

JIHAO DENG

Department of Civil and Mineral Engineering, University of Toronto, Toronto, Ontario, Canada M5S 1A4
alex.deng@utoronto.ca | +1 226-789-6626 | [Personal Website](#)

EDUCATION BACKGROUND

- Sep. 2018 – Jan. 2024* **Doctor of Philosophy, Transportation Engineering**
Thesis: Research on Investigating Vehicle Trip Adjustability and Ways to Adjust based on Individual Behavioral Characteristics
Supervisor: Prof. Xiaohong Chen
College of Transportation Engineering, Tongji University, China
- Sep. 2014 – Jul. 2018* **Bachelor of Engineering, Traffic Engineering**
Thesis: Empirical Analysis of Influence of Traffic Analysis Zones Division on Traffic Assignment
Advisor: Prof. Lu Ma
School of Traffic and Transportation Engineering, Beijing Jiaotong University, China

EXCHANGE EXPERIENCE

- Jul. 2022 – Dec. 2023* **International Visiting Graduate Student**
Supervisor: Prof. Liping Fu & Prof. Chris Bachmann
Department of Civil and Environmental Engineering, University of Waterloo, Canada
- Apr. 2018 – Jun. 2018* **Exchange Student**
Supervisor: Prof. Ali Haghani
Department of Civil Engineering, University of Maryland, USA
- Jul. 2016 – Aug. 2016* **Exchange Student**
Summer Session
University of California, Berkeley, USA

RESEARCH INTERESTS

Primary: Transportation planning and policy

Secondary: Individual travel behavior analysis; Travel demand modeling, Public transit planning and network modeling; Transportation-land use interactions; Freight and logistics activity analysis; Urban analytics (GIS, big data, spatial modeling, econometric modeling, machine learning techniques)

REFERRED JOURNAL PUBLICATIONS

- [1] **Deng, J.**, Cui, Y., Chen, X., Bachmann, C., and Yuan, Q*. (2023). Who are on the road? A study on vehicle usage characteristics based on one-week vehicle trajectory data, *International Journal of Digital Earth*. (Accepted and waiting online). <http://dx.doi.org/10.1080/17538947.2023.2218117>.
- [2] **Deng, J.**, Chen, P., Chen, X., Li, T., and Yuan, Q*. (2023). Financial Sustainability versus Social Equity: Design and Performance of a Hybrid City Bus System, *Journal of Public Transportation*, 25. <https://doi.org/10.1016/j.jpubtr.2023.100044>.
- [3] **Deng, J.**, Gao, L., Chen, X., and Yuan, Q*. (2023). Taking the same route every day? An empirical investigation of commuting route stability using personal electric vehicle trajectory data. *Transportation*. <https://doi.org/10.1007/s11116-023-10377-1>.
- [4] **Deng, J.**, Song, R., Chen, X.*, Wang, T., and Wang, B. (2020). Integrated design of station sites and network of bus microcirculation system in open communities, *Journal of Beijing Jiaotong University*, 44(1): 34-41. (In Chinese).

<http://jdx.bjtu.edu.cn/EN/10.11860/j.issn.1673-0291.20190071>

[5] Yang, Z., Chen, X., **Deng, J.**, Li, T., and Yuan, Q*. (2023). Footprints of goods movements: Spatial heterogeneity of heavy-duty truck activities and its influencing factors in the urban context, *Journal of Transport Geography* (SSCI, Q1, IF=6.1), 113, 103737. <https://doi.org/10.1016/j.jtrangeo.2023.103737>.

[6] Chen, P., and **Deng, J.** (2020). Integrating Affordable Housing with Transit: Where Are the Transit Deserts? *Findings*. <https://doi.org/10.32866/001c.17244>.

REFERRED JOURNAL PUBLICATIONS UNDER REVIEW

[1] **Deng, J.**, Chen, X., and Shangguan Q.* (2023). Drivers' Choices of Expressway Usage and Peak Avoidance: An Empirical Analysis Considering Individual Heterogeneity, *Journal of Advanced Transportation*. Submitted.

[2] **Deng, J.**, Li, T., Shangguan, Q., Chen, X., Yuan, Q., and Bachmann, C. (2023). Heterogeneity in Route Choice during Peak Hours: Implications on Travel Demand Management, *Travel Behaviour and Society*. Submitted.

[3] **Deng, J.**, Xiao, T., Yang, Z., Chen, X., Yuan, Q., and Bachmann, C. (2023). Examining spatiotemporal demand of electric trucks for making deliveries and recharging, *Transport Policy*. Submitted.

REFERRED CONFERENCE PAPERS

[1] Yuan, Q., Pan, R., **Deng, J.***, Li, T., and Chen, X. (2023). *Multi-scenario Route Choice Modeling based on Random Parameters Multinomial Logit Model with Heterogeneity in Means and Variance*. Proceedings of 2023 IEEE Conference on Intelligent Transportation Systems, Bilbao, Spain. <https://ieeexplore.ieee.org/document/10422380>.

[2] **Deng, J.**, Bachmann, C., Shangguan Q., and Yuan, Q. (2023). *Are route stabilities the same when go to and get off work? An empirical investigation on route choices using personal vehicle trajectory data*, Presenting at Young Researcher's 16th World Conference on Transportation Research, Montreal, Canada.

[3] **Deng, J.**, Li, T., Bachmann, C., Gao, L., and Chen, X. (2023). *Discovering Route Choice Preferences and Classifying Route Choice Behavior Using Trajectory Data*, Presenting at 16th World Conference on Transportation Research, Montreal, Canada.

[4] **Deng, J.**, and Bachmann, C. (2023). *Who are on the urban expressway? An exploratory analysis between two passenger vehicle usage patterns based on the panel binomial logistic regression model*, Proceedings of the 58th Annual Canadian Transportation Research Forum Conference, Toronto, Canada.

[5] **Deng, J.**, Bachmann, C., Yuan, Q., and Shangguan, Q. (2023). *The geography of the demand for electric logistic vehicles in the era of E-commerce: Evidence from Shanghai*, Proceedings of 8th Conference on Spatial Knowledge and Information, Banff, Canada. Volume DOI: <https://osf.io/n6du5>.

[6] **Deng, J.**, Cui, Y., Chen, X., Bachmann, C., and Yuan, Q. (2023). *Understanding and managing travel from a new perspective: a study on vehicle usage characteristics based on one week of spatiotemporal trajectory data from Shanghai*, Presenting at 102nd Transportation Research Board Annual Meeting, Washington, D.C., USA.

[7] **Deng, J.**, Chen, X., Yuan, Q., and Li, T. (2021). *Towards a Demand-Driven and Financially Sustainable City Bus System*, Presenting at 100th Transportation Research Board Annual Meeting, Washington, D.C., USA.

[8] **Deng, J.**, Chen, X., and Ma, L. (2020). *Analysis of the Impact of Traffic Analysis Zones Division on Traffic Assignment*, Proceedings of 20th COTA International Conference of Transportation Professionals, Xi'an, China. <https://doi.org/10.1061/9780784482933.218>.

[9] Chen, X., **Deng, J.**, and Chen, P., (2020). *Measuring Transit Equity for People Living in Affordable Housing: A Spatial Principal Component Analysis*, Proceedings of ASCE International Conference 2020 on Transportation and Development, Seattle, USA. <https://doi.org/10.1061/9780784483176.004>.

[10] Wu, J., Deng, Y., **Deng, J.**, Tu, M., and Wang, Y. (2023). *Exploring Influencing Factors on Railway Passenger Flow based on Flow Space Theory: A Case Study on Yangtze River Delta Megalopolis, China*, Presenting at 16th World Conference on Transportation Research, Montreal, Canada.

ACADEMIC SERVICES

Journal peer reviewer: Journal of Transport Geography, Journal of Behaviour and Society

Conference peer reviewer: IEEE Conference on Intelligent Transportation Systems, World Conference of Transport Research, COTA International Conference for Transportation Professionals, World Transport Convention, Transportation Research Board Annual Meeting

CONFERENCE ATTENDANCE

2023	IEEE Conference on Intelligent Transportation Systems (ITSC), World Conference on Transportation Research (WCTR); Canadian Transportation Research Forum (CTRF); Conference on Spatial Knowledge and Information (SKI); Transportation Research Board Annual Meeting (TRB)
2021	TRB; World Transport Convention (WTC)
2020	ASCE International Conference 2020 on Transportation and Development; COTA International Conference
2019	WTC

PRIMARY SCHOLARSHIPS & HONORS

Oct. 2023	Tongji University Outstanding Doctoral Student Scholarship
Oct. 2020	Tongji University Excellent Student Cadre
Jun. 2018	Beijing Jiaotong University Outstanding Graduates
Mar. 2017	Beijing Merit Student
Nov. 2015	National Scholarship

ACADEMIC COMPETITIONS

Nov. 2018	Third Prize: 2018 National Graduate Mathematical Modeling Contest
May 2017	Provincial level: 2016 Undergraduate Innovation Training Program
Jan. 2017	Honorable Mention: Interdisciplinary Contest in Modeling (ICM)
Sep. 2016	Second Prize: 2016 China Undergraduate Mathematical Contest in Modeling (CUMCM)

INTERNSHIP EXPERIENCE

Jun. 2020 – Aug. 2020	Shanxi Transportation Research Institute Group Co., Ltd <ul style="list-style-type: none">Forecasted traffic volume in a planning area of Taiyuan City for following 10 to 20 years and evaluated results with different parameters in gravity modelIndependently drafted Chapter 6 (Management, Operation and Maintenance of Rural Roads) of the “14th Five-Year Plan for Rural Roads in Shanxi Province”
Jul. 2019 – Sep. 2019	World Resource Institute (WRI) China Sustainable Cities and Transport Program <ul style="list-style-type: none">Participated in an international research on “How Bike Sharing Lives: A Survey Result” based on Chinese 12 Cities, taking charge of questionnaires design and data analysisPublished 12 analytical articles on a research team’s social network platform
Jul. 2018 – Nov. 2018	Dept. of Innovation & Development, Development Research Center of the State Council <ul style="list-style-type: none">Wrote one chapter of the report Investigation on “Basic Research of Chinese High-Tech Enterprises”, which was commissioned by the Ministry of Science and Technology

LEADERSHIP ACTIVITIES

Jul. 2018 – Aug. 2018	“Countryside • Chinese Dream” Project / Organizer
May 2017	Belt and Road Forum for International Cooperation / Team leader
Sep. 2016 – Jun. 2017	Student Union of School of Traffic and Transportation at BJTU / President
Sep. 2015 – Jun. 2016	Student Union Office of BJTU / Director
Dec. 2014 – Mar. 2015	Admission Promotion for Social Practice held by BJTU / Group leader