

BO ZOU

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2073 Engineering Research Facility, Chicago, IL 60661, USA • 1-312-996-3404

WORK EXPERIENCE

University of Illinois at Chicago

Associate Professor, Civil and Materials Engineering Aug 2018-Present
Assistant Professor, Civil and Materials Engineering Aug 2012-Aug 2018

University of Illinois at Urbana-Champaign

Affiliated Faculty, Center of Excellence for Airport Technology Aug 2013-Present

University of California, Berkeley

Visiting Associate Professor, Civil and Environmental Engineering Jan 2019-Aug 2019

University of California, Berkeley

Research & Development Engineer June 2012-July 2012

Centre National de la Recherche Scientifique, France

Student Engineer April 2005-July 2005

EDUCATION

University of California, Berkeley

Doctor of Philosophy, Transportation Systems Engineering May 2012
Minors: Industrial Engineering & Operations Research; Economics

Sino-French Dual-degree Program (Part of *Top Industrial Managers for Europe* program)

Tsinghua University, China

Master of Science, Transportation Planning and Management July 2007

Ecole Centrale de Nantes, France

Diplôme d'Ingénieur, General Engineering July 2007

Tsinghua University, China

Bachelor of Engineering, Civil Engineering July 2005

RESEARCH HIGHLIGHTS

- Research area: **TRANSPORTATION & LOGISTICS** with particular interest in **AVIATION**
- **Interdisciplinary** nature integrating transportation systems engineering with Artificial Intelligence, operations research, industrial engineering, statistics, economics
- Publications mainly in **leading** transportation journals

WORKING PAPERS AND PUBLICATIONS

(*: corresponding author; #: students I advised in the paper)

Working Papers with Full Draft

1. Ahamed, T.[#], **Zou, B.**, Xie, C., Ni, A. Multi-tier adaptive memory programming and cluster- and job-based relocation for distributed on-demand crowdshipping. To be submitted to Transportation Research Part B: Methodological.
2. **Zou, B.**, Kafle, N.[#] Designing mechanisms for efficient crowdsourced urban parcel delivery. To be submitted to Transportation Research Part E: Logistics and Transportation Review.
3. **Zou, B.**, Choobchian, P.[#], Rozenberg, J. Cyber resilience of autonomous mobility systems: cyber-attacks, vulnerabilities, and resilience-enhancing strategies. To be submitted to Transport Reviews.

4. Liu, K.[#], Zheng, Z.[#], **Zou, B.**, Hansen, M. Determinants of flight airborne time: a comparative investigation of China and the U.S. To be submitted to Transportation Research Part E: Logistics and Transportation Review.
5. Fu, H., Xie, C., **Zou, B.**, Chen, P., Ni, A. Optimal vehicle relocation and operator assignment for one-way carsharing systems: model, algorithm, and numerical and computational evaluations. To be submitted to Transportation Research Part C: Emerging Technologies.
6. Barua, L.[#], **Zou, B.**, Zhou, Y. Predicting online shopping demand using gradient boosting machine. To be submitted to Transportation Research Part A: Policy and Practice.
7. Noruzoliaee, M.[#], **Zou, B.**, Du, L. Transportation network equilibrium for multimodal intercity travel: A new equilibrium problem with equilibrium constraints framework. To be submitted to Transportation Research Part D: Transport and Environment.

Working Papers with Partial Draft

8. Ahamed, T.[#], Farazi, N.[#], **Zou, B.**, Tulabandhula, T. Crowdsourced last-mile urban delivery: A deep reinforcement learning approach. Target Journal: Transportation Research Part C: Emerging Technologies.
9. Barua, L.[#], **Zou, B.** Developing a reinforcement learning-based modeling framework for airport pavement asset management. Target Journal: Transportation Research Record (this paper is the result of a Graduate Research Award on Public-Sector Aviation Issues, awarded by the Transportation Research Board Airport Cooperative Research Program).
10. Tereshchenko, I.[#], **Zou, B.**, Hansen, M. Macroscopic fundamental diagrams in air traffic flow management. Target Journal: Transportation Research Part B: Methodological.
11. Farazi, N.[#], Ahamed, T.[#], Barua, L.[#], **Zou, B.** Deep reinforcement learning and transportation research: A comprehensive review. Target journal: Transportation Research Part B: Methodological.
12. Wang, Y., **Zou, B.**, Hansen, M., Liu, K.[#]. Capacity allocation response to Boeing 737-Max grounding: An analysis of the US airline industry. Target journal: Transportation Research Part E: Logistics and Transportation Review.

Papers under Review

13. Noruzoliaee, M.[#], **Zou, B.**, Zhou, Y. Truck platooning in the U.S. national road network: A system-level modeling approach. Transportation Research Part E: Logistics and Transportation Review, under 1st-round review.
14. Guoye, C.[#], Hu, M., **Zou, B.**, Hansen, M. Short-term air traffic flow management integrating separation management and ground holding: an efficiency-equity bi-objective perspective. Transportation Research Part B: Methodological, under 1st-round review.
15. Stinson, M.^{**}, **Zou, B.**, Mohammadian, A., Briones, D.[#], Manjarrez, A.[#] Vehicle ownership models for a sharing economy with autonomous vehicle considerations. Transportation Research Part C: Emerging Technologies, under 2nd-round revision.
16. Noruzoliaee, M.[#], **Zou, B.*** One-to-many matching and section-based formulation of autonomous ridesharing equilibrium. Transportation Science, under 2nd-round revision.
17. Fazari, N.[#], **Zou, B.***, Sriraj, P.S. Do inland waterway freight transportation systems need a performance measurement and management system? A scan of state DOT practices in the US. Transportation Research Record, under 1st-round revision.
18. Zheng, Z.[#], Wei, W., Hu, M., **Zou, B.** Flight departure delay analysis in the Chinese air transport systems: A case study at Shanghai Pudong International Airport. Intelligent Transportation Systems, under 1st-round review.

Published Journal Articles

19. Barua, L.[#], **Zou, B.***, Zhou, Y., 2020. Machine learning for international freight transportation management: A comprehensive review. Research in Transportation Business & Management, in press.

20. Liu, Y.[#], **Zou, B.**, Ni, A.^{*}, Gao, L., Zhang, C., 2020. Calibrating microscopic traffic simulators using machine learning and particle swarm optimization. *Transportation Letters: The International Journal of Transportation Research*, in press.
21. Barua, L.[#], **Zou, B.**^{*}, Noruzoliaee, M.[#], Derrible, S., 2020. A gradient boosting approach to understanding airport runway and taxiway pavement deterioration. *International Journal of Pavement Engineering*, in press.
22. Shen, H.[#], **Zou, B.**^{*}, Lin, J., 2020. Modeling travel mode choice of young people with e-hailing ride service in Nanjing, China. *Transportation Research Part D: Transport and Environment*, in press.
23. Noruzoliaee, M.[#], **Zou, B.**^{*}, 2019. Airfield infrastructure management using network-level optimization and stochastic duration modeling. *Infrastructures* 4 (1), 1-20.
24. Talebian, A.[#], **Zou, B.**^{*}, Peivandi, A., 2018. Capacity allocation in vertically integrated rail systems: a bargaining approach. *Transportation Research Part B: Methodological* 107, 167-191.
25. **Zou, B.**^{*}, Rockne, K., Vitousek, S., Noruzoliaee, M.[#], 2018. Ecosystem and transportation infrastructure resilience to climate change in the Great Lakes. *Environment: Science and Policy for Sustainable Development* 60 (5), 18-31.
26. Noruzoliaee, M.[#], **Zou, B.**^{*}, Liu, Y., 2018. Roads in transition: integrated modeling of a manufacturer-traveler-road infrastructure system in a mixed autonomous/human driving environment. *Transportation Research Part C: Emerging Technologies* 90, 307-333.
27. Talebian, A.[#], **Zou, B.**^{*}, Hansen, M., 2018. Assessing the impacts of state-supported rail services on local population and employment: a California case study. *Transport Policy* 63, 108-121.
28. Park, K., Chang, Y.T.^{*}, **Zou, B.**, 2018. Emission control under private port operator duopoly. *Transportation Research Part E: Logistics and Transportation Review* 114, 40-65.
29. Kafle, N.[#], **Zou, B.**^{*}, Lin, J., 2017. Design and modeling of a crowdsourcing-enabled system for urban parcel relay and delivery. *Transportation Research Part B: Methodological* 99, 62-82.
30. Nazari, F.[#], Noruzoliaee, M.[#], **Zou, B.**^{*}, Mohammadian, A., 2017. Optimal facility-specific inspection and maintenance decisions under measurement uncertainty: unifying framework. *ASCE Journal of Infrastructure Systems* 23 (4), 4017036.
31. Kafle, N.[#], **Zou, B.**^{*}, 2016. Modeling flight delay propagation: a new analytical-econometric approach. *Transportation Research Part B: Methodological* 93, 520-542.
32. **Zou, B.**^{*}, Buxi, G., Hansen, M., 2016. Optimal 4-D aircraft trajectories in a contrail-sensitive environment. *Networks and Spatial Economics* 16 (1), 415-466.
33. Pagano, A., **Zou, B.**^{*}, Sanchez, O., Noruzoliaee, M.[#], 2016. The demand and supply of trans-oceanic sea routes: the case of east Asia-US east coast container trade. *International Journal of Decision Science, Risk and Management* 6 (3), 205-224.
34. Talebian, A.[#], **Zou, B.**^{*}, 2016. A multi-stage air-rail competition: focus on rail agency objective, train technology and station access. *Journal of Rail Transport Planning & Management* 6 (1), 48-66.
35. Chang, Y.T., Park, K., **Zou, B.**^{*}, Kafle, N.[#], 2016. Substitutability between two financing options in the U.S. airports: a dynamic network DEA analysis. *Transportation Research Part E: Logistics and Transportation Review* 88, 76-93.
36. Talebian, A.[#], **Zou, B.**^{*}, 2015. Train planning on a single track shared-use passenger and freight corridor with demand considerations. *Transportation Research Part B: Methodological* 82, 114-140.
37. **Zou, B.**^{*}, Kafle, N.[#], Wolfson, O., Lin, J., 2015. A mechanism design based approach to solving parking slot assignment in the information era. *Transportation Research Part B: Methodological* 81, 631-653.

38. Noruzoliaee, M.[#], **Zou, B.***, Zhang, A., 2015. Airport privatization in a multi-airport region: implications for airport capacity and pricing. *Transportation Research Part E: Logistics and Transportation Review* 77, 45-60.
39. **Zou, B.***, Kafle, N.[#], Chang, Y.T., Park, K., 2015. US airport financial reform and its implications for airport efficiency: an exploratory investigation. *Journal of Air Transport Management* 47, 66-78.
40. Soler, M.*, **Zou, B.**, Hansen, M., 2014. Flight trajectory design in the presence of contrails: application of a multiphase mixed-integer optimal control approach. *Transportation Research Part C: Emerging Technologies* 48, 172-194.
41. **Zou, B.***, Hansen, M., 2014. Flight delay impact on airfare and flight frequency: a comprehensive assessment. *Transportation Research Part E: Logistics and Transportation Review* 69, 54-74.
42. **Zou, B.***, Elke, M., Hansen, M., Kafle, N.[#], 2014. Evaluating air carrier fuel efficiency in the U.S. airline industry. *Transportation Research Part A: Policy and Practice* 59, 306-330.
43. Liu, Y.*, Hansen, M., **Zou, B.**, 2013. Aircraft gauge differences between the US and Europe and the operational implications. *Journal of Air Transport Management* 29 (1), 1-10.
44. Swaroop, P., **Zou, B.**, Ball, M., Hansen, M.*, 2012. M. Do more U.S. airports need slot controls? A welfare based approach to determine slot levels. *Transportation Research Part B: Methodological* 46 (9), 1239-1259.
45. **Zou, B.***, Hansen, M., 2012. Impact of operational performance on air carrier cost structure: evidence from US airlines. *Transportation Research Part E: Logistics and Transportation Review* 48 (6), 1032-1048.
46. **Zou, B.***, Hansen, M., 2012. Flight delays, capacity investment and social welfare under air transport supply-demand equilibrium. *Transportation Research Part A: Policy and Practice* 46 (6), 965-980.
47. **Zou, B.***, Madanat, S., 2012. Incorporating delay effect into airport runway pavement management systems. *ASCE Journal of Infrastructure Systems* 18 (3), 183-193.
48. **Zou, B.***, Shi, J., Lu, H., Yuan, J., 2007. Influencing factor analysis and improvement of roundabout entry capacity model. *Highway Engineering* 32 (4), 169-173.
49. **Zou, B.***, Lu, H., Liu, Q., 2006. Design of tourism transit travel information system. *Computers and Communications* 24 (6), 110-114.
50. Shi, J.*, Yuan, J., **Zou, B.**, 2006. Parking facility supply for office buildings and its relationship with transportation policy. *Urban Parking* 3, 16-18.
51. Liu, Q.*, Lu, H., Zhang, Y., **Zou, B.**, 2006. Characteristic analysis and countermeasure study on road traffic accidents in China. *China Safety Science Journal* 16 (6), 123-128.

Book Chapters

52. **Zou, B.**, Kwan, I., Hansen, M., Rutherford, D., Kafle, N., 2016. Airline fuel efficiency: assessment methodologies and applications in the U.S. domestic airline industry. In Bitzan, J., Peoples, J. and Wilson, W. (eds.), *Advances in Airline Economics*. Emerald Group Publishing.
53. Hansen, M., **Zou, B.**, 2013. Airport operational performance and its impact on airline cost. In: Odoni, A. and Zografos, K. (eds.), *Modeling and Managing Airport Performance: Theory and Practice*. John Wiley & Sons, Inc.
54. Ball, M., Hansen, M., Swaroop, P., **Zou, B.**, 2013. Design and justification for market-based approaches to airport congestion management. In: Odoni, A. and Zografos, K. (eds.), *Modeling and Managing Airport Performance: Theory and Practice*. John Wiley & Sons, Inc.

Conference Papers (Topics Other than the Above)

55. Tereshchenko, I., **Zou, B.**, Hansen, M., 2020. Macroscopic Fundamental Diagram for air traffic: Preliminary theoretic results and simulation findings. Submitted to the 9th International Conference on Research in Air Transportation.

56. Chandler, D.*, **Zou, B.**, Bernstein, S., Benedict, A., Shankar, P., 2016. Metrics for cargo-oriented development. Proceedings of the 95th Transportation Research Board Annual Meeting.
57. **Zou, B.***, Smirti, M., Hansen, M., 2009. Reducing freight greenhouse gas emissions in the California corridor: the potential of short sea shipping. Proceedings of the 88th Transportation Research Board Annual Meeting, Washington D.C.
58. **Zou, B.***, Lu, H., Liu, Q., 2008. Towards a hub-and-spoke network: a study on the Chinese mainland hub airport planning. In: Liu, R., Lu, J. et al. (eds.), Plan, Build, and Manage Transportation Infrastructure in China: Proceedings of the 7th International Conference of Chinese Transportation Professional, American Society of Civil Engineers (ASCE).
59. **Zou, B.***, Lu, H., Liu, Q., Zhou Z., 2007. A coordination model for seaports performance and its application to the Beibu Bay Area. Proceedings of 2007 International Conference on Transportation Engineering, American Society of Civil Engineers (ASCE).
60. Liu, Q.*, Lu, H., **Zou, B.**, Wang, Y., 2007. Regional integrated transportation network layout planning. Proceedings of 2007 International Conference on Transportation Engineering, American Society of Civil Engineers (ASCE).

Research Reports

61. **Zou, B.**, Barua, L., Noruzoliaee, H., 2018. High-accuracy prediction of airport runway and taxiway pavement conditions using machine learning techniques. Report prepared for the Chicago Department of Aviation.
62. Sriraj, P.S., **Zou, B.**, Schlickman, S., Weisbrod, G., Talebian, A., Schroeckenthaler, K., Blair, A., 2017. Framework for assessing the return on investment from high-speed and intercity rail projects. Report prepared for the American Public Transportation Association (APTA).
Selected press coverage
<https://www.globalrailwayreview.com/news/62906/report-high-speed-intercity-rail/>
http://www.progressiverailroading.com/passenger_rail/news/APTA-floats-new-ways-to-evaluate-passenger-rail-project-ROI--52982
63. **Zou, B.**, 2017. Changing consumer online shopping behavior to promote sustainable urban delivery. Report prepared for the World Bank.
64. **Zou, B.**, Noruzoliaee, H., 2017. Protecting the airfield assets at O'Hare International Airport (Phase 3): Developing prediction capability for taxiway pavement conditions and review of federal guidelines and state-of-the-practice in airfield assets condition rating. Report prepared for the Chicago Department of Aviation.
65. Hansen, M., Leachman, R., Seeherman, J., Trapenberg Frick, K., **Zou, B.**, 2016. Rail and the California economy. Report prepared for the California Department of Transportation.
66. **Zou, B.**, Noruzoliaee, H., 2016. Protecting the airfield assets at O'Hare International Airport (Phase 2): Developing a decision support tool for runway maintenance and rehabilitation planning. Report prepared for the Chicago Department of Aviation.
67. **Zou, B.**, Talebian, A., 2015. Optimal rail service planning in a passenger-freight shared corridor. Report prepared for the Illinois Department of Transportation Metropolitan Transportation Support Initiative (METSI) Program.
Selected press coverage
<http://www.masstransitmag.com/article/12101407/coordinating-share-rail-corridors>
<http://nextcity.org/daily/entry/study-price-freight-rail-passenger-rail-service-tradeoffs>
68. Noruzoliaee, H., **Zou, B.**, 2014. Protecting the airfield assets at O'Hare International Airport (Phase 1): capability enhancement for predicting future runway pavement performance. Report prepared for the Chicago Department of Aviation.
69. **Zou, B.**, Elke, M., Hansen, M., 2012. Evaluating air carrier fuel efficiency and CO₂ emissions in the U.S. airline industry. Report prepared for the International Council on Clean Transportation.
Selected press coverage
<http://www.reuters.com/article/2013/09/10/us-airlines-study-idUSBRE9891AP20130910>

<http://www.businessweek.com/articles/2013-09-10/which-airlines-are-most-fuel-efficient>
<http://aviationweek.com/blog/efficiency-alaska-best-allegiant-worst-why>
<http://www.greencarcongress.com/2013/09/20130910-icct.html>

70. Ball, M., Barnhart, C., Dresner, M., Hansen, M. Neels, K., Odoni, A., Peterson, E., Sherry, L., Trani, A., **Zou, B.**, 2010. Total delay impact study: a comprehensive assessment of the costs and impacts of flight delay in the United States. Major Participant. Report Prepared for the US Federal Aviation Administration.
Selected press coverage
<http://www.washingtonpost.com/wp-dyn/content/article/2010/10/18/AR2010101805680.html>
http://www.cnn.com/2010/TRAVEL/10/19/flight.delays.study/index.html?_s=PM:TRAVEL
http://www.usatoday.com/travel/flights/2010-10-19-airlinedelays19_ST_N.htm
<http://www.npr.org/templates/story/story.php?storyId=130660854>
<http://www.airlines.org/Economics/DataAnalysis/Pages/TotalImpactofFlightDelays.aspx>
<http://innovations.coe.berkeley.edu/vol4-issue9-nov10/flightdelays>
71. Hansen, M., Liu, Y., Kwan, E., **Zou, B.**, 2010. U.S./Europe comparison of operational performance: a comparison of US and European airline schedules: size, strength and speed. Report Prepared for the US Federal Aviation Administration.
72. Smirti, M., **Zou, B.**, Hansen, M., 2008. A comparative evaluation of greenhouse gas emission reduction strategies for the maritime shipping and aviation sectors. Report prepared for the University of California Transportation Center (UCTC).
73. China Institute of Development Planning (a joint research center of Tsinghua University and the National Development and Reform Commission of China), 2007. Regional planning of the Guangxi Beibu Gulf Economic Zone (I was in charge of port system planning in the report). Report prepared for the Planning and Management Commission of the Beibu Gulf Economic Zone (in Chinese).
74. **Zou, B.**, 2006. Water tourism transportation planning for the City of Jining (in Shandong Province, China). Sub-task report as part of the Integrated Urban Transportation Planning prepared for the Jining Planning Bureau (in Chinese).

RESEARCH FUNDING

1. Leveraging connected highway vehicle platooning technology to improve the efficiency and effectiveness of train fleetings
Federal Railroad Administration Jan 2020-Dec 2020
 PI: Tyler Dick; Co-PIs: Bo Zou, Daniel Work, Kuilin Zhang
 Total budget: \$399,840
2. Maritime freight database to support performance measures and market analysis
Illinois Center for Transportation May 2018-Aug 2020
 PI: P.S. Sriraj; Co-PI: Bo Zou
 Total budget: \$281,250
3. Multiscale modeling of crowdshipping as a new form of urban delivery
National Science Foundation Aug 2017-Jul 2020
 PI: Bo Zou
 Total budget: \$349,338
4. Evaluating the potential of truck platooning on road congestion and energy consumption in the national freight transportation system
Department of Energy through the Argonne National Laboratory Aug 2018-Sep 2019
 PI: Bo Zou
 Total budget: \$69,889
5. Cybersecurity and resilience of future autonomous mobility
World Bank May 2017-Jul 2019
 PI: Bo Zou

- Total budget: \$50,000
6. Protecting the airfield assets at O'Hare International Airport (Phase 4)
Chicago Department of Aviation Aug 2017-Dec 2018
 PI: Bo Zou
 Total budget: \$70,000
 7. Changing consumer e-shopping behavior to promote sustainable urban delivery
World Bank Apr 2017-Sep 2017
 PI: Bo Zou
 Total budget: \$38,983
 8. Protecting the airfield assets at O'Hare International Airport (Phase 3)
Chicago Department of Aviation Jan 2017-Jul 2017
 PI: Bo Zou
 Total budget: \$30,000
 9. High speed and intercity passenger rail public benefits methodology
American Public Transportation Association Jul 2015-Dec 2016
 PI: Stephen Schlickman; Co-PIs: Bo Zou, P.S. Sriraj, Glen Weisbrod
 Total budget: \$150,000
 10. California rail economic study
California Department of Transportation Jan 2015-Dec 2015
 PI: Mark Hansen; Co-PIs: Bo Zou, David Brownstone, Karen Frick, Samer Madanat
 Total budget: \$400,000
 11. Protecting the airfield assets at O'Hare International Airport (Phase 2)
Chicago Department of Aviation Jan 2015-Dec 2015
 PI: Bo Zou
 Total budget: \$41,667
 12. Protecting the airfield assets at O'Hare International Airport (Phase 1)
Chicago Department of Aviation Jan 2014-Dec 2014
 PI: Bo Zou
 Total budget: \$25,000
 13. Optimal rail service planning in a passenger-freight shared corridor
Illinois DOT and National Center for Transit Research Jan 2014-Dec 2014
 Project Manager: Bo Zou
 Total budget: \$71,000
 14. Airport operational planning study
Chicago Department of Aviation Jan 2013-Dec 2013
 PI: Bo Zou
 Total budget: \$25,000
 15. Assessing sustainable freight policies using microsimulation approach
National Center for Freight and Infrastructure Research and Education Nov 2012-Sep 2013
 PI: Kouros Mohammadian; Co-PIs: Bo Zou, Kazuya Kawamura, Sybil Derrible
 Total budget: \$78,998

AWARDS AND RECOGNITIONS

1. 2019. International Visiting Scholarship, Shanghai Jiao Tong University
2. 2018. Faculty Award for Research, University of Illinois at Chicago College of Engineering
3. 2016. Certificate of Excellence in Reviewing. Transportation Research Part E: Logistics and Transportation Review
4. 2013. Best Paper Award, 10th USA/Europe Air Traffic Management R&D Seminar

5. 2012. Honorable mention. INFORMS Aviation Application Section Dissertation Prize Competition
6. 2008-2009. UC Berkeley Civil and Environmental Department Tuition Grant
7. 2007-2008. UC Berkeley Civil and Environmental Department Grant
8. 2006-2007. Tsinghua-Guanghua First Class Graduate Scholarship
9. 2003-2005. French Government Eiffel Scholarship (only 10 students from Tsinghua University in that year)
10. 2002-2003. Tsinghua-Wushunde First Class Scholarship

FELLOWSHIPS/SCHOLARSHIPS RECEIVED BY MY STUDENTS

1. Limon Barua won the 2019-2020 Graduate Research Award on Public-Sector Aviation Issues from the Transportation Research Board, National Academies of Science, Engineering, and Medicine.
2. Tanvir Ahamed won the 3rd place in the 2019 Chris Burke Poster competition.
3. Diana Briones received the 2017-2018 Dwight David Eisenhower Transportation Fellowship from the U.S. Department of Transportation.
4. Mohamadhossein Noruzoliaee received the 2018 George Krambles Transportation Scholarship.
5. Nabin Kafle received the 2017 Institute of Transportation Engineers (ITE) Illinois Section Graduate Scholarship (only one in the state).
6. Mohamadhossein Noruzoliaee received the 2017 Illinois Asphalt Pavement Association Scholarship (only two from the university).
7. Mohamadhossein Noruzoliaee won the 1st place in the 2017 Chris Burke Post competition.
8. Mohamadhossein Noruzoliaee received the 2017 David Boyce Graduate Award (only two in the department).
9. Ahmadreza Talebian received the 2016 Institute of Transportation Engineers (ITE) Illinois Section Student Paper Award (only one in the state).
10. Mohamadhossein Noruzoliaee received the 2016 ASCE Transportation & Development Institute (T&DI) Illinois Chapter Scholarship.
11. Nabin Kafle received the 2016 David Boyce Graduate Award.
12. Hossein Noruzoliaee received the 2016 George Krambles Transportation Scholarship Award (2nd place).
13. Ahmadreza Talebian received 2015 V. Terrey Hawthorne Memorial Scholarship Fund, a national scholarship from the Rail Transportation Division of the American Society of Mechanical Engineers.
14. Mohamadhossein Noruzoliaee received the 2015 David Boyce Graduate Award.
15. Ahmadreza Talebian received the 2015 Christopher B. and Susan S. Burke Civil Engineering Graduate Student Award.
16. Mohamadhossein Noruzoliaee received the 2015 George Krambles Transportation Scholarship Award.
17. Ahmadreza Talebian received the 2015 George Krambles Transportation Scholarship Award.
18. Ahmadreza Talebian received the 2014 George Krambles Transportation Scholarship Award.

INVITED TALKS

1. How much delay gets propagated of your aircraft: An analytical-econometric approach. Presented in the Continuous Improvement and Enterprise Optimization group, United Airlines, Chicago, Jan. 31, 2020.
2. How fast you can actually fly: A comparative investigation of flight airborne time in China and the U.S. Presented in the Engineering Design Systems pillar, Singapore University of Technology and Design, Singapore, Dec. 9, 2019.
3. Multi-tier adaptive memory programming and relocation strategies for distributed on-demand crowdshipping. Presented in the Department of Civil and Environmental Engineering, National University of Singapore, Singapore, Aug. 15, 2019.
4. Crowdshipping as a new form of last-mile urban delivery: three system designs. Presented at the Institute of Transportation Studies (ITS) Friday Seminar series, University of California, Berkeley, Mar. 8, 2019.
5. Future human mobility with self-driving and ridesharing: developing system-level models in a mixed autonomous and human-driven environment. Presented in the Department of Transportation Engineering, Shanghai Jiao Tong University, Shanghai, China, Dec. 12, 2018.
6. On-demand crowdsourced urban delivery with rebalancing consideration in a dynamic environment. Presented at the Nectar Workshop: E-groceries, digitalization and sustainability: Which governance, planning and regulation mix do our cities need? Molde University College, Molde, Norway, Oct. 11, 2018.
7. Autonomous and shared mobility and implications for transportation energy consumption and emissions. Presented in the Energy Systems Division, Argonne National Laboratory, Lemont, Feb. 21, 2018.
8. Protecting the airfield assets at O'Hare International Airport. Presented at the Center of Excellence for Airport Technology seminar series, University of Illinois, Urbana-Champaign, Jan. 23, 2018.
9. Crowdshipping: A new form of urban parcel delivery. Presented in the Department of International Shipping, Shanghai Jiao Tong University, Shanghai, China, Dec. 15, 2017.
10. Port emission control in a multi-port environment. Presented at the Workshop on Aviation and Maritime Studies, Tenth International Conference of Chinese Scholars Association for Management Science and Engineering (CSAMSE), Guangzhou, China, Jul. 17, 2017.
11. Crowdshipping: A new form of urban parcel delivery. Presented at the World Bank Seminar on Efficiency in Urban Logistics: Current Challenges, Innovative & Green Solutions, Sao Paulo, Brazil, Jun. 7, 2017.
12. Protecting the airfield assets at O'Hare International Airport: Capability enhancement for predicting future taxiway pavement performance. Presented at the O'Hare Modernization Program Brown Bag Seminar Series, O'Hare, Chicago, May. 23, 2017.
13. Design and modeling of a crowdsourced system for urban parcel relay and delivery. Presented at the 2017 Spring Aeronautics and Aerospace Engineering Colloquium, Purdue University, West Lafayette, Feb. 2, 2017.
14. Design and modeling of a crowdsource-enabled system for urban parcel relay and delivery. Presented at the Chicago Metropolitan Agency for Planning CATMUG Seminar, Chicago, Nov. 2, 2016.
15. Airport pavement management systems (APMs): Runway maintenance & rehabilitation (M&R) planning at O'Hare International Airport. Presented at the O'Hare Modernization Program Brown Bag Seminar Series, O'Hare, Chicago, Oct. 27, 2016.
16. Innovations in smart cities logistics with potential Big Data applications: Crowdsourcing & drones for urban delivery. Presented at the 2016 International Workshop on Data Science for Smart Transportation Informatics, Tongji University, Shanghai, Jul. 17, 2016.

17. Integrated modeling of high performance passenger and freight train operation planning on a shared use rail corridor: A focus on the US context. Presented at the U.S. Center for Urban Transportation Research, Oct. 29, 2015.
18. Integrated modeling of high performance passenger and freight train operation planning on a shared use rail corridor: A focus on the US context. Presented at the William W. Hay Rail Engineering Seminar, University of Illinois at Urbana-Champaign, Urbana, Oct. 17, 2014.
19. Airport pavement management systems (APMs): Predicting future performance of pavements. Presented at the O'Hare Modernization Program, Chicago, May 22, 2014.
20. Aviation infrastructure investment: An equilibrium approach. Presented at the University of South Florida, Tampa, Oct. 25, 2013.
21. Overview of My Research in Aviation and Other Transportation Areas. Presented at the Cambridge Systematics, Chicago, Aug. 30, 2013.
22. Airport pavement management systems: A comprehensive review of the state-of-the-practice and the state-of-the-art. Presented at Chicago Department of Aviation, Chicago, May 23, 2013.
23. Flight delay and its Impacts in the U.S. air transportation system. Guest Lecture in the Department of Civil and Environmental Engineering, University of Tennessee at Knoxville, Knoxville, Apr. 16, 2013.
24. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium. Presented at the Transportation Center Seminar, Northwestern University, Evanston, Apr. 4, 2013.
25. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium. Presented in the Department of Transportation Management Engineering, Beijing Jiao Tong University, Beijing, China, Dec. 19, 2012.
26. Air transportation research overview. Presented in the School of Aeronautics and Astronautics, Purdue University, West Lafayette, Dec. 13, 2012.
27. Optimal 4-D aircraft trajectories in a contrail sensitive environment. Presented at CTS-IGERT Seminar, Department of Computer Science, University of Illinois at Chicago, Illinois, Oct. 24, 2012.
28. Network programming in transportation systems. Guest Lecture in the Department of Civil and Materials Engineering, University of Illinois at Chicago, Chicago, Oct. 5, 2012.
29. Flight Delays, Capacity investment and welfare under air transport supply-demand equilibrium. Presented in the Department of Civil and Materials Engineering, University of Illinois at Chicago, Chicago, Mar. 8, 2012.
30. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium. Presented in the School of Economic Sciences, Washington State University, Pullman, Feb. 6, 2012.
31. Do more U.S. airports need slot controls? A welfare-based approach to determine slot levels. Guest Lecture in the Department of Civil and Environmental Engineering, University of California, Berkeley, Nov. 29, 2011.
32. Introduction to linear regression. Guest Lecture in the Department of Civil and Environmental Engineering, University of California, Berkeley, Nov. 15, 2011.
33. Total delay impact in the national airspace system. Guest Lecture in the Department of Civil and Environmental Engineering, University of California, Berkeley, Nov. 30, 2010.
34. Total delay impact in the national airspace system. Presented at the Seagull Technology Center, Sensis Corporation, Campbell, Oct. 22, 2010.
35. Translog cost modeling and application to the U.S. airline industry. Guest Lecture in the Department of Civil and Environmental Engineering, University of California, Berkeley, Apr. 23, 2010.

36. A comparative evaluation of greenhouse gas emission reduction strategies for the maritime shipping and aviation sectors. Guest Lecture in the Department of City and Regional Planning, University of California, Berkeley, Mar. 17, 2008.

PRESENTATIONS

1. Short-term air traffic flow management integrating separation management and ground holding: An efficiency-equity bi-objective perspective. Presented at the 1st Symposium on Aviation Research, Porto, Portugal, Jan. 24-25, 2020.
2. Impacts of Income Generation Potential on Vehicle Ownership Decisions: A National Simulation of Sharing Economy and Automation Effects. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 11-16, 2020.
3. Do Inland Waterway Freight Transportation Systems Need a Performance Measurement and Management System?: A Scan of State DOT Practices in the United States. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 11-16, 2020.
4. Truck platooning in the U.S. national freight transportation system: Preliminary modeling and implications for systemwide energy use. Presented at the 3rd International Symposium on Multimodal Transportation, Singapore, Dec. 6-7, 2019.
5. Multi-tier adaptive memory programming and relocation strategies for distributed on-demand crowdshipping. Presented at the INFORMS Annual Meeting, Seattle, Oct. 20-23, 2019.
6. On-demand crowdsourced urban delivery with rebalancing consideration in a dynamic environment. Presented at the POMS Annual Meeting, Washington D.C., May 2-6, 2019.
7. Autonomous ridesharing and parking: A new multimodal network equilibrium approach. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 12-17, 2018.
8. Predicting airport runway and taxiway pavement conditions : A gradient boosting approach. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 12-17, 2018.
9. On-demand crowdsourced urban delivery with rebalancing consideration in a dynamic environment. Presented at the INFORMS Annual Meeting, Phoenix, Nov. 4-7, 2018.
10. One-to-many matching and section-based formulation of autonomous ridesharing equilibrium. Presented at the INFORMS Annual Meeting, Phoenix, Nov. 4-7, 2018.
11. On-demand crowdsourced urban delivery with rebalancing consideration in a dynamic environment. Presented at the 6th International Conference on Transportation and Space-time Economics, Beijing, China, Oct. 13-14, 2018.
12. Roads in transition: integrated modeling of a manufacturer-traveler-infrastructure system in a mixed autonomous/human driving environment. Presented at the Autonomous Vehicles Symposium, San Francisco, Jul. 9-12, 2018.
13. Roads in transition: integrated modeling of a manufacturer-traveler-infrastructure system in a mixed autonomous/human driving environment. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 7-11, 2018.
14. Efficient crowdshipping mechanism design for urban parcel delivery. Presented at the INFORMS Annual Meeting, Houston, Oct. 22-25, 2017.
15. Modeling flight delay propagation: a new analytical-econometric approach. Presented at the INFORMS Transportation and Logistics Society First Triennial Conference, Chicago, Jul. 26-29, 2017.
16. Autonomous vehicle manufacturer strategies and transportation system performance. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.

17. Transportation network equilibrium for multimodal intercity travel: a new equilibrium problem with equilibrium constraints framework. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.
18. Modeling flight delay propagation: a new analytical-econometric approach. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.
19. Capacity allocation in vertically integrated rail systems: a sequential bargaining approach. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.
20. Innovations in smart cities logistics: crowdsourcing for urban delivery. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.
21. Passenger facility charge vs. airport improvement program funds: a dynamic network dea analysis for U.S. airport financing. Presented at the INFORMS Annual Meeting, Nashville, Nov. 13-16, 2016.
22. Capacity allocation in vertically integrated rail systems: a bargaining approach in the US context. Presented at the INFORMS Annual Meeting, Philadelphia, Nov. 1-4, 2015.
23. Infrastructure investment decisions in multimodal intercity transportation networks. Presented at the INFORMS Annual Meeting, Philadelphia, Nov. 1-4, 2015.
24. Capacity allocation in vertically integrated railway systems: A Rubinstein sequential bargaining game approach, 6th International Conference on Rail Operations Modelling and Analysis, Tokyo, Mar. 25, 2015.
25. Capacity Allocation in vertically integrated railway systems: A Rubinstein sequential bargaining game approach. Presented at the Transportation Research Board Annual Meeting, Washington D.C., Jan. 12, 2015.
26. U.S. Railway congestion: cost and mitigation strategies. Presented at the 8th University Transportation Center Spotlight Conference on the Role of Freight Transportation in Economic Competitiveness, Washington D.C., Dec. 10-11, 2014.
27. Beyond public vs. private: Is there a third option to improve the economic competitiveness of US ports? Presented at the 8th University Transportation Center Spotlight Conference on the Role of Freight Transportation in Economic Competitiveness, Washington D.C., Dec. 10-11, 2014.
28. Modeling flight delay propagation: A joint analytical-statistical approach. Presented at the INFORMS Annual Meeting, San Francisco, Nov. 9-12, 2014.
29. Integrated modeling of high performance passenger and freight train operation planning on shared use rail corridors: A focus on the US context. Presented at the INFORMS Annual Meeting, San Francisco, Nov. 9-12, 2014.
30. Strategic shared-use passenger and freight rail operation planning. Presented at the National University Rail Center annual meeting, Altoona, Aug. 19, 2014.
31. Integrated modeling of high speed passenger and freight train operation planning on a shared-track corridor. Presented at Transport Chicago annual meeting, Chicago, Jun. 6, 2014.
32. Integrated modeling of high speed passenger and freight train operation planning on a shared-track corridor. Presented at the Chicago Metropolitan Agency for Planning CATMUG Seminar, Chicago, Apr. 2, 2014.
33. Traffic diversion effects of railway congestion. Presented at the NURail Cost of Railway Congestion Workshop, Transportation Research Board Annual Meeting, Washington D.C., Jan. 12, 2014.
34. Train planning on a single track shared-use passenger and freight corridor with demand considerations. Presented at the INFORMS Annual Meeting, Minneapolis, Oct. 6-9, 2013.
35. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium. Presented at the Center of Excellence for Airport Technology, University of Illinois at Urbana-Champaign, Urbana, Sep. 10, 2013.

36. Evaluating air carrier fuel efficiency and CO₂ emissions in the U.S. airline industry. Presented at the 13th World Conference on Transport Research, Rio de Janeiro, Brazil, Jul. 15-18, 2013.
37. Propagated delay vs. primary delay and their cost impacts: An exploratory empirical investigation. Presented at the Kuhmo-Nectar Conference on Transport Economics, Evanston, Illinois, Jul. 10-12, 2013.
38. Evaluating air carrier fuel efficiency and CO₂ emissions in the U.S. airline industry. Presented at the 10th USA/Europe Air Traffic Management R&D Seminar, Chicago, Jun. 10-13, 2013.
39. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium. Presented at the INFORMS Annual Meeting, Phoenix, Oct. 13-17, 2012.
40. Optimal 4-D aircraft trajectories in a contrail sensitive environment. Presented at the 5th International Conference on Research in Air Transportation, Berkeley, California, May 24, 2012.
41. Do more U.S. airports need slot controls? A welfare-based approach to determine slot levels. Presented at the INFORMS Annual Meeting, Charlotte, Nov. 13-16, 2011.
42. Assessing benefits from aviation capacity investment: An equilibrium approach. Presented at the INFORMS Transportation Science and Logistics Society Workshop, Asilomar, California, Jun. 27, 2011.
43. Flight delays, capacity investment and welfare under air transport supply-demand equilibrium: Theoretical and empirical models. Presented at the Federal Aviation Administration, Washington D.C., Jan. 26, 2011.
44. Impact of operational performance on air carrier cost structure: Evidence from US airlines. Presented at the 12th World Conference on Transport Research, Lisbon, Portugal, Jul. 11-15, 2010.
45. Flight delays, capacity investment and social welfare under air transport supply-demand equilibrium (theoretical model). Presented at the Kuhmo-Nectar Conference on Transport Economics, Valencia, Spain, Jul. 8-9, 2010.
46. Incorporating delay effect into airport runway pavement management systems. Presented at the 89th Annual Meeting of the Transportation Research Board, Washington, D.C., Jan. 10-14, 2010.
47. To be on-time or fail to be on-time: What is the cost to airlines? Presented at the INFORMS Annual Meeting, San Diego, Oct. 11-14, 2009.
48. Reducing freight greenhouse gas emissions in the California corridor: The potential of short sea shipping. Presented at the 88th Annual Meeting of the Transportation Research Board, Washington, D.C., Jan. 11-15, 2009.
49. Towards an estimation methodology for measuring maritime and aviation greenhouse gas emission reduction. Presented at University of California Transportation Center (UCTC) Student Conference, Santa Barbara, Jan. 31-Feb. 2, 2008.
50. Assessing the alternatives for reducing maritime and aircraft greenhouse gas emissions: A systems approach. Presented at the 1st Annual PATH-California University Transportation Centers Conference: On the Road to Sustainability, Berkeley, Oct. 29, 2007.

TEACHING EXPERIENCES

At the University of Illinois at Chicago

1. Transportation Systems Analysis (Graduate)
2. Transportation Networks (Graduate)
3. Air Transportation (Graduate)
4. Infrastructure Management (Graduate)
5. Transportation and Infrastructure Systems (Graduate & senior undergraduate)
6. Transportation Engineering (Undergraduate)

At the University of California, Berkeley

7. Transportation Economics (Graduate)
8. Engineering Data Analysis (Undergraduate, taught when I was a graduate student instructor)

EDITORIAL SERVICES

1. Associate Editor, Transportation Letters, 2019-Present
2. Editorial Board Editor, Transportation Research Part B, 2019-Present
3. Editorial Board Member, Transportation Research Part C, 2017-Present
4. Editorial Board Member, Transportation Research Part E, 2017-Present
5. Editorial Board Member, Transport Policy, 2019-Present
6. Editorial Board Member, Frontiers in Future Transportation, 2019-Present
7. Journal Reviews (In each pair of parentheses is the number of papers. Each paper typically involves multiple rounds of reviews):

Transportation Science (10); Transportation Research Part A (6); Transportation Research Part B (23 times for paper reviews and 9 times for handling paper reviews as an editorial board editor); Transportation Research Part C (41); Transportation Research Part D (6); Transportation Research Part E (30); Transport Policy (9); Operations Research (2); European Journal of Operational Research (2); Network and Spatial Economics (6); Applied Mathematical Modelling (1); EURO Journal on Transportation and Logistics (1); Transportmetrica A: Transport Science (1); Transportmetrica B: Transport Dynamics (3); Transportation (6); Transportation Letters (3); Transportation Research Record (35); Research in Transportation Business and Management (1); Journal of Transport Economics and Policy (1); Journal of Air Transport Management (3); ASCE Journal of Infrastructure Systems (6); Journal of Advanced Transportation (1); Journal of Rail and Rapid Transit (1); Natural Hazards (1); World Conference on Transport Research (2); Air Transport Research Society Annual Conference (5 abstracts); COTA International Conference of Transportation Professionals (20); IEEE Conference on Intelligent Transportation Systems (2); book chapter review on game theory for Springer; book proposal review on advanced transportation analytics with big data for Elsevier; International Symposium on Transportation and Traffic Theory (ISTTT) (4).

ACADEMIC COMMITTEE SERVICES

1. Member, Transportation Network Modeling (ADB30) Committee, Transportation Research Board, 2018-2021.
2. Member, Aviation Economics and Forecasting (AV040) Committee, Transportation Research Board, 2014-2017.
3. Chair, Shared Logistics and Transportation Systems Committee, World Transport Convention, 2019-Present.
4. Chair, Infrastructure Financing and Management Committee, World Transport Convention, 2016-Present.
5. Co-Chair, Workshop on Artificial Intelligence in Transportation Network Modeling, Systems Analysis, and Practice, Transportation Research Board, 2021.
6. Member, Freight Planning and Logistics Committee, World Transport Convention, 2018-Present.
7. Member, Technical Advisory Group, Illinois Center for Transportation, 2019-2021.
8. Scientific Committee Member, 1st Symposium on Aviation Research, Porto, Portugal, 2020.
9. Scientific Committee Member, Transportation Consortium of South-Central States Annual Conference, San Antonio, Texas, 2019.

10. Scientific Committee Member, Nectar Cluster 2 Workshop: Policy and Environment – E-groceries, Digitalization and Sustainability, Molde, Norway, 2018.
11. Scientific Committee Member, Global Workshop on Airspace Systems Performance, Tianjin, China, 2016.
12. Program Committee Member, IEEE International Conference on Logistics, Informatics and Service Sciences, Sydney and Beijing, 2016.
13. Co-Chair, Membership sub-committee, Young Member Council-Aviation, Transportation Research Board, Washington D.C., 2013-2014.

OTHER PROFESSIONAL ACTIVITIES

1. Secretary and Board Member, Association of Tsinghua Alumni in Transportation, 2019-Present.
2. Judge Panels, Best Student Paper Competition, INFORMS Railway Application Section, 2016-2017.
3. Judge Panel, Problem Solving Competition, INFORMS Railway Application Section, 2016.
4. Judge Panel Chair, Best Student Presentation Competition, INFORMS Aviation Application Section, 2015.
5. Project Panel Chair, National Cooperative Highway Research Program (NCHRP), 2017-2019.
6. Grant Reviewer, NSF, 2016-Present.
7. Grant Reviewer, University of California Center on Economic Competitiveness in Transportation, 2014.
8. INFORMS Session Chairs, 2013-Present.
9. Faculty Advisor, Institute of Transportation Engineers, University of Illinois at Chicago Chapter, 2013-Present.
10. Panel, Beyond the Chicago Convention: Prospects for the Emergence of a New Air Transport Regime, 13th World Conference on Transport Research, Rio de Janeiro, Brazil, 2013.

POPULAR PRESS COVERAGE

1. Website: **Fortune**, December 2019, on whether technology can save the air travel industry from its delay problem (<https://fortune.com/2019/12/13/air-travel-delays-technology/>).
2. Website: **WIRED**, January 2019, on the impact of staffing shortage due to government shutdown on airport delays (<https://www.wired.com/story/the-excruciating-impossible-science-of-airport-delays/>).
3. Website video: **World Bank**, September 2017, on urban logistics, a vital component of sustainable cities (<http://www.worldbank.org/en/news/feature/2017/09/01/transporte-logistica-crowdshipping-brasil>).
4. Website: **Wall Street Journal**, December 2016, on holiday travels and flight delays (<http://www.wsj.com/articles/as-holidays-approach-so-does-the-season-of-flight-delays-1481292000>).
5. Email inquiry: **AFP** (Agence France Presse), May 2015, on Amtrak train derailment in Philadelphia and U.S. passenger rail transportation system.
6. Television: **ABC** (American Broadcasting Company) Channel 7, Sep. 2014, on Aurora Air Route Traffic Control Center shutdown and system response and recovery issues.
7. Television: **PBS** (Public Broadcasting Service) Chicago, Oct. 2013, on runway reconfiguration at O'Hare International Airport and its noise impact on surrounding neighborhood.

LANGUAGES

English (fluent), Chinese (native), French (good)