MINUTES OF COMMITTEE MEETING

AEP40: Transportation Network
Modeling Committee

Wednesday, January 13 8:00 AM –
12:00 PM ET

Yanfeng Ouyang, University of
Illinois, Urbana Champaign, presiding

Marriott Marquis, Liberty Salon O
(M4)

Prepared by Yang Liu (NUS)

1. Attendance (attached in Appendix)

Members (Names and Affiliation)	Visitors (Names and Affiliation)

2.   Agenda (attached at the end of minutes)

3.   General Items for the Record

Significant Announcements - policy changes or information to be recorded or of interest to absent members

- <u>Welcome to New Officers</u> (Y. Ouyang)

> ✓ Ali Zockaie – New Section and Committee Communications Coordinator
> ✓ Yang Liu – New Committee Secretary

- <u>TRB Staff Report</u> (A. Jayasinghe)

> ✓ A. Jayasinghe provided an update on TRB's new Executive Director, Victoria Sheehan, and news from the Executive Office and Technical Activities Council.
> - o Please be reminded to update your trb profile periodically to ensure we have your most recent contact and job information. We aim to have a diverse and inclusive committee.
> - o TRB is looking to create more pathways to participation. We have done many activities besides the annual meetings, including webinars, mid-year meetings, conferences, etc.

- Report From Transportation Planning And Analysis Section (M. Palmer)

✓ Section chair, M. Palmer, addressed the Trienniel Strategic Plan (TSP) process and TRB's plan for subcommittees.
  o The TSP should specify what new topics and goals we aim to achieve, define committee scope, identify challenges and plan how to achieve goals and overcome challenges, and what resources are needed. Webinars could be considered to be able to involve more practitioners and researchers. We also need to think about how to bring in young members to TRB activities in a meaningful way. We can think of conferences in the following years.
  o The subcommittees should have focused on addressing emerging issues, such as the impact of the pandemic, that are different from the scope of the committee. When you submit the TSP, we need to justify the scope of subcommittees. It is important that each subcommittee have individual products.
✓ Committee chair and multiple members discussed with M. Palmer the importance and significant contributions of subcommittees, and the uniqueness of AEP40 committee, and expressed strong opinion on keeping the current subcommittee structures.

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4.   Committee Program
   (a)   Sessions and topics

Time/Date	Event Title	Session
Monday, January 09 8:00 AM-9:45 AM ET	Transportation Networks for Autonomous, Connected, and Electrified Vehicles (7 presentations)	Yang Liu, National University of Singapore, presiding
Tuesday, January 10 8:00 AM-9:45 AM ET	New Mobility Services: Strategy and Network Design (7 presentations)	Baloka Belezamo, Arizona Department of Transportation, presiding
Monday, January 09 1:30 AM-3:15 PM ET	Mega Poster Session on Transportation Network Modeling (45 presentations)	
Sunday, January 08 1:30 PM-4:30 PM ET	Open-Source Pathways to Active Travel Modeling: Walk, Bike, and Transit	Xuesong Zhou, Arizona State University, presiding Roger Chen, University of Hawai'i, Manoa, presiding

   (b)   Papers

- AEP40 Paper Review Report (Y. Ouyang)

✓ Thanks to Anusha, we were able to collect information on 20+ papers by

Aug 4, and retrieve all but two of the papers this year.
- ✓ For engaging young members, senior students and post-doctoral fellows were nominated by committee members and invited to review papers.
- ✓ 2023 paper submission and review details were introduced.
  - o 59 papers were accepted for presentation.
  - o 13 papers were forwarded to the editorial board for publication consideration.
  - o On average, 2.7 reviews were completed for each paper. TRB recommended 2 reviews per "presentation only" paper.
- ✓ We observed that the submissions for publication continued to decline, possibly due to the TRB initial allocation of papers and the new TRR editorial process.
- ✓ TRBAM overall trend was reviewed.

(c)   AEP40 Editorial Board for 2023 Reviews

- ・Xuegang (Jeff) Ban (University of Washington)
- ・Joseph Chow (New York University)
- ・Changhyun Kwon (University of South Florida)
- ・Xiaopeng Li (University of Wisconsin Madison)
- ・Marco Nie (Northwestern University)
- ・Avinash Unnikrishnan (Portland State University)
- ・Xuesong Zhou (Arizona State University)

5.   Committee Business
    (a)   Subcommittee reports

- ✓ AEP40(1): Transit, Freight, and Logistics Modeling (A. Unnikrishnan/ S. Boyles)
  - o The publication process of a TRR special issue on freight, and code sharing processes were discussed.
  - o Committee members proposed ways to encourage researchers to share and use shared code and datasets, including having awards and facilitating researchers to write reproducible code.

- ✓ AEP40(2): Network Equilibrium Modeling (J. Ban)
  - o Some interesting topics that have been worked on were discussed with a few highlighted.
  - o We thank Klaus Noekel, who announced upcoming retirement, for his contributions to the Subcommittee (and the Committee).
  - o We will invite presentations next year. If there is any topic you are interested in, please let us know.

- ✓ AEP30(2): Route Choice and Spatio-Temporal Behavior (J. Chow/R. Chen)
  - o Research trends were discussed, such as those on COVID impacts and agent-based models.
  - o Will set up webinar series based on curated topics and more

workshops with other subcommittees/committees.

- ✓ AEP40(3): Network Models in Practice (X. Zhou)
  - o Collaboration efforts with Zephyr Foundation were discussed for advancing travel analysis and improving society.
  - o Activities were presented, including ITAPC conference and TRB Sunday workshop.

- ✓ AEP40(4): Emerging Technologies in Network Modeling, L. Du
  - o Activities and initiatives, including membership, newsletters, social media, and workshops, were presented.
  - o The NSF-sponsored AI workshop (Phase I) was jointly organized with TRB AI committee in 2022. Phase II will focus on education and workforce development so academics may collaborate with industry to better understand and use AI technolgy.
  - o Other activities, such as INFORMS session and IEEE ITS workshops, were presented. Potential initiatives and activities in 2023 were discussed. Please you are interested in getting involved, please contact Lili.

- ✓ ACP80(1): Traffic Simulation Models Joint Subcommittee, C. Melson
  - o The structure and goals of the subcommittee were introduced.
  - o Focus of 2023 was presented, such as developing SimSub webpage and building connections with agencies.
  - o The summarized results of the survey we conducted to better understand the uses of traffic simulation and difficulties encountered in model development are attached in Appendix.
  - o We would encourage users of traffic simulation to also fill out the CURRENT survey (we will be conducting the same survey each year). The survey link is here.
  - o We have also developed a temporary repository of SimSub materials (until we have an established webpage on the ACP80 website). This includes all SimSub meeting slides, notes, and Task Group products. The repository is located here.

  (b)   Activities or accomplishments since last meeting

- ✓ Education Initiatives (S. Boyles)
  - o The teaching approaches, as well as open-source code/data and modules, were discussed. We could engage the industry to outreach education and get practical examples for our education.

- ✓ Research Initiatives (T. Waller)
  - o The research need statement was discussed to identify research gaps and products. Collaboration with other committees and industry were also discussed.

- ✓ Communication Initiatives (A. Zockaie)

- ✓ Doctoral Workshop Presentation Award (R. Moeckel/P. Mokhtarian)
  - o Coordinated with multiple committees and 15 presented. 4 Thematic sessions were organized. Three presenters were awarded.

- ✓ AEP40 Paper Award (M. Hickman)
  - o 4 papers were submitted for award consideration in 2023.
  - o 2 Papers selected for Honorable Mention.
  - o There are opportunities to create other committee awards. Discussion and comments can be directed to the AEP40 committee chair, committee members, or Mark Hickman.

- ✓ AEP40 Impact Factor (F. Fakhrmoosavi /A. Zockaie)
  - o The number of papers and the number of citations were analyzed.
  - o Impact Factor for TRR papers handled by or related to the Transportation Network Modeling Committee (AEP40) is 2.64 in 2022.

- ✓ Sunday Workshop (X. Zhou/R. Chen)
  - o 5 presentations and moderated panel were organized
  - o Interactive audience feedback for the topics in the next workshop was also collected

- ✓ TRIS (B. McLeod)
  - o TRID is an integrated database, free on TRB's web site: trid.trb.org
  - o It is world's largest transportation research database with 1.4 million records.
  - o New and enhanced fields have been introduced in the system. Tutorial videos are available for using it.
  - o All videos, webinars, and fact sheets for TRID and RIP are available at: https://www.trb.org/InformationServices/ResourcesfortheTRISDatabases.aspx with a few featured on the home page: https://trid.trb.org.
  - o Additional Search Help can be found at: https://trid.trb.org/Help. This is the same information one finds when clicking the question mark button [?] in the Keyword box.
  - o Snap searches: https://www.trb.org/InformationServices/Snap.aspx
  - o If there is any other information that you may need, please contact Anusha Jayasinghe ajayasinghe@nas.edu.

(c)   Future plans and assignments

- AEP40 2024 Paper Review (Y. Ouyang)

- ✓ We aim to retrieve papers submitted to AEP40 even earlier next year (Aug

2nd)!
- ✓ We also use a committee-wide CFP.
- ✓ A list of refined keywords for AEP40 could be identified to facilitate the paper allocation process.
- ✓ To improve the submission quality, we can consider having additional awards, such as the best student paper award. Also, we can consider inviting some presentation papers for the trr publication.

- AEP40 2024 Program (Y. Ouyang)

- ✓ Y. Ouyang and committee members discussed having more sessions next year, so each talk can have a longer time.
- ✓ A. Jayasinghe mentioned that poster session papers may be presented in workshops.

- AEP40 2023-24 Workshop, Webinar and Call for Papers (K. Zhang) (slides are attached in Appendix)

- ✓ Call for Workshop Proposals for TRB 2024
    - o Deadline to submit to the AEP00 section – June 15, 2023
        - ▪ Highly competitive – only two workshops for the AEP00 section
    - o Deadline to submit to the AEP40 committee – May 15, 2023
        - ▪ Only two proposals from each committee
        - ▪ AEP 40 Committee Chair (Yanfeng Ouyang) will submit them to the AEP00 Section
    - o Please contact me at klzhang@mtu.edu
- ✓ Call for TRB Webinar Proposals for 2023-2024
    - o Website - https://webinar.mytrb.org/
    - o Webinar online submission: https://form.asana.com/?k=GcP3x4sfs_C8VlRMUFLvcg&d=1110664822989826
    - o Please contact Andie Pitchford at APitchford@nas.edu with any questions regarding TRB's webinar submission process.
- ✓ AEP40 Committee plans to issue a general call for papers (CFPs) for the committee
    - o Provide an option for authors to identify AEP40 for their submissions.
    - o Help TRB staff to assign those papers to AEP40.
    - o We seek a volunteer to help on the CFP!

- TRIENNIAL STRATEGIC PLAN (TSP) (J. Chow)

- ✓ TSP will be due in April 2023.
- ✓ TSP used to identify the focus/contribution/organization of our committee
- ✓ A draft, initially prepared by Joe Chow, Xuesong Zhou, and Ali Hajbabaie, is floating around with some members for feedback.

> ✓ Committee meeting discussed TSP and collected feedback
> - o Potential committee name was proposed, such as Transportation Network Modeling and Analysis.
> - o It was suggested to bring more state dot representatives to our committee, who will help define the research statement and product.
> - o It was important that our committee could maintain our strength/value and keep scientific rigor.
> - o Collaboration with other committees such as the traffic flow committee was also discussed.

6. Other Business

   (a) Recommendations, motions, requests for Executive Board or Staff action

   (b) Conferences, workshops, other activities of interest to members

   (attached in Appendix)

   - *ITAP Conference (X. Zhou)*
   - *SMART Mobility Consortium Webinar (O. Verbas)*
   - *DTA 2023 (Y. Nie)*
   - *INSTR2023 (W.Y. Szeto)*

Distribution of Minutes

   (a) Committee Chair
   (b) Committee Members
   (b) Section Chair (if applicable)
   (c) Group Chair
   (d) TRB Staff Representative

AGENDA

1. Welcome and Introductions

2. TRB Staff Report   *A. Jayasinghe*

3. Report from AEP00 Travel Analysis Methods Section Chairs   *M. Palmer*
   - Section announcements and discussion

4. 2023 AEP40 Paper Submissions, Review Details, and Sessions

5. Subcommittee/Coordinator Presentations and Reports
   - Education/Research/Communication Coordinator   *S. Boyles/T. Waller/A. Zockaie*
   - *Steven: open-source code, data, modules. Think of way to think the teaching way. Education workshop: I have some fragmentation concern for different communities. Ouyang: we also try to collect information from other communities and industry to outreach education. Jing: Is it possible to reach out industry to get practical examples such as routing network and rail network?*
   -
   - AEP40(1): Transit, Freight, and Logistics Modeling   *A. Unnikrishnan*
   - AEP40(2): Network Equilibrium Modeling   *J. Ban*
   - AEP30(2): Route Choice and Spatio-Temporal Behavior   *J. Chow*
   - AEP40(3): Network Models in Practice   *X. Zhou*
   - AEP40(4): Emerging Technologies in Network Modeling   *L. Du*
   - ACP80(1): Traffic Simulation Models Joint Subcommittee   *C. Melson*

6. Past and Future Activities
   - TRIS   *B. McLeod*
   - Doctoral Workshop Presentation Award   *R. Moeckel*
   - AEP40 Paper Award   *M. Hickman*
   - AEP40 Impact Factor   *F. Fakhrmoosavi /A. Zockaie*
   - Workshops, Webinar, and CFP   *K. Zhang*
   - Sunday Workshop   *X. Zhou/R. Chen*
   - Triennial Strategic Plan   *J. Chow/X. Zhou*

7. Open Discussion
   - Triennial Strategic Plan

8. Announcements on Conferences, Books/Publications, Special Issues, Other News
   - ITAP Conference   *X. Zhou*
   - SMART Mobility Consortium Webinar   *O. Verbas*
   - DTA 2023   *Y. Nie*

Adjourn

Name	Affiliation	Email	Are you a member of this committee?
Sean He	RPI	hex6@rpi.edu	Yes
Michael Levin	University of Minnesota	mlevin@umn.edu	Yes
Stephanie Kong	California Air Resources Board	Stephanie.Kong@arb.ca.gov	No
Sisi Jian	The Hong Kong University of Science and Technology	cesjian@ust.hk	No
Joseph Chow	NYU	joseph.chow@nyu.edu	Yes
xuesong zhou	Asu	xzhou74@asu.edu	Yes
Hai Yang	New York University	hy1236@nyu.edu	No
Ben Stabler	PTV	ben.stabler@ptvgroup.com	Yes
Qi Luo	Clemson University	qluo2@clemson.edu	No
S Travis Waller	TU Dresden and ANU	s.waller@unsw.edu.au	Yes
Bingqing Liu	NYU	bingqing.liu@nyu.edu	No
Megh Bahadur KC	Utah State University	megh.b.kc@usu.edu	No
Mehrnaz Ghamami	Michigan State University	ghamamim@msu.edu	No
Kuilin Zhang	Michigan Tech	klzhang@mtu.edu	No
Ziqi Song	Utah State University	ziqi.song@usu.edu	No
Ramachandran Balakrishna	Caliper Corporation	rama@caliper.com	No
Kevin Freymiller	CMU	kfreymil@andrew.cmu.edu	No
Yiming Zhang	USU	yiming.zhang@usu.edu	No
Yang liu	National University Singapore	iseliuy@nus.edu.sg	Yes
Monika Filipovska	University of Connecticut	monika.filipovska@uconn.edu	No
Farnoosh Namdarpour	New York University	fn2076@nyu.edu	No
Roger Chen	University of Hawaii	rbchen@hawaii.edu	No
Lili Du	University of Florida	lilidu@ufl.edu	No
Mark Hickman	The University of Queensland	m.hickman1@uq.edu.au	No
Kenan Zhang	ETH (EPFL)	kenzhang@ethz.ch	No
Xiaopeng	Li	xiaopeng.li@wisc.edu	Yes
Jing Dong-OBrien	Iowa State University	jingdong@iastate.edu	Yes
Qiling Zou	Carnegie Mellon University	qzou@andrew.cmu.edu	No
Fatemeh Fakhrmoosavi	Assistant Professor	moosavi@uconn.edu	No
Hongyu Zheng	Northwestern university	hongyuzheng2024@u.northwestern.edu	No
Takuma Matsubayashi	Central Japan Railway Company	t.matsubayashi@jr-central-usa.com	No
Ã–mer Verbas	Argonne National Laboratory	omer@anl.gov	No
Junyi Ji	Vanderbilt	junyi.ji@vanderbilt.edu	No
Lu Xu	UT Austin	lux15@uci.edu	No
Siwei Hu	University of California, Irvine	siweih3@uci.edu	No
Christopher Day	Wasatch Front Regional Council	cday@wfrc.org	No
Yu (Marco) Nie	Northwestern University	y-nie@northwestern.com	No
Haocheng Duan	Carnegie Mellon University	haocheng@andrew.cmu.edu	No
Ashish Bhaskar	Queensland University of Technology	Ashish.bhaskar@qut.edu.au	No
Elise Miller-Hooks	George Mason University	miller@gmu.edu	No
Alexander Paz	Queensland University of Technology	alexander.paz@qut.edu.au	No
Arturo Ramirez	University of Maryland	artramir@umd.edu	No
Mohamadhossein Noruzoliaee	Assistant Professor, University of Texas Rio Grande Valley	h.noruzoliaee@utrgv.edu	No
Yueyue Fan	UC Davis	yyfan@ucdavis.edu	Yes
AllantÃ© Whitmore	SAFE	awhitmore@secureenergy.org	No
Yanlin Zhang	University of Illinois at Urbana-Champaign	yanlinz4@illinois.edu	No
Tom Shi	University of Michigan	tomcee@umich.edu	No
Yang Li	USF	ly1@usf.edu	No
Xiaoyu Ma	Rensselaer Polytechnic Institute	max8@rpi.edu	No

Role:
☐Chair; ☐Co-Chair; ☐Secretary
☐Member; ☐CRC;☐CCC
☒Friend;☐Other: _____

Young Professional (35 or younger)
☐Yes
☐No

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		Role:
e	Kaan Ozbay	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____
nization	New York University	**Young Professional (35 or younger)** ☐Yes ☐No
l optional	kaan.ozbay@nyu.edu	
e	Sevgi Erdogan	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☒Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
anization	Syracuse University	**Young Professional (35 or younger)** ☐Yes ☒No
ail optional	serdogan@syr.edu	
ne	R.Jayakrishnan	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____
anization	Univ. of California, Irvine	**Young Professional (35 or younger)** ☐Yes ☐No
ail optional	rjayakri@uci.edu	
me		**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
ganization		**Young Professional (35 or younger)** ☐Yes ☐No
ail optional		
me		**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
anization		**Young Professional (35 or younger)** ☐Yes ☐No
ail optional		
ne		**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
nization		**Young Professional (35 or younger)** ☐Yes ☐No
optional		

me a Friend of the Committee

N ME

4

2022

Young Professional *(35 or younger)*
☐Yes
☐No

Role:
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☐Member; ☐CRC;☐CCC
☒Friend;☐Oth──

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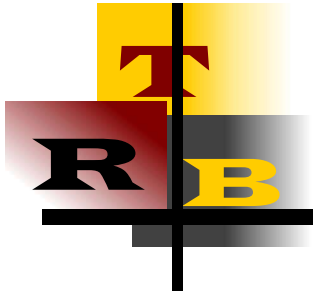| Name / Affiliation / Email	Role
Elise Miller-Hooks George Mason University	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☐Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☐Yes ☐No
Roger Chen UH – Manoa rbchen@hawaii.edu	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☐Yes ☐No
Paul Ha Purdue University ha55@purdue.edu	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☒Yes ☐No
Zhichen Liu University of Michigan zhichliu@umich.edu	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☒Yes ☐No
Xiaoyu Ma Rensselaer Polytechnic Institute (RPI) max8@rpi.edu	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☒Yes ☐No
Bingqing Liu NYU bingqing.liu@nyu.edu	**Role:** ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____ **Young Professional** *(35 or younger)* ☒Yes ☐No

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2022

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	Role:
Alireza Khani	☐Chair; ☐Co-Chair; ☐Secretary ☒Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
UMN	**Young Professional** *(35 or younger)* ☐Yes ☐No
akhani@umn.edu	
Zhaomiao (Walter) Guo	Role: ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
University of Central Florida	**Young Professional** *(35 or younger)* ☐Yes ☐No
guo@ucf.edu	
YANSHUO SUN	Role: ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☐CRC;☐CCC ☒Friend;☐Other: _____
Florida State University	**Young Professional** *(35 or younger)* ☒Yes ☐No
y.sun@fsu.edu	
Vadim Sokolov	Role: ☐Chair; ☐Co-Chair; ☐Secretary ☒Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
George Mason U	**Young Professional** *(35 or younger)* ☐Yes ☒No
vsokolov@gmu.edu	
Yueyue Fan	Role: ☐Chair; ☐Co-Chair; ☐Secretary ☒Member; ☐CRC;☐CCC ☐Friend;☐Other: _____
UC Davis	**Young Professional** *(35 or younger)* ☐Yes ☐No
yyfan@ucdavis.edu	
S. Travis Waller	Role: ☐Chair; ☐Co-Chair; ☐Secretary ☐Member; ☒CRC;☐CCC ☐Friend;☐Other: _____
Tu Dresden + ANU	**Young Professional** *(35 or younger)* ☐Yes ☐No

...end of the Committee

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2022

- Doctoral Workshop Presentation Award
- AEP40 Paper Award
- AEP40 Impact Factor
- Workshops, Webinar, and CFP
- Sunday Workshop
- Triennial Strategic Plan

B. McLeod
R. Moeckel
M. Hickman
F. Fakhrmoosavi /A. Zockaie
K. Zhan

102nd Annual Meeting of the Transportation Research Board
AEP40: Transportation Network Modeling Committee
Wednesday, January 11, 2023, 8:00 AM – 12:00 PM
Marriott Marquis, Liberty Salon O (M4)

Name	Affiliation	Email	Member? (Y/N)
Steve Boyles	UT Austin	sboyles@austin.utexas.edu	Y
Alex Paz	QUT	alexander.paz@qut.edu.au	N
Sevgi Erdogan	Syracuse Univ	serdogan@syr.edu	Y
Zhengtian Xu	George Washington University	zhengtian@gwu.edu	N
Daniel Vignon	New York University	daniel.vignon@nyu.edu	N
Mohammad Abbasi	Arizona State university	mabbas10@asu.edu	N

COMMITTEE ACTIVITIES REPORT

2023-24 Workshops, Webinars, and Call for papers

- Workshops, webinars, and call for papers

Kuilin Zhang, klzhang@mtu.edu

Transportation Network Modeling
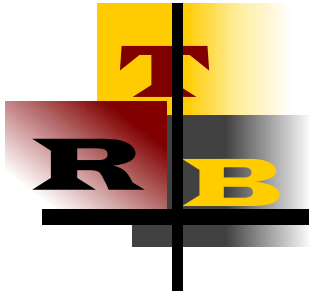
Sponsored/Co-Sponsored Workshops in 2023

- Workshop 1012 – Research Needs in Travel Demand Forecasting
  - Sunday, January 8 9:00 AM – 12:00 PM
  - Co-Sponsored with AEP50, AEP30, AEP35, **AEP40**, and AEP15
- Workshop 1046 - Open-Source Pathways to Active Travel Modeling: Walk, Bike, and Transit
  - Sunday, January 8 1:30 PM – 4:30 PM
  - Sponsored by **AEP40**
  - Xuesong Zhou (ASU) and Roger Chen (UH-Manoa)

Call for Workshop Proposals for TRB 2024

- Deadline to submit to the AEP00 section – **June 15, 2023**
  - Highly competitive – only two workshops for the AEP00 section

- Deadline to submit to the AEP40 committee – **May 15, 2023**
  - Only two proposals from each committee
  - AEP 40 Committee Chair (Yanfeng Ouyang) will submit them to the AEP00 Section

- Please contact me at klzhang@mtu.edu

Transportation Network Modeling

Call for TRB Webinar Proposals for 2023-2024

- Website - https://webinar.mytrb.org/
- Webinar online submission: https://form.asana.com/?k=GcP3x4sfs_C8VlRMUFLvcg&d=1110664822989826
- Webinars provide an opportunity to share and discuss ongoing work associated with TRB Standing Committees and their respective topic areas, as well as research from TRB's Cooperative Research Programs. Prior to submission, proposed webinars should reflect the scope of the sponsoring Committee(s) and **must be reviewed and approved by the Chair of at least one current Standing Committee**.
- TRB accepts webinar suggestion forms on **a year round basis**:
  - Forms submitted from March 2 to July 1 are processed and webinars are scheduled from September 1 to December 31;
  - Forms submitted from July 2 to November 1 are processed and webinars are scheduled from January 1 to April 30; and
  - Forms submitted from November 2 to **March 1** are processed and webinars are scheduled from May 1 to August 30.
- Policies for Webinar Submissions
  - Webinars must be sponsored by a TRB Standing Committee or feature a TRB report.
  - Webinars will be chosen based on their relevancy to current TRB research priorities.
  - Once a webinar is selected, minor changes can be made.
  - A webinar will not be cancelled once it appears on the TRB website
- TRB Contact
  - Please do not hesitate to contact **Andie Pitchford** at APitchford@nas.edu with any questions regarding TRB's webinar submission process.

Transportation Network Modeling
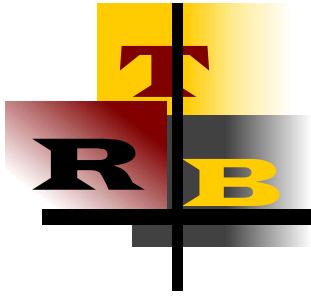
1.5 Hour Webinar Format

- You should develop your webinar to fit the following standard format:
    - 1. Software/Introduction (2 minutes): TRB staff
    - 2. Moderator introduction of topic and panel members (3 minutes)
    - 3. Presentations (55 minutes/~18 minutes per for 3 presenters or ~27 minutes per for 2 presenters)
    - 4. Moderated Q&A (30 minutes – this time may not be reduced to increase presentation time)

AEP40 Committee Call for Papers (CFP) for TRB 2024

- As discussed in a virtual meeting in Spring 2021, the AEP40 Committee plans to issue a general call for papers (CFPs) for the committee
  - Provide an option for authors to identify AEP40 for their submissions.
  - Help TRB staff to assign those papers to AEP40.

We seek a volunteer to help on the CFP!

Transportation Network Modeling
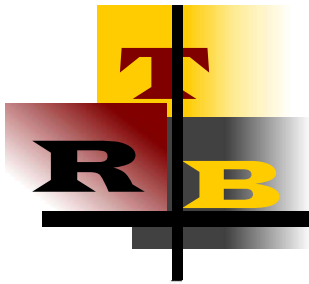
Save The Date!

June 4–6, 2023 • Indianapolis, IN

Conference on

TRB

Innovations in Travel Analysis and Planning

Join us June 4-6 in Indianapolis, IN for the Conference on Innovations in Travel Analysis and Planning!

The TRB Innovations in Travel Analysis and Planning Conference will holistically address travel modeling, forecasting, and analysis in the transportation community. Through interactive workshops, sessions, and networking opportunities, the conference will place an emphasis on connecting researchers with practitioners, and on the application of innovative analysis techniques. The conference will be held on June 4-6, 2023 in Indianapolis, Indiana. All practitioners, researchers, academics, students, and others involved in transportation planning and travel modeling are encouraged to attend this intellectually vibrant event.

The conference will include tracks in four focus areas:

- Equity and accessibility, in particular reconnecting underserved communities

- Planning/forecasting in an era of rapid change and uncertainty

- Innovative travel data collection and analysis methods

- Sustainable, resilient, and integrated multi-modal transportation

Seattle 3,014 km

Chicago 266 km

New York 1,038 km

San Francisco 3,139 km

Denver 1,611 km

St. Louis 374 km

Indianapolis

Washington, D.C. 792 k

Los Angeles 2,913 km

Atlanta 685 km

Miami 1,647 km

TRB Innovations in Travel Analysis and Planning Conference, 2023

Conference Sponsoring Committees

AEP15: Standing Committee on Transportation Planning Analysis & Application | Hannah Twaddell, Chair

AEP30: Standing Committee on Travel Behavior & Values | Khandker Nurul Habib, Chair

AEP40: Standing Committee on Transportation Network Modeling | Yanfeng Ouyang, Chair

AEP50: Standing Committee on Transportation Demand Forecasting | Elizabeth Sall, Chair

<p style="text-align:center">**First Announcement & Call for Papers**</p>

<p style="text-align:center">**INSTR2023:**</p>

<p style="text-align:center">**The 9th International Symposium on Transport Network Resilience**</p>

<p style="text-align:center">Hong Kong
Dec 13-14, 2023
Jointly organized by
The Institute of Transport Studies
and
The Department of Civil Engineering
at the University of Hong Kong</p>

THE SYMPOSIUM

The 9th International Symposium on Transportation Network Resilience (INSTR) will be held at *InterContinental Grand Stanford Hong Kong* from Dec 13-14, 2023. The symposium will be jointly organized by the Institute of Transport Studies and the Department of Civil Engineering at the University of Hong Kong. The INSTR series is the premier gathering for the world's leading researchers and professionals interested in transport network resilience and reliability, to discuss both recent research and future directions in this increasingly important field of research. Please visit the conference website at: https://www.institute-of-transport-studies.hku.hk/instr2023 for details.

TOPICS

The scope of the symposium includes all aspects of analysis, planning, design, control, and management to improve the network resilience and reliability of all modes of transport, including:

- User perception of unreliability and vulnerability
- Public policy and reliability of travel times
- The valuation and economics of reliability
- Network reliability modeling and estimation
- Transport network robustness and resilience
- Transport network risk evaluation and management
- Evacuation and disaster relief distribution
- Network interdependencies and cyber security
- Reliability of public transport and supply chains
- Travel behavior under uncertainty
- Vehicle routing and scheduling under uncertainty
- Traffic management (including ITS) to improve network reliability
- Reliability of connected and automated vehicles
- Reliability and resilience of emerging mobility systems
- COVID-19 and epidemics: transport network impacts, modelling and mitigation
- Resilience in logistics and supply chains

EXTENDED ABSTRACT SUBMISSION

To present a paper at this event online or offline, an extended abstract (2500 words) should be submitted electronically (Word or PDF format) to the organizers at https://easychair.org/conferences/?conf=instr2023 by 30 April 2023. The abstract will be evaluated by referees drawn from the members of Local Organizing Committee and International Scientific Committee of the INSTR and other prominent researchers from around the world. The templates can be downloaded at
https://d4fb325e-ad4e-4651-9ee5-1e3a974a2ea9.filesusr.com/ugd/25f7bc_49963b3deeeb451ba1cd69176a3fe377.docx?dn=INSTR%202023%20template%209%20JAN%202023.docx (Word) or
https://d4fb325e-ad4e-4651-9ee5-1e3a974a2ea9.filesusr.com/archives/25f7bc_308b6c26ea244424a3b4bc4c92c74414.zip?dn=Manuscript%20Template%20for%20INSTR2023.zip (LaTeX).

TIME-TABLE OF EVENTS

April 30, 2023: Submission of extended abstracts (2500 words)
July 31, 2023: Notification of acceptance or rejection of extended abstracts
August 31, 2023: Submission of final or revised extended abstracts
September 30, 2023: Deadline of registration for presentation
December 13-14, 2023: INSTR2023

LANGUAGE

All presentations and printed materials shall be in English.

LOCAL ORGANIZING COMMITTEE

Co-chair : Professor Wai Yuen Szeto   *The University of Hong Kong*
Co-chair : Dr. Jintao Ke   *The University of Hong Kong*
Co-chair : Dr. Ryan C.P. Wong   *The University of Hong Kong*

Members :
    Dr. Y.H. Kuo   *The University of Hong Kong*
    Professor Becky P.Y. Loo   *The University of Hong Kong*
    Professor S.C. Wong   *The University of Hong Kong*
    Dr. Fangni Zhang   *The University of Hong Kong*
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Stefanie Peer, WU Vienna University of Economics, Austria
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Maaike Snelder, Delft University of Technology, The Netherlands
Wai Yuen Szeto, The University of Hong Kong, Hong Kong SAR
Francesco Viti, University of Luxembourg, Luxembourg
David Watling, University of Leeds, U.K.
Xiangdong Xu, Tongji University, China
Hai Yang, The Hong Kong University of Science & Technology, Hong Kong SAR

Honorary Members:
Pasquale Colonna, Polytechnic University of Bari, Italy
Yasunori Iida, Kyoto University, Japan
Alan Nicholson, University of Canterbury, New Zealand
Eiichi Taniguchi, Kyoto University, Japan
Michael A. P. Taylor, University of South Australia, Australia
Henk J. van Zuylen†, Delft University of Technology, The Netherlands

ENQUIRIES

For more information, contact:

INSTR2023 Secretary
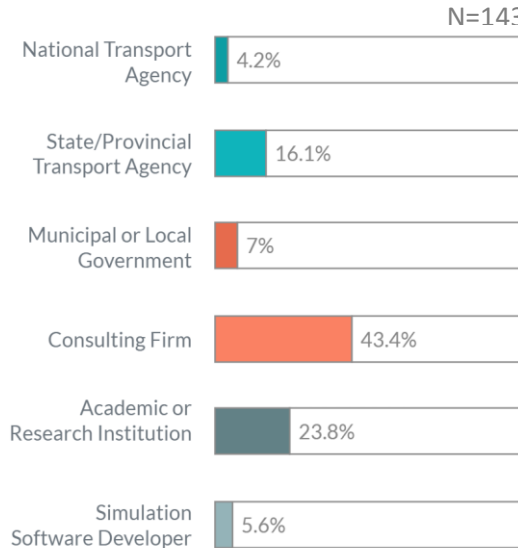c/o Ms. Ruby Kwok
E-mail: INSTR2023@gmail.com

Overview of Survey: The TRB Standing Committee on Traffic Simulation (ACP80) conducted a survey to better understand the current uses and common challenges of traffic simulation. The specific intent of the survey is to identify: (1) the primary uses of traffic simulation, (2) analyzed applications, and (3) corresponding user needs. The survey is anticipated to be conducted annually, such that (1), (2), and (3) can be tracked overtime and to identify recurring user needs.

The survey was developed by SimSub's User Needs Task Group in January 2022. It was widely disseminated February thru May 2022 via the SimSub e-mail listserv, SimSub's TRB liaison committees, the ITE SimCap Committee, and the main traffic simulation vendors.

Purpose of Document: This document presents the main results of the survey.

Contact: If you have any questions or feedback RE the survey and summary document, please contact the Co-Chairs of SimSub: Chris Melson (cmelson1@lsu.edu) or John Shaw (jwshaw@iastate.edu).

Respondent Organizational Information

Organization Type

N=143

National Transport Agency	4.2%
State/Provincial Transport Agency	16.1%
Municipal or Local Government	7%
Consulting Firm	43.4%
Academic or Research Institution	23.8%
Simulation Software Developer	5.6%

Organization Size
(# of Employees)

N=143

- ■ <= 20 (9.93%)
- ■ 20 - 100 (10.64%)
- ■ 101 - 200 (1.42%)
- ■ 201 - 500 (9.22%)
- ■ > 500 (68.79%)

Location

N=143

📍	United States	**68.5%**
📍	Canada	**11.2%**
📍	Europe	**7.7%**
📍	Multinational	**6.3%**
📍	Asia	**2.8%**
📍	South America	**2.1%**
📍	Australia	**1.4%**
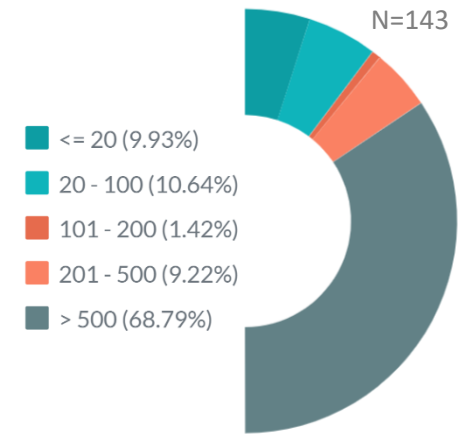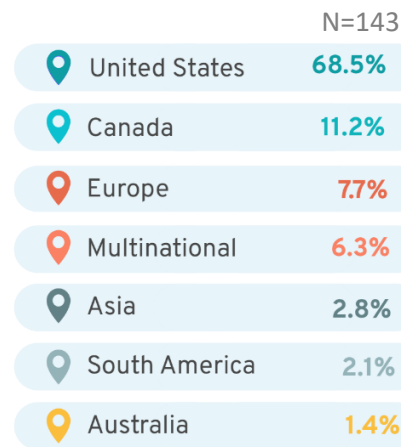
Location (w/in U.S.)
(by AASHTO Regions)

N=98

REGION 1 — 13.3%

REGION 2 — 24.5%

REGION 3 — 14.0%

REGION 4 — 16.8%
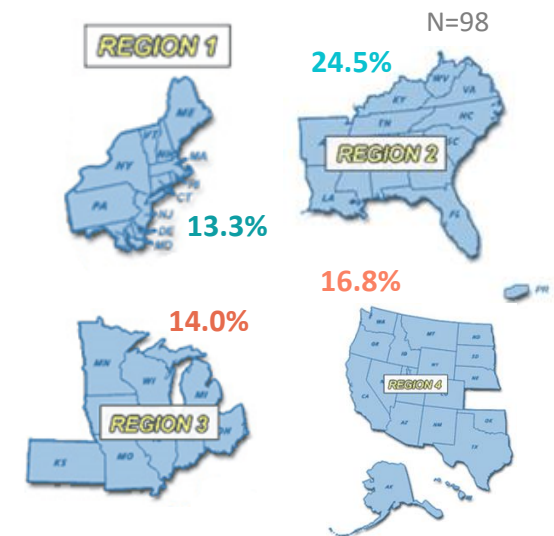
Respondent Individual Information

Organizational Role

N=315

- Senior Management: 7.3%
- Middle Management: 11.7%
- Other Staff: 61.6%
- Academic/Research: 15.9%
- Software Developer: 1.6%
- Sales: 1.9%

N=135

- Application (33.51%)
- Review (32.47%)
- Intepretation (34.02%)
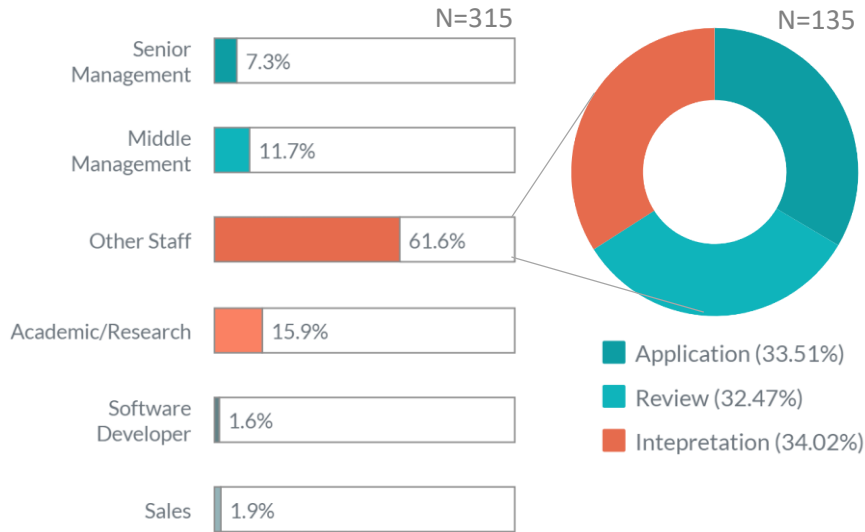
NOTE: Options not mutually exclusive.

NOTE: Reported Senior Management and Middle Management roles also included application, review, and interpretation of simulation models.

Years of Experience
(in simulation modeling)

N=143

% of Respondants

Years of Experience	%
< 1	5.6%
1 - 2	5.6%
3 - 5	17.5%
6 - 10	16.1%
11 - 15	22.4%
15 - 20	13.3%
>20	19.6%

Years of Experience

- Male (79%)
- Female (21%)
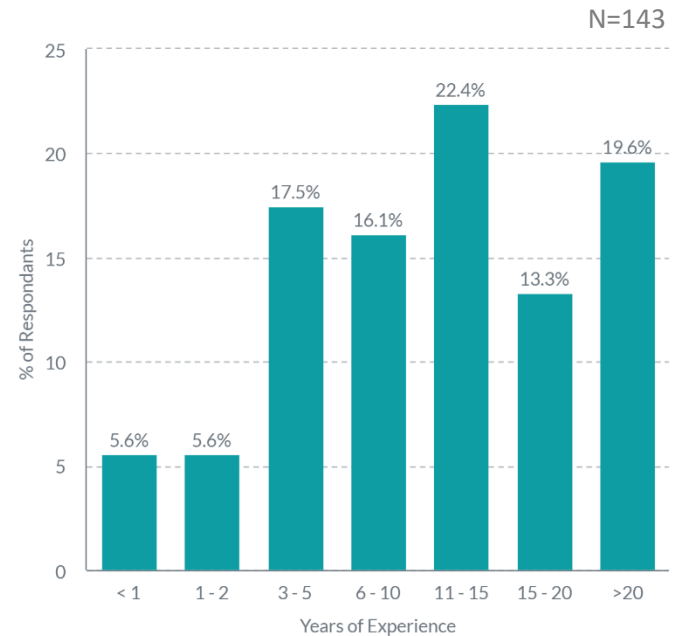
Gender

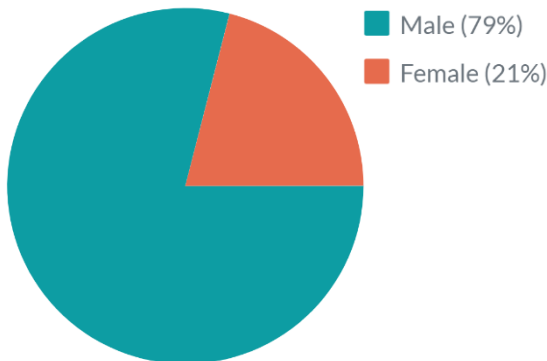NOTE: Generally, there is the same representation of males and females across organization type and organization roles.

NOTE: Biggest difference between males and females is in years of experience. 48.3% of females have <= 5 yrs of experience (compared to 18.8% of males). 62.1% of females have <= 10 yrs of experience (32.1% of males). 6.9% of females have >20 yrs of experience (17.5% of males).

Traffic Simulation Project Information

of Projects
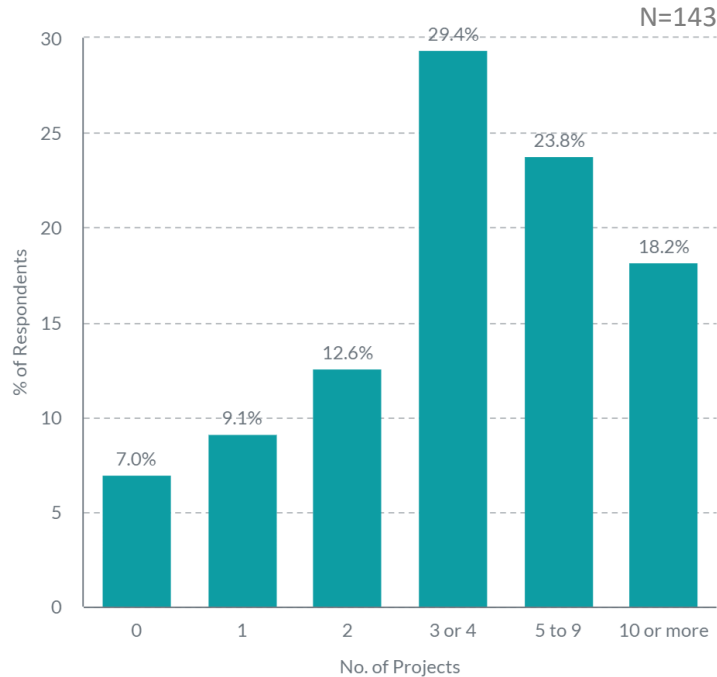### (respondent has worked in the past year)

Bar chart — % of Respondents vs No. of Projects:
- 0: 7.0%
- 1: 9.1%
- 2: 12.6%
- 3 or 4: 29.4%
- 5 to 9: 23.8%
- 10 or more: 18.2%

Avg. # of Projects
(by organization type)
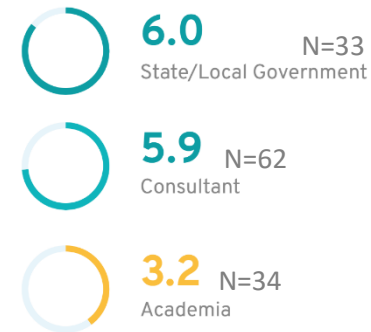
6.0 — N=33 — State/Local Government

5.9 — N=62 — Consultant

3.2 — N=34 — Academia

NOTE: To calculate an average, assumptions were made to convert collected data (ordinal bins) to cardinal data.

NOTE: There didn't appear to be a relationship between the size of the organization and number of projects.

NOTE: Of those that didn't work on any simulation projects, 30% reported that the lack of technical training was a factor. This group of respondents included federal government [1], state government [1], consultants [4], and academia [4].

Traffic Simulation Project Information

Type of Simulation Model
(RE the most challenging simulation project)

N=214

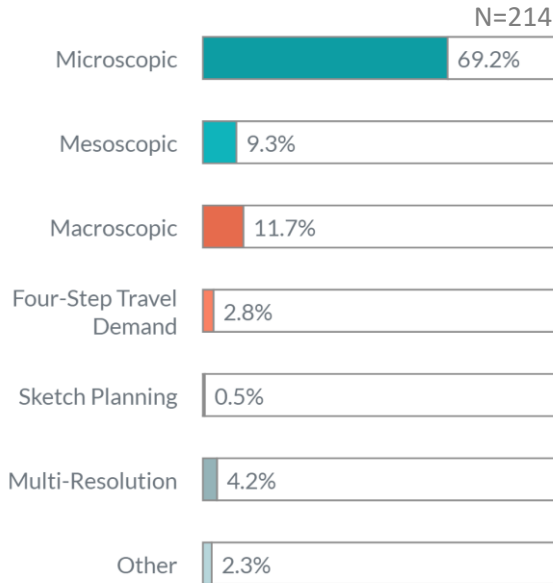| Type	%
Microscopic	69.2%
Mesoscopic	9.3%
Macroscopic	11.7%
Four-Step Travel Demand	2.8%
Sketch Planning	0.5%
Multi-Resolution	4.2%
Other	2.3%

NOTE: Responses in the "Other" category included: (a) combination of a four-step model and microsimulation, (b) all of the listed model types, (c) hybrid model that includes both mesoscopic and microscopic elements, and (d) a model that includes sketch planning, four-step, highway assignment, and microsimulation.

NOTE: To calculate an average, assumptions were made to convert collected data (ordinal bins) to cardinal data.

Size of Simulation Model
(RE the most challenging simulation project; CL miles)

N=214

Model Size (CL miles): <1, 1-5, 6-10, 11-20, 21-50, 51-100, 101-500, >500, Other
% of Respondents

Avg. Size of Simulation Model
(by model type; CL miles)

Microsimulation: 19 — N=148
Mesoscopic: 243 — N=20
Macroscopic: 107 — N=25
Four-Step: 265 — N=6
Multi-Resolution: 204 — N=9
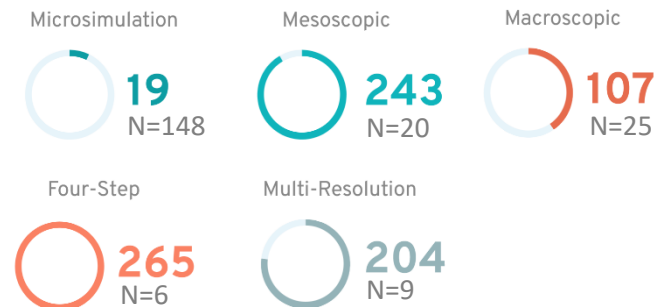
Main Objective of Simulation Model
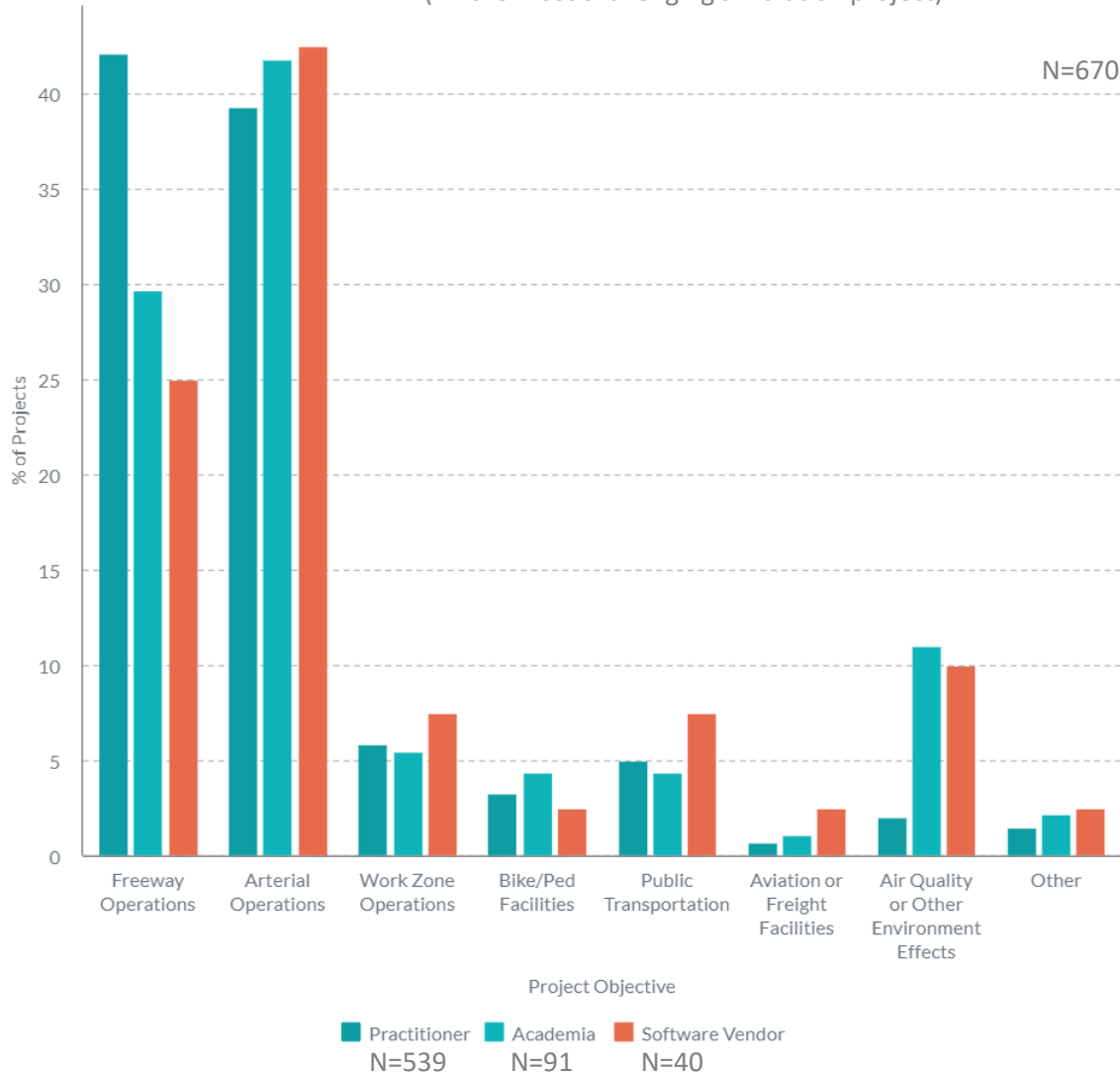
(RE the most challenging simulation project)

N=670

NOTE: Options not mutually exclusive.

NOTE: "Practitioner" category includes federal agencies, state agencies, local government, and consultants. These were combined due to their generally similar responses.

NOTE: There were some minor, but interesting differences between some responses (by organization type) within the "Practitioner" category. These include: (1) higher federal interest in freeway operations [53.8%], (2) higher local interest in bike/ped facilities [5.5%], (3) higher local interest in aviation/freight facilities [5.5%], and higher local interest in air quality/other environmental effects [5.5%].

NOTE: Responses in the "Other" category primarily comprised of toll and revenue forecasting, but also included: analyzing micro mobility models, real-time simulation, and research of calibration methodologies.

Traffic Simulation Project Information

N=1,003

Model Features

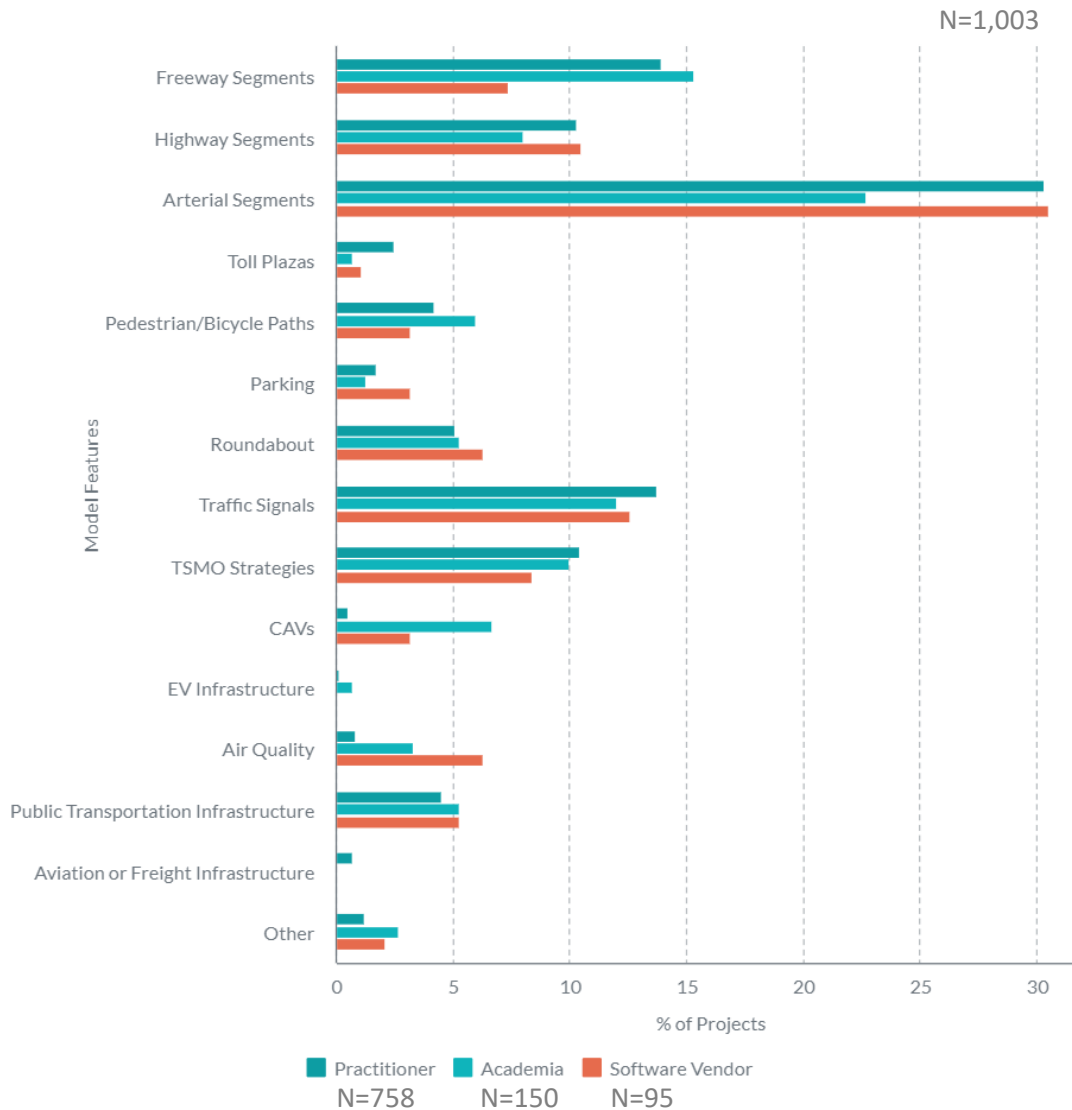(RE the most challenging simulation project)

NOTE: Options not mutually exclusive.

NOTE: "Practitioner" category includes federal agencies, state agencies, local government, and consultants. These were combined due to their generally similar responses.

NOTE: "TSMO Strategies" includes the following survey responses: ramp metering, transit signal priority, and ITS devices.

NOTE: Responses in the "Other" category primarily comprised of managed lanes (HOV/HOT/VSL/hard shoulder running).

Difficulties Encountered during Model Development

Category	Score
LOE Required to Replicate Existing Volumes/Speeds/Queues	2.65
Replicating Existing Queuing/Delay	2.56
Determining Existing Vehicular Volumes	2.51
Overall Quality Control for Model Development	2.48
LOE Required to Replicate Existing Traffic Patterns	2.47
Determining Existing Traffic Patterns	2.41
Reasonableness of Future Speeds/Delays (e.g., "lock up")	2.38
Unrealistic Stakeholder Expectations	2.34
Determining Existing Traffic Queue Length	2.32
LOE Required to Model Future Conditions	2.32
Reasonableness of Future Path/Route Choices	2.26
Replicating Existing Traffic Volumes	2.25
Reasonableness of Existing Path/Route Choices	2.25
Maintaining Consistency with Other Models/Forecasts	2.23
Determining Future Vehicular Volumes	2.23
Determining Existing Traffic Speed/Delay	2.13
Difficulty Interpreting Results	2.07
Lack of Conclusive Results	1.98
LOE Required to Replicate Facility Layout	1.97
Determining Future Traffic Signal Timings	1.95
Determining Expected Future Facility Layout	1.94
Defining Project Scope and Objectives	1.88
Stakeholder Distrust or Dissatisfaction	1.83
Determining Traffic Signal/Ramp Metering Timings	1.80

Scale:
- 0 — No problem
- 1 — Minor
- 2 — Moderate
- 3 — Serious
- 4 — Severe
- 5 — Extreme

N=214

Difficulties Encountered during Model Development

Top 5 Difficulties
(by organization type)

Public Agency
N=60

|		
1	Overall Quality Control for Model Development	2.75
2	Determining Existing Traffic Patterns	2.66
3	LOE Required to Replicate Existing Volumes/Speeds/Queues	2.64
4	LOE Required to Replicate Existing Traffic Patterns	2.61
5	Replicating Existing Queuing/Delay	2.57

Consultant
N=96

1	Unrealistic Stakeholder Expectations	2.70
2	LOE Required to Replicate Existing Volumes/Speeds/Queues	2.69
3	Replicating Existing Queuing/Delay	2.65
4	Reasonableness of Future Speeds/Delays (e.g., "lock up")	2.58
5	Determining Existing Vehicular Volumes	2.58

Academia
N=44

1	LOE Required to Replicate Existing Volumes/Speeds/Queues	2.49
2	Determining Existing Vehicular Volumes	2.39
3	Overall Quality Control for Model Development	2.37
4	Replicating Existing Queuing/Delay	2.24
5	LOE Required to Replicate Existing Traffic Patterns	2.24

Software Vendor
N=14

1	Overall Quality Control for Model Development	3.42
2	Determining Existing Traffic Patterns	3.42
3	Reasonableness of Existing Traffic Patterns	3.33
4	LOE Required to Replicate Existing Volumes/Speeds/Queues	3.17
5	Replicating Existing Queuing/Delay	3.08

Activities ACP80 should Pursue

N=325
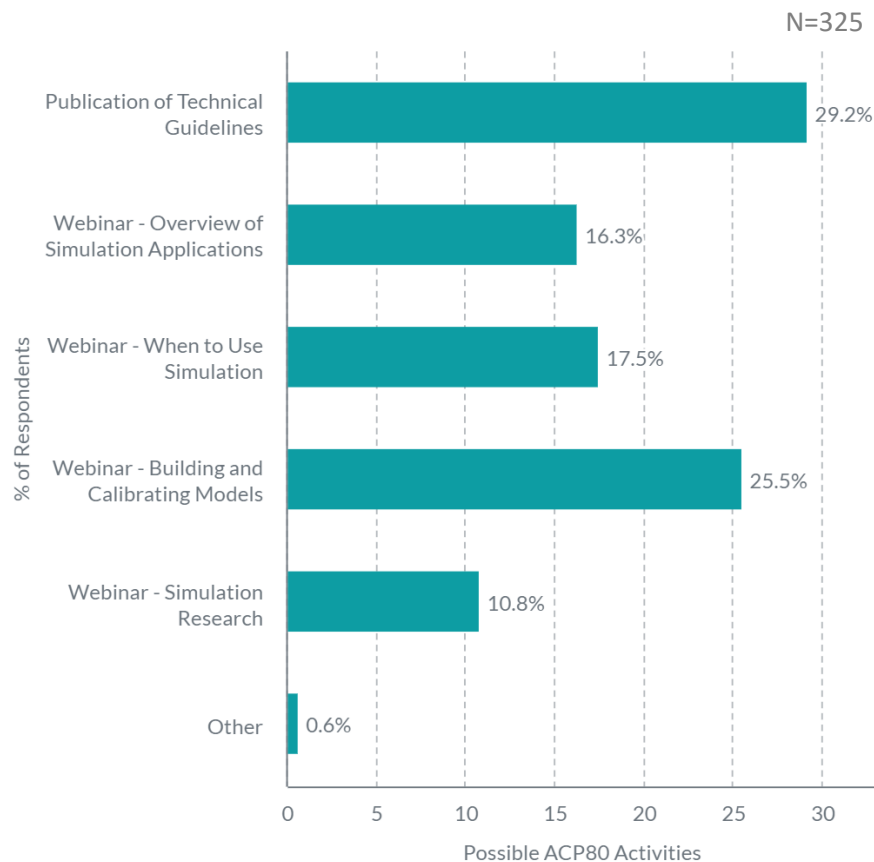
NOTE: Options not mutually exclusive.

NOTE: Responses in the "Other" category included: (a) webinar on large scale multi-modal simulation projects, and (b) documenting best practices in multi-resolution modeling.

More Information: If interested in more detailed results, please visit the website below [under the Task Groups/User Needs subsection]. It contains the survey document, results of each survey question, the survey data set, and the Excel spreadsheet used to conduct the analysis.

https://simcap.eng.lsu.edu/simsub/