Ge Shi

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Education

University of Connecticut *Storrs, Connecticut*
Ph.D. Candidate, Civil Engineering (Transportation and Urban Engineering) *Expected Dec. 2023*
- Dissertation: Pursuing Vision Zero in Traffic Safety: A Mixed-Method, Multi-Scalar Perspective

University of Wisconsin-Madison *Madison, Wisconsin*
M.S., Civil and Environmental Engineering (Transportation) *Aug. 2018*

Chongqing Jiaotong University *Chongqing, China*
B.Eng., Traffic and Transportation (Transportation and Logistics) *Jul. 2017*

Publications

Journal Papers

Shi, G., Methoxha, V., Atkinson-Palombo, C., & Garrick, N. (2023). Moving Beyond the Vision Zero Slogan. Transportation Research Record, 2677(1), 1027–1038. doi.org/10.1177/03611981221103245

Shi G., Methoxha V, Atkinson-Palombo C, Garrick N. Sustainable Safety in The Netherlands Creating a Road Environment where People on Foot and on Bikes are as Safe as People in Cars. Transportation Research Record. 2021;2675(11):792-803. doi:10.1177/03611981211019736

Shi G., Song Y, Atkinson-Palombo C, Garrick N. Pedestrian and Car Occupant Crash Casualties Over a 9-Year Span of Vision Zero in New York City. Transportation Research Record. Submitted

Conference Presentations

Shi, G., Y. Song, C. Atkinson-Palombo, and N.W. Garrick. Pedestrian and Car Occupant Crash Casualties Over a 9-Year Span of Vision Zero in New York City. Lectern Session, TRB 103rd Annual Meeting, January 2024.

Shi, G., Y. Song, C. Atkinson-Palombo, and N.W. Garrick. Road Safety in New York City After Vision Zero for Different Land Use Contexts. Poster Session, TRB 102nd Annual Meeting, January 2023.

Shi, G., C. Atkinson-Palombo, and N.W. Garrick. Effects of a vision zero approach in New York City. Forum of European Road Safety Research Institutes (FERSI) Conference, The Hague, The Netherlands, October 2022.

Shi, G., V. Methoxha, C. Atkinson-Palombo, and N.W. Garrick. Moving Beyond the Vision Zero Slogan: The Principles of Safe System for Traffic Safety. Lectern Session, TRB 101st Annual Meeting, Washington, DC, January 2022. (Best Paper Award for TRB's ACS10: Transportation Safety Management Systems Committee)

Shi, G., V. Methoxha, C. Atkinson-Palombo, and N.W. Garrick. For Safety Sake: Stop Calling Pedestrians and Bikers Vulnerable Road Users. International Conference on Transport & Health, June 2021.

Shi, G., V. Methoxha, C. Atkinson-Palombo, and N.W. Garrick. Creating a Road Environment where People on Foot and on Bike Are as Safe as People in Cars. Poster Session, TRB 100th Annual Meeting, January 2021.

Song, Y., G. Shi, and D. Noyce. An Economical Traffic Control Device for Originally Unsignalized Intersections with Autonomous Vehicles and Human-Driven Vehicles Mixed Traffic. Poster Presentation, International Conference on Transportation and Development 2019, Alexandria, VA, June 9-12, 2019.

Book Article

Shiyong Qiu, Ge Shi, Daizong Liu, International Case Study on Low Emission Zone, Annual Report on New Energy Vehicle Industry in China (2019), CATARC, Nissan (China) Investmnent Co.,Ltd., Dongfeng Motor Corporation. (In Chinese)

Research Experience

University of Connecticut *Storrs, Connecticut*
Research Assistant – the Transportation, Technology, & Society research group — *Aug. 2019 - Current*

Selected Project 1: **The evolution of road safety outcomes in the U.S.A, compared to the Netherlands**

- Tracked the fatality rate trends (per capita basis and per user basis) in the the U.S.A. and the Netherlands from 1970 to 2019
- Examined events, policies, and programs credited with helping the Netherlands to achieve non-motorized users' fatality reduction.
- Created a video narrating the research to gain attention from the public (Over 11k views and 100 responses).

Selected Project 2: **Synthesis of Safe System principles in Sweden and the Netherlands**

- Documented details of the Dutch and Swedish approach to Safe System that is associated with their tremendous success in reducing traffic fatality.
- Reviewed the implementations of Vision Zero initiatives at different cities, including institute, steering committee, principles and engineering measures.
- Evaluated the road safety practices in the U.S.A under the framework of Safe Systems to provide policy implications.

Selected Project 3: **Effects of the Vision Zero approach in New York City**

- Compiled multi-source, large-scale data at 99,324 street segments and 2,164 census tracts including street design features, land use variable, vision zero implementations.
- Assessed the road safety outcomes for pedestrians, bicyclists, and car occupants for different land use contexts using geocoded crash data.
- Developed a comprehensive street typology framework to categorize street segments using street design elements and operational features.
- Explored the relationship between urban place types and safety outcomes at various units of analysis through statistical modeling and temporal-spatial analysis

University of Wisconsin-Madison *Madison, Wisconsin*
Course Projects

Alternative Intersection and Interchange Designs at W Beltline Hwy. and S Gammon Rd.

- Based on VISSIM micro-simulation, conducted a comprehensive evaluation of current conditions, implementation of alternative interchange designs, 10-year period volume projection, and determine the most appropriate alternative to improve operational and safety conditions at the interchange.

Bus Schedule Optimization based on Mixed-integer Programming model

- The entire model took account for the different locations of stops, multiple buses, patterns of passengers' arrivals, and the limitation of gas consumption. Using Julia and JuMP to code up the model, different scenarios were solved, and the final optimization results were identified in visualization methods. (Jupyter Notebook on GitHub)

Work Experience

World Resources Institute (USA) Beijing Representative Office *Beijing, China*
Research Intern on Sustainable Transport Policy — *Jan. 2019 - Jun. 2019*

- Conducted transport policy studies on electronic vehicle policies, congestion charging, low emission zone and drafted articles and reports.
- Evaluated the implementation of street redesign and ITS system in a CBD area and identified the remaining problems through field study.
- Supervised and motivated teams of 3 people to collect data of over 1,000 bus routes and their stops in the entire metropolitan area of Beijing, facilitating the understanding of feasibility of bus vehicle electrification.
- Technical skills used: Scientific Communications, Data Collection using Python, Data Visualization.

Beijing City Quadrant Technology Co., Ltd. *Beijing, China*
City Assistant Analyst — *Sept. 2018 - Dec. 2018*

- Collaborated with colleagues from different disciplines (software engineers, data scientists, and urban planner) to work on projects of urban governance.
- Conducted spatial analysis and creating maps using GIS to support teams
- Volunteered to the filed trip in a community renewal and street design project
- Technical skills used: Urban Design, GIS, Data Analysis.

China Railway Fifth Survey and Design Institute Group Co., Ltd. *Beijing, China*
Full-time Intern — *Jul. 2015 - Aug. 2015*

- Discovered the workflow related to railway design, and drafted the railway line design using AutoCAD

Skills

Software	PTV Vissim, HCS, Passer, Synchro, QGIS, ArcGIS, Trans AutoCAD
Programming	Python, R, Julia, Java
Other	Scientific Writing, Qualitative Research, Data Analysis, Visualization

Media

- Bloomberg CityLab, January 26, 2022. "How the Dutch Delivered a Traffic Safety Revolution" by Norman Garrick, Ge Shi and Carol Atkinson-Palombo.
- TheCityFix, August 5, 2020. "3 Lessons from China's Rocket Growth in Electric Vehicles" by Xiangyi Li, Shiyong Qiu and Ge Shi.

Teaching Experience

University of Connecticut, Department of Civil and Environmental Engineering *Storrs, Connecticut*

Instructor *Jan. 2023 - May. 2023*

Street and Highway Design, Spring 2023

- Managed the class of 33 undergraduate and graduate students in civil engineering
- Delivered lectures on land-use context, street network, street data analysis, pedestrian and bike facilities, and vertical and horizontal alignment
- Integrated technology in the classroom such as polling to facilitate active learning
- Invited guest lecturers from research institute, government, industry

Teaching Assistant *Sep. 2019 - Dec. 2022*

Transportation Engineering and Planning, Fall 2019/Spring 2020/Fall 2020/Fall 2021/ Spring 2022
Street and Highway Design, Spring 2021
Applied Mechanics I, Fall 2019/Spring 2020/Fall 2022

Experiential Global Learning *Zurich, Switzerland*

Graduate Instructor *Jul. 2023 - Aug. 2023*

Summer Sustainable Cities: Zürich

- Guided students narratives and filming documentary regarding various topics in Sustainable Transportation and City Planning.

Awards & Fellowships

2023	**Doctoral Dissertation Fellowship,** Awarded by The Graduate School of University of Connecticut
2022	**Best Paper Award,** Awarded by TRB's ACS10: Transportation Safety Management Systems Committee
2022	**Conference Participation Award,** Awarded by The Graduate School of University of Connecticut
2021	**Student Fellowship,** the Connecticut Transportation Safety Research Center (CTSRC) and the Connecticut Transportation Institute (CTI)

Service

Paper Reviewer

Transportation Research Record
TRB Annual Meeting
International Conference on Transport & Health
Sustainability

Professional Membership

Member, Institute of Transportation Engineers (ITE) UConn Chapter

Friend, Transportation Research Board (TRB) Standing Committees on: Pedestrians Committee (ACH10)

Friend, Transportation Research Board (TRB) Standing Committees on: Bike Committee (ACH20)

Friend, Transportation Research Board (TRB) Standing Committees on: Transportation Safety Management (ACS10)