Sina Bahrami

Assistant Research Scientist
Civil & Environmental Engineering
University of Michigan, Ann Arbor

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Appointments and Positions

Assistant Research Scientist — Ann Arbor, USA
University of Michigan — *Feb. 2023 - Present*
Assistant Professor — Eindhoven, Netherlands
Eindhoven University of Technology — *Sep. 2021 - Jan. 2023*

Professional Preparation

Postdoctoral Fellow — Ann Arbor, USA
University of Michigan — *2020 - 2021*
Postdoctoral Fellow — Toronto, Canada
University of Toronto — *2019 - 2019*
University of Toronto — Toronto, Canada
Ph.D. in Civil Engineering — *2015 - 2019*
Sharif University of Technology — Tehran, Iran
M.Sc. in Civil Engineering — *2013 - 2015*
Sharif University of Technology — Tehran, Iran
B.Sc. in Civil Engineering — *2007 - 2012*

Publications

Peer-reviewed Journal Articles (*co-first author)

J17. Ahmadian, M.*, **Bahrami, S.***, Nourinejad, M., and Yin, Y. (2025)Investment and Financing of Roadway Digital Infrastructure for Automated Driving, *Transportation Research Part B: Methodological*, 192, 103146.

J16. Vignon, D., and **Bahrami, S.** (2025) Safety, Liability, and Insurance Markets in the Age of Automated Driving, *Transportation Research Part B: Methodological*, 191, 103115.

J15. **Bahrami, S.**, Nourinejad, M.*, Yin, Y., and Wang, H. (2023) The three-sided market of on-demand delivery, *Transportation Research Part E: Logistics and Transportation Review*, 179, 103313.

J14. Nourinejad, M., **Bahrami, S.**, and Yin, Y. (2023) Optimal Investment in Driving Automation: Individual vs. Cooperative Sensing, *Transportation Research Part B: Methodological*, 174, 102777.

J13. Radvand, T., **Bahrami, S.**, Yin, Y., and Laberteaux, K. (2022) Curbing Cruising as Substitution for Parking in Automated Mobility, *Transportation Research Part C: Emerging Technologies*, 143, 103853.

J12. Vignon, D., Yin, Y., **Bahrami, S.**, and Laberteaux, K. (2022). Economic analysis of vehicle-infrastructure cooperative approach to automated driving, *Transportation Research Part C: Emerging Technologies*, 142, 103757.

J11. Niroumand, R., **Bahrami, S.**, Aashtiani, H. Z., and Hajbabaie, A. (2022). Battery electric vehicles network equilibrium with flow-dependent energy consumption, *Transportation Research Record: Journal of the Transportation Research Board*, 2677(5), 444–462.

J10. **Bahrami, S.**, Nourinejad, M., Nesheli, M. M., and Yin, Y. (2022). Optimal composition of solo and pool services for on-demand ride-hailing, *Transportation Research Part E: Logistics and Transportation Review*, 161, 102680.

J9. **Bahrami, S.**, and Roorda, M. J. (2022). Autonomous vehicle parking policies: A case study of the City of Toronto, *Transportation Research Part A: Policy and Practice.*, 155, 283-296.

J8. **Bahrami, S.**, Vignon, D., Yin, Y., and Laberteaux, K. (2021). Parking management of automated vehicles in downtown areas, *Transportation Research Part C: Emerging Technologies*, 126, 103001.

J7. **Bahrami, S.**, Nourinejad, M., Amirjamshidi, G., and Roorda, M. J. (2020). The hybrid electric vehicle routing problem: A power management model, *Transportation Research Part C: Emerging Technologies*, 111, 318-333.

J6. **Bahrami, S.**, and Roorda, M. J. (2020). Optimal traffic management policies for mixed human and automated traffic flows, *Transportation Research Part A: Policy and Practice*, 135, 130-143.

J5. **Bahrami, S.**, and Roorda, M. J. (2020). Autonomous vehicles relocation problem in a parking facility, *Transportmetrica A: Transport Science*, 16(3), 1604-1627.

J4. Nourinejad, M.*, **Bahrami, S.***, and Roorda, M. J. (2018). Design of parking facilities for autonomous vehicles, *Transportation Research Part B: Methodological*, 109, 110-127.

J3. **Bahrami, S.**, Aashtiani, H. Z., Nourinejad, M., and Roorda, M. J. (2017). A complementarity equilibrium model for electric vehicles with charging, *International Journal of Transportation Science and Technology*, 6(4), 255-271.

J2. Jahangiriesmaili, M., **Bahrami, S.**, and Roorda, M. J. (2017). Solution of two-echelon facility location problems by approximation methods, *Transportation Research Record: Journal of the Transportation Research Board*, 2610, 1-9.

J1. Nourinejad, M., Zhu, S., **Bahrami, S.**, and Roorda, M. J. (2015). Vehicle relocation and staff rebalancing in one-way carsharing systems, *Transportation Research Part E: Logistics and Transportation Review*, Vol. 81, No. 1, pp 98-113.

Book Chapters

B1. Meredith-Karam, P., Jiang, J., **Bahrami, S.**, and Roorda, M. (2024). Express Package Delivery Optimization Using Walkers, Cargo Tricycles and Delivery Trucks. *Combinatorial Optimization and Applications.* Springer, 407-429.

Under Review Articles:

U1. **Bahrami, S.**, Nourinejad, M., Roorda, M., and Yin, Y. Joint Optimization of Flood Water Routing and Congestion-Aware Evacuation Scheduling, *Submitted to Transportation Research Part E: Logistics and Transportation Review.*

U2. Heydari, E., Ahmadian, A.; **Bahrami, S.**, and Nourinejad, M.Generating and Leveraging Crowdsourced Travel Time Information*Submitted to Transportation Science*

Grants

G2. PI: Towards Efficient Robotaxi Deployment, *Center for Connected and Automated Transportation*, June 2025-May 2026, $240,000

G1. Co-PI: Inductive Vehicle Charging to Alleviate EV Range Anxiety, *Michigan Department of Transportation*, May 2024-May 2026, $220,000

Invited Talks and Seminars

T10. Investment and Financing of Cooperative Driving Automation. Michigan State University, East Lansing, MI.

T9. Three-sided Market of On-demand Food Delivery. University of Nebraska, Lincoln, NE.

T8. Three-sided Market of On-demand Food Delivery. University of Michigan, Ann arbor, MI.

T7. Parking management of automated vehicles in downtown areas. Traffic flow webinars organized by the TRB committee on Traffic Flow Theory and characteristics (ACP50).

T6. Impacts of Automated Vehicles on Parking. University of Arizona, Tucson, AZ.

T5. Impacts of Automated Vehicles on Parking. University of Houston, Houston, TX.

T4. Impacts of Autonomous Vehicles on Parking and Congestion. University of Michigan, Ann arbor, MI.

T3. Impacts of Autonomous Vehicles on Parking and Congestion. McMaster University, Hamilton, ON.

T2. Autonomous Vehicle Parking Policies: A Case Study of the City of Toronto. iCity-CATTS Symposium, Toronto, ON.

T1. Design of parking facilities for autonomous vehicles. 2018 TAC-ITS Canada Joint Conference & Exhibition, Niagara Falls, ON.

Technical Conference Presentations

P23. Andreoli, D., Borgers, A., van der Waerden, P., **Bahrami, S.** Driver Compliance with In-Vehicle Smart Parking Advice: A Sequential Stated Choice Experiment. 104^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P22. Ahmadian, M., **Bahrami, S.**, Nourinejad, M., and Yin, Y. Investing in Stationary and Mobile Sensors in Automated Traffic. 104^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P21. Ashrafi, Z., Nourinejad, M., **Bahrami, S.** Impacts of On-board Automated Vehicle Sensors on Traffic Flow: Analysis of Sensor Range, Rate, and Resolution. 2024 INFORMS Annual Meeting, Seattle, WA.

P20. Vignon, D., and **Bahrami, S.** Safety, Liability, and Insurance Markets in the Age of Automated Driving. 2024 INFORMS Annual Meeting, Seattle, WA.

P19. **Bahrami, S.**, Nourinejad, M., and Yin, Y. Financing Smart Roads for Driving Automation. 103^{rd} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P18. Vignon, D., and **Bahrami, S.** Safety, Liability, and Insurance Markets in the Age of Automated Driving. 103^{rd} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P17. Ahmadian, M., **Bahrami, S.**, Nourinejad, M., and Yin, Y. Optimal Investment in Driving Automation: Onboard vs. Roadside Sensors. 2023 INFORMS Annual Meeting, Phoenix, AZ.

P16. Dhaness, J., **Bahrami, S.**, Nourinejad, M., and Yin, Y. Perfect is the Enemy of the Good in Autonomous Vehicle Deployment. 2023 INFORMS Annual Meeting, Phoenix, AZ.

P15. Heydarigharaei, E., Ahmadian, M., **Bahrami, S.**, and Nourinejad, M. Traffic Assignment Under Crowd-Sensed Congestion Information. 2023 INFORMS Annual Meeting, Phoenix, AZ.

P14. Nourinejad, M., **Bahrami, S.**, and Yin, Y.Optimal Investment in Driving Automation: Individual Versus Cooperative Sensing. 102^{nd} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P13. **Bahrami, S.**, Nourinejad, M., Yin, Y., and Wang, H., The Three-Sided Market of On-Demand Food Delivery. 102^{nd} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P12. **Bahrami, S.** Bundle design for mobility as a service. 10^{th} symposium of the European Association for Research in Transportation (hEART) in Leuven, Belgium.

P11. **Bahrami, S.**, Vignon, D., Yin, Y., and Laberteaux, K. Parking Management of Automated Vehicles in Downtown Areas. 100^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P10. Vignon, D., **Bahrami, S.**, Yin, Y., and Laberteaux, K. Infrastructure Investment in the Age of Automated Vehicles. 100^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P9. **Bahrami, S.**, and Roorda, M. J. Autonomous vehicle parking policies: A case study of the City of Toronto. 99^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P8. Meredith-Karam, P., Jiang, J., **Bahrami, S.**, and Roorda, M. J., Express Package Delivery Optimization Using On-Foot Personnel, Cargo Tricycles and Delivery Trucks. 99^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P7. **Bahrami, S.**, and Roorda, M. J., Optimal Operations of an Automated Vehicle Parking Lot. Canadian Transportation Research Forum 54^{th} Annual Conference, Vancouver, BC.

P6. **Bahrami, S.**, and Roorda, M. J., Optimal Traffic Management Policies for Mixed Human and Automated Traffic Flows. 98^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P5. **Bahrami, S.**, Mousavi, K., Shafiee Fard, M., and Roorda, M. J., Optimizing Delivery Location for Online Shopping. 7^{th} METRANS International Urban Freight Conference, Long Beach, CA.

P4. **Bahrami, S.**, Shafiee Fard, M., and Roorda, M. J., Optimal Deployment of Fast Charging Stations. Canadian Transportation Research Forum 52^{nd} Annual Conference, Winnipeg, MB.

P3. Niroumand, R., **Bahrami, S.**, Aashtiani, H. Z., and Roorda, M. J., Battery Electric Vehicles Network Equilibrium with Flow-Dependent Energy Consumption. 97^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P2. Jahangiriesmaili, M., **Bahrami, S.**, and Roorda, M. J., Two-Echelon Facility Location Problems Using Approximation Methods. 96^{th} Annual Meetings of Transportation Research Board (TRB), Washington, D.C.

P1. **Bahrami, S.**, Nourinejad, M., Amirjamshidi, G., Roorda, M. J., A plugin hybrid electric vehicle routing problem with recharging. 95^{th} Annual Meeting of the Transportation Research Board (TRB), Washington, D.C.

Teaching Experience

Lecturer Eindhoven University of Technology
Courses: Mobility and Logistics, Smart Cities, and Big Data for Urban Analysis
Co-Lecturer University of Michigan
Course: Transportation Network Modeling
Guest Lecturer University of Toronto
Courses: Freight Transportation, and Transport I
Teaching Assistant University of Toronto
Courses: Transport II, Calculus I, Calculus II, Probability Theory, Engineering Economics

Media Coverage

M8. **Forbes**: How autonomous vehicles might reshape our cities.

M7. **University of Toronto Engineering News**: How self-driving cars could shrink parking lots.

M6. **Global News**: Parking lot karma: How driverless cars could change the urban landscape.

M5. **TechXplore**: How self-driving cars could shrink parking lots.

M4. **Science Daily**: How self-driving cars could shrink parking lots.

M3. **New Atlas**: Parking lots: Why autonomous cars could save acres of space.

M2. **IEEE Spectrum**: How Self-Driving Cars Might Transform City Parking.

M1. **REMI Network**: Self-driving cars may condense parking lots: study.

Service to Profession

Editorial Board

Handling Editor of Transportation Research Record: Journal of Transportation Research Board
Handling Editor of freight routing, supply chain and logistics optimization, TRB - AT015
Handling Editor of vehicle-highway automation, TRB - ACP30

Organizing Committee

2021 International Symposium on Transportation Data and Modelling
25^{th} International Symposium on Transportation and Traffic Theory (ISTTT25)

Committee Member

TRB Freight Transportation Planning and Logistics (AT015) 2016-2025
TRB Regional Transportation Systems Management and Operations (AHB10) 2016-2019

Session chair

TRB 104^{th} Annual Meeting session on Impact of Freight Policies and Advances in Freight Modeling
TRB 103^{rd} Annual Meeting session on Advances in Last-Mile Package Delivery and Logistics
2023 INFORMS Annual Meeting session on Optimization of Autonomous Transportation Systems
2021 INFORMS Annual Meeting session on Pricing in shared mobility markets
TRB 102^{nd} Annual Meeting session on Freight planning and health care logistics during COVID-19 pandemic
2021 International Symposium on Transportation Data and Modelling session on Behavior
TRB 100^{th} Annual Meeting session on Freight Operations and Logistics

Peer Review Service (Num. of reviews)

Transportation Science (7)
Transportation Research Part A: Policy and Practice (18)
Transportation Research Part B: Methodological (23)
Transportation Research Part C: Emerging Technologies (34)
Transportation Research Part D: Transport and Environment (8)
Transportation Research Part E: Logistics and Transportation Review (25)
Transportation Research Record (19)
IEEE Transactions on Intelligent Transportation Systems (17)
Transportation Letters (9)
Journal of Advanced Transportation (6)

Service to Institution

University of Michigan

Strategic Implementation Committee at Department of Civil & Environmental Engineering
IT and Communications Committee at Department of Civil & Environmental Engineering

Eindhoven University of Technology

Examination committee at Department of Built Environment
Assessment committee at Department of Built Environment
MT Research assessor at Department of Built Environment