

Xiaodong Qian

Institute of Transportation Studies
University of California at Davis
Davis, CA, 95616

Email: xdqian@ucdavis.edu
Website: xiaodongqian.com
Phone: 530-746-1508

RESEARCH INTERESTS

Social Equity, Traffic-associated Health and Safety, Emerging Technologies, Urban Planning

PROFESSIONAL EXPERIENCE

Lecturer

- Civil and Environmental Engineering, University of California, Davis
Davis, CA, USA *September 2020 – December 2020*

Postdoctoral Scholar

- 3 Revolutions Future Mobility Program, University of California, Davis (with Prof. Jaller and Director Circella)
Davis, CA, USA *October 2019 – Current*

Graduate Student Researcher

- Civil and Environmental Engineering, University of California, Davis (with Prof. Niemeier and Prof. Jaller)
Davis, CA, USA *October 2014 – September 2019*

Student Research Assistant

- Transportation Research Institute, Tsinghua University (with Prof. Li and Prof. Wu)
Beijing, China *December 2011 – July 2014*

Summer Research Intern

- Civil Engineering Department, Purdue University (with Prof. Ukkusuri)
Lafayette, IN, USA *July 2013 – September 2013*
- Smart Transport Lab, Korea Advanced Institute of Science and Technology (KAIST) (with Prof. Yeo)
Daejeon, Korea *June 2012 – July 2012*

EDUCATION

Ph.D. in Transportation Engineering, University of California, Davis, CA, USA *December 2019*

Dissertation Topic: Modeling Framework for Socially Inclusive Bikesharing Services

Minor: Statistics and Computer Science

Committee Members: Professor Debbie Niemeier, Professor Miguel Jaller, and Professor Susan Handy

B.S. in Civil Engineering, Tsinghua University, Beijing, China *July 2014*

Double Major: Economics and Management

Advisor: Professor Ruimin Li

RESEARCH GRANTS

- California Department of Transportation (Caltrans), “Analysis of Intelligent Vehicle Technologies to Improve Vulnerable Road Users Safety at Signalized Intersections” (PI), \$103,784, 2021 – 2022
- California Department of Transportation (Caltrans), “Dock-Based and Dockless Bikesharing Systems: Analysis of Equitable Access for Disadvantaged Communities” (Lead proposal writer and project main contributor), \$91,173, 2020 – 2021
- University of California, Davis, “Mitigate ‘Bikeshare Desert’ in Underserved Communities” (PI), \$25,000, 2018 – 2019
- U.S. Department of Transportation (DOT), “High Impact Prioritization of Bike Share Program Investment to Improve Underserved Communities' Access to Jobs and Essential Services” (project coordinator with PI Niemeier, D.), \$56,590, 2015 – 2016

- Ministry of Education of the People's Republic of China (National College Students' Innovative Training Plan), "Modeling Urban Link Travel Time with License Plate Data" (PI), \$1,500, 2012 – 2013

PUBLICATIONS

Peer-reviewed Journal Articles (* indicates the corresponding author)

1. **Qian, X.**, Jaller, M., Niemeier, D.* (2020). Enhancing equitable service level: Which can address better, dockless or dock-based Bikeshare systems? *Journal of Transport Geography*, 86, 102784. DOI: 10.1016/j.jtrangeo.2020.102784
2. **Qian, X.**, Moore, J. K., Niemeier, D.* (2020). Predicting Bicycle Pavement Ride Quality: Sensor-Based Statistical Model. *Journal of Infrastructure Systems*, 26(3), 04020033. DOI: 10.1061/(ASCE)IS.1943-555X.0000571
3. **Qian, X.***, Jaller, M. (2020). Bikesharing, Equity, and Disadvantaged Communities: A Case Study in Chicago. *Transportation Research Part A: Policy and Practice*, DOI: 10.1016/j.tra.2020.07.004
4. **Qian, X.**, Jaller, M.* (2020). Impacts of Accessibility Improvements on Bikeshare Destination Choice Among Disadvantaged Populations”, under second-round review by *Transportation Research Part D: Transport and Environment*
5. **Qian, X.***, Jaller, M., Circella, G. (2020). Optimal Locations of Bikeshare Stations Under an Equitable Consideration, under first-round review by *Transportation*
6. **Qian, X.***, Jaller, M., Circella, G. (2020). Potential Role of Shared Micro-Mobility to Complement Public Transit: The Case of San Francisco amid the Coronavirus Crisis, under first-round review by *Cities*
7. Grajdura, S., **Qian, X.**, Niemeier, D.* (2020). Awareness, Departure, and Preparation Time in No-Notice Wildfire Evacuations, under review by *Safety Science*
8. **Qian, X.**, Niemeier, D.* (2019). High impact prioritization of bikeshare program investment to improve disadvantaged communities' access to jobs and essential services. *Journal of Transport Geography*, 76, 52–70. DOI: 10.1016/j.jtrangeo.2019.02.008
9. **Qian, X.**, Wu, Y.* (2019). Assessment for health equity of PM2.5 exposure in bikeshare systems: The case of Divvy in Chicago. *Journal of Transport & Health*, 14, 100596. DOI: 10.1016/j.jth.2019.100596
10. Li, R.*, **Qian, X.**, Wu, H. (2016). Gaussian Mixture Model for Urban Link Travel Time Analysis. *Journal of Transportation Systems Engineering and Information Technology*. 16.4 (2016): 179–184 (in Chinese). Link

Articles in Preparation (* indicates the corresponding author)

1. **Qian, X.***, Jaller, M., Handy, S. (2020). Informing Bikeshare Planning and Operations Using Web-Based Crowdsourced Data: A Case Study in Chicago, Draft for *Journal of Planning Education and Research*
2. **Qian, X.**, Yang, H.* (2020). Understanding the Uncertainty of Shared Micro-mobility on Activity-Based Demand Modeling. Draft for *Transportation Research Part B: Methodological*
3. Wang, K., **Qian, X.**, Circella, G.*, Lee, Y., Malik, J., Fitch, D., Wallington, T., Broaddus, A. (2020). What mobility modes do shared e-scooters displace? A review of recent research findings. Draft for *Transport Reviews*
4. **Qian, X.**, Ma, W.* (2020). Analysis of Intelligent Transportation Technologies to Improve Cyclist Safety at Intersections. Draft for *Accident Analysis & Prevention*
5. Jaller, M.*, **Qian, X.**, Zhang, X. (2020). Spatial Distribution of Warehouses and Distribution Centers in Southern California: Reconsidering Logistics Sprawl from a Disaggregate Real Estate Transaction Analysis. Draft for *Journal of Transport Geography*

PEDAGOGICAL EXPERIENCE

Department of Civil and Environmental Engineering

University of California, Davis

Lecturer

- Undergrad Course ECI 114: Probabilistic Systems Analysis September 2020 – December 2020
 - Work through the principles of probability and their mathematical representation in the form of variables, relationships, and functions
 - Cover the methods of statistical analysis of engineering experimental and field data
 - Improve their engineering method and statistical thinking

Guest Lecturer

- Undergrad Course ECI 016: How Could We Make Bikeshare More Equitable?

May 20, 2019

Teaching Assistant

- Undergrad Course ECI 016: Spatial Data Analysis *April 2019 – June 2019*
 - Led a computer lab session to reinforce lessons presented by teachers
 - Supervised undergraduate students performing ArcGIS, AutoCAD, and R programming projects
- Undergrad Course ECI 193: Senior Design Experience *January 2018 – June 2018*
 - Reinforced lessons presented by teachers by reviewing material with students, either one-on-one or in small groups
 - Supervised undergraduate students during their final projects

DISSEMINATION OF RESEARCH

Invited Talks

- “The Challenges and Opportunities Faced by Shared Micromobility under COVID19,” INFORMS Conference on Service Science, December 19, 2020 (virtual format)
- “Spatial Equity Analysis of Dock-Based and Dockless Bike Share in San Francisco,” National Center for Sustainable Transportation (NCST) Bikeshare and Equity Webinar, September 29, 2020 (virtual format)
- “How Emerging Technologies Help Address Transportation Equity,” University of South Florida, Tampa, FL, April 24, 2020 (postponed due to COVID-19)
- “Modeling Framework for a Socially Inclusive Bikeshare System,” Oak Ridge National Laboratory (ORNL), Oak Ridge, TN April 25, 2019

Panel Discussion

- “Micromobility,” 3 Revolutions Future Mobility research workshop, Davis, CA, October 8, 2019

Presentations

- “How Emerging Technologies in Shared Micro-mobility Help Address Transportation Equity,” 3 Revolutions Future Mobility (3RFM) Research Workshop, Davis, CA, November 17–18, 2020 (virtual format)
- “Bikeshare and Public Transit amid the COVID19,” 3 Revolutions Future Mobility Program Deep Dive, Davis, CA, September 9, 2020 (virtual format)
- “Enhancing Equitable Service Level: Which Can Address Better, Dockless or Dock-Based Bikeshare Systems?” Network on European Communications and Transport Activities Research (NECTAR), Venice, Italy, March 26–27, 2020 (postponed due to COVID-19)
- “A Design of a Socially Inclusive Bikeshare System with Station Location Optimization,” INFORMS Annual Meeting, Phoenix, AZ, November 4–7, 2018
- “Modeling Framework for Socially Inclusive Bikesharing Services,” National Travel Monitoring Exposition and Conference (NaTMEC), Irvine, CA, June 12, 2018
- “How Can Bikeshare Systems Target Underserved Areas?” California Bike Summit, Sacramento, CA, October 4, 2017
- “Predicting Bicycle Ride Quality from Dynamic Measurements and Pavement Mean Texture Depth,” Bicycle and Motorcycle Dynamics, Milwaukee, WI, September 21–23, 2016

Poster Presentations

- “Wildfire Awareness, Departure Time, Mode Choice, and Emergency Communication: Decision-Making in the 2018 Camp Fire Evacuation” (second-author), Transportation Research Board (TRB) Annual Meeting, Washington D.C., January 12–16, 2020
- “Station-Level Analysis for Bikeshare Activity in Disadvantaged Communities,” Transportation Research Board (TRB) Annual Meeting, Washington D.C., January 12–17, 2019
- “High Impact Prioritization of Bikeshare Program Investment to Improve Underserved Communities’ Access to Jobs and Essential Services,” UC Davis Sustainable Transportation Energy Pathways (STEPS) Fall Research Symposium, Davis, CA, October 27, 2018.
- “Mean Texture Depth and Deflection Detection and Steering Angle Based Bike Pavement Condition Assessment,” Transportation Research Board (TRB) Annual Meeting, Washington D.C., January 8–12, 2017

HONORS AND AWARDS

- Scholarship, University of California, Los Angeles (UCLA) Lake Arrowhead Symposium, 2020
- Dissertation Grant, National Center for Sustainable Transportation (NCST), 2017
- ITS-Davis Corporate Affiliate Fellowship, sponsored by BMW, 2016
- International Research Grant, Tsinghua University “Spark Program,” 2013
- First Award, Tsinghua University Structure Design Competition, 2012
- Academic Excellence Scholarship, Tsinghua University, 2012
- Second Prize, National Physics Olympic Games (high school), 2009

ACADEMIC SERVICE

Program Committee

- Sharing Economy Track, INFORMS Conference on Service Science (ICSS 2020), December 19–21, 2020 (virtual format)

Peer-review Journal Reviewer

- The Institute of Electrical and Electronics Engineers (IEEE) Access (Since September 2020)
- Transport Reviews (Since August 2020)
- Science of the Total Environment (Since December 2019)
- Transportation Research Record: Journal of the Transportation Research Board (Since September 2019)
- Journal of Transport & Health (Since August 2019)
- Journal of Transport Geography (Since July 2019)

PROFESSIONAL MEMBERSHIPS

- Institute for Operations Research and the Management Sciences (INFORMS) (Since November 2018)
- Transportation Research Board (TRB) (Since January 2016)
- Chinese Overseas Transportation Association (COTA) (Since January 2017)