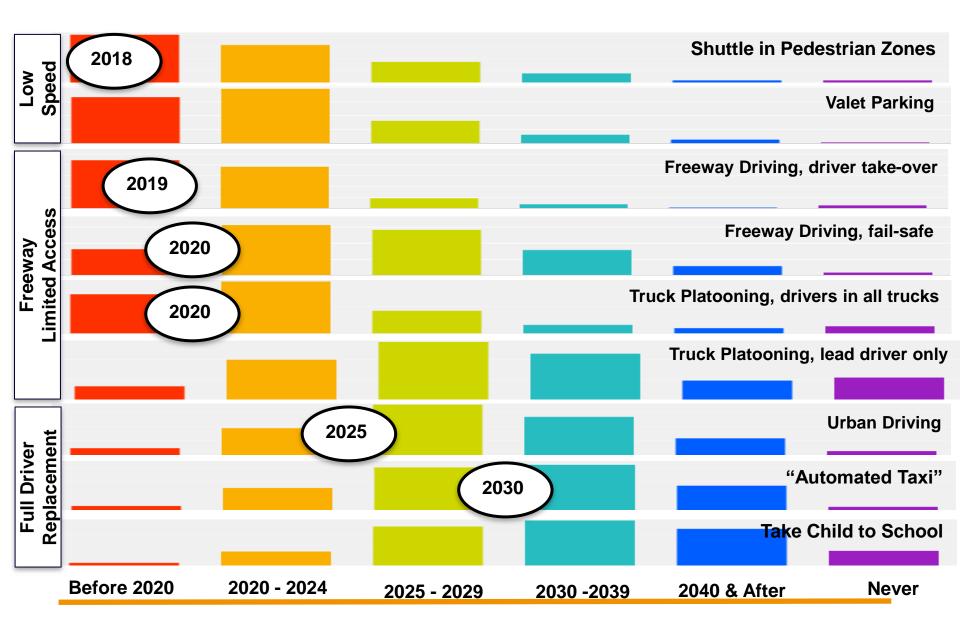
California DMV

Power

## **AVS14 Breakout Session Topics**

- 1. Evolutionary and Revolutionary Pathways to Automated Transit and Shared Mobility
- 2. Regional Planning and Modeling Implications of Driverless Cars
- 3. Roadway Management and Operations with Automated Vehicles
- 4. Truck Automation Opportunities
- 5. Legal Accelerators and Brakes
- 6. The State and Future Direction of Automated-Vehicle Human Factors
- 7. Near-Term Connected/Automated Technology Deployment Opportunities
- 8. Personal Vehicle Automation Commercialization
- 9. Technology Roadmap, Maturity and Performance: Operational Requirements for Vehicle-Road Automation Systems and Components
- 10. Road Infrastructure Needs of Connected-Automated Vehicles

#### **Survey of Attendees on Market Introduction Dates**



### Planning for AVS 2015: July 21-23, Ann Arbor

Challenges and Opportunities of Road Vehicle Automation (Joint Subcommittee of AHB30, AHB15)

- -Thursday 15 January, 8:00-12:00, Convention Center, Salon C
- -Subcommittee created to cut across all TRB technical committees, with the mission of producing the workshops/symposia
- Planning starts on Thursday: Ideas discussed, break-out topics and volunteers identified
- -Participation is open to all volunteers

#### **Contact Information**

 Automated Vehicles Symposium 2014 proceedings at:

http://www.auvsi.org/avs2014/proceedings

Automated Vehicles Symposium 2015:

http://www.automatedvehiclessymposium.org/home

Jane Lappin, AHB15 Chair (Volpe Center):

Jane.Lappin@dot.gov

 Steve Shladover, AHB30 Chair (University of California PATH Program):

steve@path.berkeley.edu

Bob Denaro, CORVA Subcommittee Chair (Consultant):

BobDenaro@aol.com

## SYMPOSIUM 2015

DRIVERS. VEHICLES. INFRASTRUCTURE.

SYMPOSIUM: JULY 21-23, 2015
ANCILLARY MEETINGS: JULY 20 and 24, 2015
University of Michigan | Ann Arbor, Michigan | USA

AUVSI 201

N 0 2 9 E

MOBILITY TRANSFORMATION CENTER

HOME

www.automatedvehiclessymposium.org

## SAVE THE DATE



The Automated Vehicles Symposium 2015 will be a multidisciplinary forum designed to advance the deployment of automated vehicles. Each day will kick off with high-level presentations by some of the brightest minds in the field. Network over lunch, and then in the afternoon, choose from interactive breakout sessions where you can go in-depth with your colleagues, share perspectives and have an open dialogue on the industry's most pressing issues.









#### **New Business**

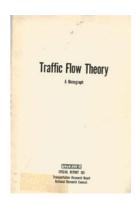


- TSSM Task Force
- 2016 Annual Meeting Call for Papers
- Classic Papers Retreat Idea
- Joint Subcommittee on Road Vehicle Automation
- Future Products and Activities



### **Closing Thoughts**













D.L. Gerlough D. Cleveland 1963

1964-1967

H. Michael 1963-1964

J. Oppenlander 1964-1968

D. Capelle 1968-1974

K. Crowley 1974-1980







Carroll Messer 1986-1992



Hani Mahmassani 1992-2000



Nathan Gartner 2000-2009



Robert Bertini 2009-2015



## Bertini's Closing Thoughts as Chair

- Congratulations to Sue Ahn!
- Appreciation to Alex Skabardonis, Nathan Gartner and Hani Mahmassani
- Thank you to all members and friends for innumerable volunteer hours
- 2009-2015 By the Numbers
  - Personal: 3 jobs, 5 residences
  - January: 6 committee meetings, 30 lectern sessions, 16 poster sessions, 1 birthday cake, x receptions
  - August: 965 papers, 4086 reviews
  - 189 TRR publications, 3 TR Circulars, 2 journal special issues, 6 summer meetings, 1 Blue Ribbon Award, 2 strategic plans, 2 member rotations
- Reflection on original goals:
  - Active subcommittees
  - Products and activities throughout the year
  - Wonderful mentoring of young members
  - Reflection and respect for our predecessors
- Special thanks to Rich Cunard!





## Please don't forget to sign in!