

# **Qianwen (Vivian) Guo, Ph.D.**

Assistant Professor

Department of Civil and Environmental Engineering

Florida A&M University – Florida State University College of Engineering

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## **ACADEMIC APPOINTMENTS**

2023-present	Assistant Professor, Civil and Environmental Engineering, Florida A&M University – Florida State University College of Engineering
2022-2023	Assistant Professor, Civil and Environmental Engineering, Florida International University
2019- 2022	Assistant Teaching Professor, Civil and Environmental Engineering Florida A&M University-Florida State University College of Engineering
2016-2018	Postdoctoral Research Associate, Civil and Environmental Engineering University of Maryland, College Park

## **PROFESSIONAL PREPARATIONS**

Cornell University	Ithaca, NY	Transportation Engineering	Joint Ph.D. Training	2015
Huazhong University of Science & Technology	Wuhan, China	Management Science & Engineering	Ph.D.	2015
Huazhong University of Science & Technology	Wuhan, China	Transportation Engineering	M.S.	2012
Southwest Jiaotong University	Chengdu, China	Transportation Engineering	B.S.	2009

## **FUNDED RESEARCH PROJECTS**

- Pathways to Power: Fostering Sustainable Agri-food Supply Chain Management Leadership Among Women and Minorities  
Role: PI  
Sponsor: USDA National Institute of Food and Agriculture (NIFA), 09/2025 - 09/2028  
Amount: \$400,000 (100% matching)
- IntelliBridge: AI-Powered Precision in Bridge Maintenance Optimization  
Role: PI  
Sponsor: USDOT ABC-UTC, 01/2025 - 12/2025  
Amount: \$75,000 (50% matching)
- Bridging Educational Gaps: Enhancing Laboratory Infrastructure in the Department

of Civil and Environmental Engineering at FAMU-FSU Engineering

Role: PI

Sponsor: Edwin J. Beccue Memorial Foundation Trust, 2024-2025

Amount: \$50,000

- Investigating Driving Behavior in Rural Areas through Integrated Driving Simulators and Virtual Reality  
Role: PI  
Sponsor: USDOT UTC, 01/2025 - 12/2025  
Amount: \$105,000 (50% matching)
- Advancing Community-Centric Equitable Systems and Solutions in Mobility (ACCESS-M), a USDOT-funded Mobility Equity Research Center  
Role: FSU-PI  
Sponsor: USDOT, 11/2024 - 10/2026  
Amount: \$2,970,000 (my share: \$600,000)
- Research Initiation Award: Collaborative Vehicle-and-Robot Delivery to Improve Food Access in Underserved Communities; Award # 2400153  
Role: PI  
Sponsor: National Science Foundation, 10/2023 - 09/2025  
Amount: \$450,000
- Linear Resource Documentation and Significance Evaluation Project  
Role: PI  
Sponsor: Florida Department of Transportation (FDOT), 08/2024 - 10/2027  
Amount: \$300,000
- Evaluating and Validating Technology Options for Estimating Transit Vehicle Occupancy in Real Time  
Role: Co-Principal Investigator (Co-PI)  
Sponsor: Florida Department of Transportation (FDOT), 05/2022 - 10/2023  
Amount: \$225,208 (my share: \$50,000) completed
- Planning: Building a Digital Twin-Based Virtual Engineering Laboratory for Students with Disabilities; Award # 2332699  
Role: PI  
Sponsor: National Science Foundation, 10/2023 - 09/2025  
Amount: \$100,000 completed
- Equitable Restoration Strategies for Bridge and Road Infrastructure Networks after Hurricanes in Coastal Communities  
Role: Single PI  
Sponsor: USDOT ABC-UTC-2016-C6-FIU04, 10/2023 - 09/2024  
Amount: \$105,000 completed

- Sociotechnical Needs Assessment and Knowledge Base Development Towards Developing a Comprehensive, Human-Centered, Risk-Based Decision Support System for Prioritizing Bridge Projects  
Role: Co-PI  
Sponsor: USDOT ABC-UTC, 1/2024 - 12/2024  
Amount: \$157,125 (50% matching) completed
- Enhancing Urban Emergency Evacuation Through Optimization of Autonomous Vehicle Ridesharing Services under Uncertainty  
Role: PI  
Sponsor: Florida State University FYAP, 05/2024 - 04/2025  
Amount: \$20,000 completed

## PUBLICATIONS

### Book Chapters & Journal Papers (\* denotes corresponding author)

[21] Li, Z., **Guo, Q. W.**, & Schonfeld, P. (2025). Joint optimization of capacity expansion timing and increment in airport terminals: Addressing stochastic demand and logistic growth. *Transportation Research Part C: Emerging Technologies*. 180, 105347.

[20] **Guo, Q.**, Huang, X., & Ponnaluri, R. (2025). Economics of Urban Mobility. In *Urban Human Mobility* (pp. 51-61). CRC Press.

[19] Li, Z., Chow, J. Y., & **Guo, Q. V.** (2025). Runway capacity expansion planning for public airports under demand uncertainty. *Journal of Air Transport Management*, 128, 102824.

[18] Sheng, D., Wu, P., **Guo, Q. V.**, Jiang, J., & Liu, B. (2025). Integrated shore power deployment problem in an inland shipping network. *Transport Policy*. 169, 26-40. <https://doi.org/10.1016/j.tranpol.2025.04.024>

[17] Li, Z., & **Guo, Q.** (2025). Vehicle occupancy estimation in Automated Guideway Transit via deep learning with Wi-Fi probe requests. *Journal of Intelligent Transportation Systems*, 1-19.

[16] Sevim, A., **Guo, Q. W.**, Ozguven, E. E. (2025). A simulation-based decision-making framework to utilize shared autonomous vehicles for enhancing pre-disaster emergency evacuations with a focus on prioritizing vulnerable populations. *Journal of Infrastructure Preservation and Resilience*. 6(1)

[15] Du, L., Huang, F., Lu, H., Chen, S., & **Guo, Q. W.** (2024). An association rule mining-based modeling framework for characterizing urban road traffic accidents. *Sustainability*, 16, 10597. Retrieved from <https://doi.org/10.3390/su162310597>

[14] Zhuang, Y., Azfar, T., Wang, Y., Sun, W., Wang, X., **Guo, Q. W.**, & Ke, R. (2024).

Quantum computing in intelligent transportation systems: A survey. CHAIN, 1, 138-149. Retrieved from <https://ieeexplore.ieee.org/abstract/document/10838498>

- [13] **Guo, Q. W.**, Shumin Chen, Paul Schonfeld, (2023). Investment Timing and Length Choice for a Rail Transit Line under Demand Uncertainty. *Transportation research part B: Methodological*, 175, 102800.
- [12] Chen, S., & **Guo, Q.** (2022). Evaluating the Environmental Benefits of Personalized Travel Incentives in Dynamic Carpooling. *KSCE Journal of Civil Engineering*, 26(7), 3082-3093.
- [11] **Guo, Q.**, Sun, Y., Schonfeld, P., & Li, Z. (2021). Time-dependent transit fare optimization with elastic and spatially distributed demand. *Transportation Research Part A: Policy and Practice*, 148, 353-378.
- [10] Gong, H., **Guo, Q.**, Schonfeld, P., & Li, Z. (2020). Regulating a public transit monopoly under asymmetric cost information. *Transportation Research Part B: Methodological*, 139, 496-522.
- [9] **Guo, Q.**, & Li, Z. (2021). Public Transport Fare and Subsidy Optimization. *Encyclopedia of Transportation*. Book chapter.
- [8] **Guo, Q. W.**, Chen, S., Schonfeld, P., & Li, Z. (2018). How time-inconsistent preferences affect investment timing for rail transit. *Transportation Research Part B: Methodological*, 118, 172-192.
- [7] Sun, Y., Schonfeld, P., & **Guo, Q.** (2018). Optimal extension of rail transit lines. *International Journal of Sustainable Transportation*, 12(10), 753-769.
- [6] **Guo, Q. W.**, Chow, J. Y., & Schonfeld, P. (2017). Stochastic dynamic switching in fixed and flexible transit services as market entry-exit real options. *Transportation Research Part C: Emerging Technologies*. 94, 288-306.
- [5] **Guo, Q.**, Sun, Y., Li, Z. C., & Li, Z. (2017). An integrated model for road capacity choice and cordon toll pricing. *Research in Transportation Economics*, 62, 68-79.
- [4] Li, Z. C., & **Guo, Q. W.** (2017). Optimal time for implementing cordon toll pricing scheme in a monocentric city. *Papers in Regional Science*, 96(1), 163-190.
- [3] Sun, Y., **Guo, Q.**, Schonfeld, P., & Li, Z. (2017). Evolution of public transit modes in a commuter corridor. *Transportation Research Part C: Emerging Technologies*, 75, 84-102.
- [2] **Guo, Q.**, Schonfeld, P., & Li, Z. (2016). Implications of the cost of public funds in public transit subsidization and regulation. *Transportation Research Part A: Policy and Practice*, 91, 236-250.

[1] Li, Z. C., **Guo, Q. W.**, Lam, W. H., & Wong, S. C. (2015). Transit technology investment and selection under urban population volatility: A real option perspective. *Transportation Research part B: Methodological*, 78, 318-340.

### Journal Papers under Review

[5] Sevim, A., Ozguven, E., Schonfeld, P., & **Guo, Q. W.** (submitted). Dynamic Mode Switching for Transit Services in Disaster Evacuations Using Jump-Diffusion Processes. *Transportation Research Part C: Emerging Technologies*. Manuscript submitted for publication, 60 pages.

[4] Lu, J., Chen, S., **Guo, Q. W.**, & Schonfeld, P. (submitted). Dynamic Switching Models for Truck-only Delivery and Drone-assisted Truck Delivery under Demand Uncertainty. *Transportation Research Part C: Emerging Technologies*. Manuscript submitted for publication, 40 pages.

[3] **Guo, Q. W.**, Lu, J., Chow, J., & Schonfeld, P. (submitted). Equity-aware Design and Timing of Fare-free Transit Zoning under Demand Uncertainty. *Transportation Research Part A: Policy and Practice*. Manuscript submitted for publication, 40 pages.

[2] Lu, J., **Guo, Q. W.**, & Schonfeld, P. (submitted). Policy Selection and Schedules for Exclusive Bus Lane and High Occupancy Vehicle Lane in a Bi-modal Traffic Corridor. *International Journal of Sustainable Transportation*. Manuscript submitted for publication, 45 pages.

[1] Udekwe, D., Ke, R., Lu, J., & **Guo, Q. W.** (submitted). Q-RESTORE: Quantum-Driven Framework for Resilient and Equitable Transportation Network Restoration. *IEEE Transactions on Intelligent Transportation Systems*. Manuscript submitted for publication, 29 pages.

### Conference Papers

[18] Sheykhfard, A., Azmoudeh, M., Tabatabaei, F., Azimi, M., Soltani, N., **Guo, Q. W.** Ozguven, E., Modeling Barriers to Cashless Fare Adoption in U.S. Public Transit Systems. *Transportation Research Board 105<sup>nd</sup> Annual Meeting*, Washington DC USA. 11-15 Jan. 2026.

[17] Li, Z., Udekwe, D., **Guo, Q. W.** A two-stage restoration approach for road networks after disruptive natural disasters. *Transportation Research Board 105<sup>nd</sup> Annual Meeting*, Washington DC USA. 11-15 Jan. 2026.

[16] Sheykhfard, A., **Guo, Q. W.** Ozguven, E., Sadeghvaziri, E.. Cybersecurity concerns in external human-machine interfaces of autonomous vehicles: a proxy-based analysis across diverse road users. *Transportation Research Board 105<sup>nd</sup> Annual Meeting*, Washington DC USA. 11-15 Jan. 2026.

[15] Udekwe, D., Bolkas, D., Ozguven, E., Moses, R., **Guo, Q. W.** VRise: A Virtual

reality platform for immersive and interactive surveying education. Transportation Research Board 105<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2026.

- [14] Lu, J., Li, Z., Han, L., **Guo, Q. W.** Exploring nonlinear relationships and spatial heterogeneity of traffic crash density and contributing factors using the Geoshapely AI model. Transportation Research Board 105<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2026.
- [13] Udekwe, D., Ke, R., **Guo, Q. W.** Enhancing accessibility for elder users: a quantum-inspired bilevel optimization framework for transit route design. Transportation Research Board 105<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2026.
- [12] Sheykhfard, A., **Guo, Q. W.** Ozguven, E., Behavioral and psychological predictors of speeding violations in young scooter populations. Transportation Research Board 105<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2026.
- [11] Sheykhfard, A., **Azmoudeh, M., Guo, Q. W.** Ozguven, E., Lei, T., Bayramoglu, M.T., Resident Perspectives on Wildfire Preparedness and Evacuation in the Western U.S.. Transportation Research Board 105<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2026.
- [10] Sevim, A., Ozguven, E., **Guo, Q. W.**, Schonfeld, P. Joint optimization of capacity expansion timing and increment in airport terminals: Addressing stochastic demand and logistic growth. Transportation Research Board 102<sup>nd</sup> Annual Meeting, Washington DC USA. 11-15 Jan. 2025.
- [9] Li, Z., **Guo, Q. W.**, & Schonfeld, P. Investment timing and length choice for a rail transit line under demand uncertainty. Transportation Research Board 102<sup>nd</sup> Annual Meeting, Washington DC USA. 8-12 Jan. 2023.
- [8] **Guo, Q. W.** Chen, S. Investment timing and length choice for a rail transit line under demand uncertainty. Transportation Research Board 102<sup>nd</sup> Annual Meeting, Washington DC USA. 8-12 Jan. 2023.
- [7] Surangsirout, N., & **Guo, Q. W.** (presented 2024, January). Wi-Fi-Based Occupancy Estimation for Automated Guideway Transit: \_A Case Study of Metromover, Miami-Dade Transit. Paper presented at Transportation Research Board TRB 104th Annual Meeting, National Academies of Sciences, Engineering, and Medicine, Washington, D.C. (National)
- [6] **Guo, Q. W.** (presented 2023, October). Airport Runway Capacity Expansion Planning under Stochastic Demand. Paper presented at 2023 INFORMS Annual Meeting, INFORMS, Phoenix, Arizona. (National)
- [5] **Guo, Q. W.**, Joseph Y.J. Chow\*, Paul Schonfeld. Stochastic dynamic switching in fixed and flexible transit services as market entry-exit real options. International

Symposium on Transportation and Traffic Theory (ISTTT22), Northwestern University, Chicago, US. 24-26 July 2017. Lectern Presentation.

- [4] Lu, J., & **Guo, Q. W.** (presented 2023, September). Dynamic Switching between Conventional Truck Delivery and Drone-assisted Truck Delivery under Demand Uncertainty. Paper presented at Bridging Transportation Researchers (BTR) Conference, The University of Texas at Austin. (National)
- [3] Surangsriout, N., & **Guo, Q. W.** (presented 2023, September). Optimally Timed, Optimally Sized: A Deterministic Model for Airport Runway Capacity Expansion Planning. Paper presented at Bridging Transportation Researchers Conference, The University of Texas at Austin, Zoom. (National)
- [2] **Guo, Q. W.** (presented 2023, August). Transit Zero-Fares and Its Potential Benefits and Drawbacks Post-COVID-19. Paper presented at APTA Fare Collection System Committee, APTA, Zoom. (National)
- [1] **Guo, Q. W.**, Yanshuo Sun\*, Paul Schonfeld, Zhongfei Li. Effects of costly public funds on public transit subsidization and regulation. Transportation Research Board 2017 Annual Meeting, Washington DC USA. 8-12 Jan. 2017. Poster.

## TEACHING ABILITY AND EFFECTIVENESS

### **Courses Taught at FIU (all are 3-credit courses)**

Course Number	Course Name	Times taught
TTE 6506	Mass Transit Planning	1
TTE 4201	Transportation and Traffic Engineering	1

### **Courses Taught at FSU (all are 3-credit courses)**

Course Number	Course Name	Times taught
TTE 4201	Traffic Engineering	8
TTE 3004	Transportation Engineering	5
TTE 4250	Traffic Operations	2
CEG 2202	Intro to Geomatics	3
CGN4930	Prob. & Statistics for Civil Eng. Applications	1
EGN 4906	Directed Individual Study	1
CGN4930	Urban Transit Systems and Technology	1
CGN 49390	Mass Transit Planning	2

### **Student Ratings**

From Spring 2019 to Fall 2021 all students in the class listed below were asked to respond to the question “Overall rating for Qianwen Guo”; A scale of 1-5 was used [1 = Strongly Disagree,

2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree].

Year	Term	Course a	Enrollment	Mean Score in Overall Instruction (With Comparator Faculty & Dept. Means)	
				Dept. Average	Qianwen Guo
2024	Fall	CGN 5930 (FSU)	8	4.23	5.00
2024	Spring	CGN4930 (FSU)	10	4.23	5.00
2023	Spring	TTE 6506 (FIU)	14	4.12	4.78
2022	Fall	TTE4201 (FIU)	49	4.12	4.42
	Summer	TTE4250	27	4.42	4.59
	Spring	TTE 4201	45	4.16	4.65
		CEG 2202	62	4.16	4.55
2021	Spring	TTE 4201	55	4.07	4.46
		CEG 2202	68	4.07	4.45
	Summer	TTE4250	22	4.29	4.40
	Fall	TTE 4201	21	4.41	4.63
		CEG 2202	72	4.41	4.34
2020	Spring	TTE 4201	14	4.10	4.12
		TTE 3004	48	4.10	4.34
	Summer	TTE4250	35	3.64	4.16
	Fall	TTE 3004	48	4.18	4.52
		TTE 3004	37	4.18	4.6
2019	Spring	TTE 3004	25	4.15	4.50
		TTE 4201	21	4.15	4.50
	Summer	CGN4930	12	4.25	4.35
	Fall	TTE 4201	15	4.5	5.0
		TTE 3004	21	4.5	4.53

<sup>a</sup>See course names in Courses Taught section above.

### New Course Development

Probability & Statistics for Civil Engineering Applications (Summer 2019)

Urban Transit Systems (Fall 2025)

Mass Transit Planning (Fall 2024)

### Student Advising Summary

Academic Year	Number of Undergraduates
2022	18
2021	15
2020	11

**MENTORING EXPERIENCE**

- Nattakarn Surangsirout, Ph.D. student, Department of Civil and Environmental Engineering, Florida International University Fall 2022 – Summer 2023
- Jiaqing Lu, Ph.D. student, Department of Civil and Environmental Engineering, Florida International University Spring 2023 – Present
- Ziyue Li, Ph.D. student, Department of Civil and Environmental Engineering, Florida State University Spring 2024 – Present
- Daniel Udekwe, Ph.D. student, Department of Civil and Environmental Engineering, Florida State University Summer 2024 – Present
- Dr. Alican Sevim, Ph.D. graduate. Department of Civil and Environmental Engineering, Florida State University Summer 2024 – Summer 2025
- Shekinah Adaghe, Undergraduate research assistant, Department of Civil and Environmental Engineering, Florida A&M University Fall 2023 – Summer 2024
- Bibek Yadav, Ph.D. student, Department of Civil and Environmental Engineering, Florida A&M University Fall 2024 – Present
- Onindo Shuvro, Ph.D. student, Department of Civil and Environmental Engineering, Florida A&M University Spring 2025 – Present
- Pratheek Bandlu Kuchela, Master student, Department of Civil and Environmental Engineering, Florida State University Summer 2024 – Present
- Mohammad Mehedi Hasan, Ph.D. student, Department of Civil and Environmental Florida A&M University Fall 2025 – Present
- Rene Marcil, Undergraduate assistant, Department of Civil and Environmental Engineering, Florida State University Summer 2025 – Present
- Yuyan Pan, Postdoctoral Associate, Department of Civil and Environmental Florida A&M University Fall 2025 – Present

**SERVICE TO THE PROFESSION**

- Associate Editor for Digital Transportation and Safety.
- Editor, Journal of Infrastructure Preservation and Resilience (2024–present).
- Committee member, Scientific Committee of the 1st Symposium on Climate-Smart Infrastructure Innovations & Implementation (CSI3) (2025 March 3-5, Miami, FL)
- Member, Transportation and Logistics Society, Institute for Operations Research and the Management Sciences (INFORMS).
- TRB Standing Committee on Transit Management

**GUEST REVIEWER FOR REFEREED JOURNALS**

- Transportation Research Part B (Jan 2022–present).
- Transportation Research Part A (Apr 2016–present).
- European Journal of Operational Research (Feb 2016–present).
- Transportation Research Part C (Nov 2015–present).

- Transportation Research Part E (Jul 2015–present).
- Transportation Research Record (Oct 2015–present).
- IEEE Transactions on Intelligent Transportation Systems (Aug 2015–present).
- KSCE Journal of Civil Engineering (Sep 2020–present).
- Regional Science and Urban Economics (Sep 2020–present).
- Transport Policy (May 2020 - present)
- Journal of Advanced Transportation (April 2020 - present).
- Research in Transportation Economics (Oct 2016–present).

## INTERNAL SERVICE ACTIVITIES

- Member, Graduate Committee, Civil and Environmental Engineering Department, 2023-present, FAMU-FSU College of Engineering
- Member, Undergraduate Committee, Civil and Environmental Engineering Department, 2019-2022, FAMU-FSU College of Engineering
- Coordinator, Geomatics course ad hoc committee, Civil and Environmental Engineering Department, 2019-2021, FAMU-FSU College of Engineering
- Grievance Committee, Civil and Environmental Engineering Department, 2019-2022, FAMU-FSU College of Engineering
- Undergraduate Advisor, Civil and Environmental Engineering Department, 2019-2022, FAMU-FSU College of Engineering
- Undergraduate Committee, Civil and Environmental Engineering Department, 2023-present, Florida International University