

Sina Bahrami

Assistant Research Scientist
Civil & Environmental Engineering
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Education

University of Toronto <i>Ph.D. in Civil Engineering</i>	Toronto, Canada 2015 - 2019
Sharif University of Technology <i>M.Sc. in Civil Engineering</i>	Tehran, Iran 2013 - 2015
Sharif University of Technology <i>B.Sc. in Civil Engineering</i>	Tehran, Iran 2007 - 2012

Work Experience

Assistant Research Scientist <i>University of Michigan</i>	Ann Arbor, USA Feb. 2023 - Present
Assistant professor <i>Eindhoven University of Technology</i>	Eindhoven, Netherlands Sep. 2021 - Jan. 2023
Postdoctoral Fellow <i>University of Michigan</i>	Ann Arbor, USA Jan. 2020 - Aug. 2021
Postdoctoral Fellow <i>University of Toronto</i>	Toronto, Canada Sep. 2019 - Dec. 2019

Publications

Peer-reviewed Journal Articles (*corresponding author)

15. **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.
14. Nourinejad, M., **Bahrami, S.***, and Yin, Y. (2023) Optimal Investment in Driving Automation: Individual vs. Cooperative Sensing. *Transportation Research Part B: Methodological*, 174, 102777.
13. 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.
12. 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.
11. 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.
10. **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.
9. **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.
8. **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.
7. **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.

6. **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.
5. **Bahrami, S.***, and Roorda, M. J. (2020). Autonomous vehicles relocation problem in a parking facility. *Transportmetrica A: Transport Science*, 16(3), 1604-1627.
4. Nourinejad, M., **Bahrami, S.***, and Roorda, M. J. (2018). Design of parking facilities for autonomous vehicles. *Transportation Research Part B: Methodological*, 109, 110-127.
3. **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.
2. 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.
1. 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.

Peer-reviewed Conference Proceedings

4. **Bahrami, S.** (2022). Bundle Design for Mobility as a Service. In hEART 2022: 10th Symposium of the European Association for Research in Transportation.
3. Meredith-Karam, P., Jiang, J., **Bahrami, S.**, and Roorda, M. (2019). Express Package Delivery Optimization Using On-Foot Personnel, Cargo Tricycles and Delivery Trucks. In 8th International Urban Freight Conference (I-NUF).
2. **Bahrami, S.**, Mousavi, K., Shafiei Fard, M., and Roorda, M. (2018). Optimizing Delivery Location for Online Shopping. In Transportation Research Board 97th Annual Meeting.
1. **Bahrami, S.**, Shafiei Fard, M., and Roorda, M. (2017). Optimal Deployment of Fast Charging Stations. In 52nd Annual Conference Canadian Transportation Research Forum.

Invited Talks and Seminars

- The Three-sided Market of On-demand Food Delivery. University of Michigan, Ann arbor, MI.
- Parking management of automated vehicles in downtown areas. Traffic flow webinars organized by the TRB committee on Traffic Flow Theory and characteristics (ACP50).
- Impacts of Automated Vehicles on Parking. University of Arizona, Tucson, AZ.
- Impacts of Automated Vehicles on Parking. University of Houston, Houston, TX.
- Impacts of Autonomous Vehicles on Parking and Congestion. University of Michigan, Ann arbor, MI.
- Impacts of Autonomous Vehicles on Parking and Congestion. McMaster University, Hamilton, ON.
- Autonomous Vehicle Parking Policies: A Case Study of the City of Toronto. iCity-CATTS Symposium, Toronto, ON.
- Design of parking facilities for autonomous vehicles. 2018 TAC-ITS Canada Joint Conference & Exhibition, Niagara Falls, ON.

Technical Conference Presentations

- Nourinejad, M., **Bahrami, S.**, and Yin, Y. Optimal Investment in Driving Automation: Individual Versus Cooperative Sensing. 102nd Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- Ahmadian, M., **Bahrami, S.**, Nourinejad, M., and Yin, Y. Optimal Investment in Driving Automation: Onboard vs. Roadside Sensors. 2023 INFORMS Annual Meeting, Phoenix, AZ.
- 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.
- Heydarigharai, E., Ahmadian, M., **Bahrami, S.**, and Nourinejad, M. Traffic Assignment Under Crowd-Sensed Congestion Information. 2023 INFORMS Annual Meeting, Phoenix, AZ.
- Nourinejad, M., **Bahrami, S.**, and Yin, Y. Optimal Investment in Driving Automation: Individual Versus Cooperative Sensing. 102nd Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.**, Nourinejad, M., Yin, Y., and Wang, H., The Three-Sided Market of On-Demand Food Delivery. 102nd Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.** Bundle design for mobility as a service. 10th symposium of the European Association for Research in Transportation (hEART) in Leuven, Belgium.
- **Bahrami, S.**, Vignon, D., Yin, Y., and Laberteaux, K. Parking Management of Automated Vehicles in Downtown Areas. 100th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- Vignon, D., **Bahrami, S.**, Yin, Y., and Laberteaux, K. Infrastructure Investment in the Age of Automated Vehicles. 100th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.**, and Roorda, M. J. Autonomous vehicle parking policies: A case study of the City of Toronto. 99th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- Meredith-Karam, P., Jiang, J., **Bahrami, S.**, and Roorda, M. J., Express Package Delivery Optimization Using On-Foot Personnel, Cargo Tricycles and Delivery Trucks. 99th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.**, and Roorda, M. J., Optimal Operations of an Automated Vehicle Parking Lot. Canadian Transportation Research Forum 54th Annual Conference, Vancouver, BC.
- **Bahrami, S.**, and Roorda, M. J., Optimal Traffic Management Policies for Mixed Human and Automated Traffic Flows. 98th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.**, Mousavi, K., Shafiee Fard, M., and Roorda, M. J., Optimizing Delivery Location for Online Shopping. 7th METRANS International Urban Freight Conference, Long Beach, CA.
- **Bahrami, S.**, Shafiee Fard, M., and Roorda, M. J., Optimal Deployment of Fast Charging Stations. Canadian Transportation Research Forum 52nd Annual Conference, Winnipeg, MB.
- Niroumand, R., **Bahrami, S.**, Aashtiani, H. Z., and Roorda, M. J., Battery Electric Vehicles Network Equilibrium with Flow-Dependent Energy Consumption. 97th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- Jahangiriesmaili, M., **Bahrami, S.**, and Roorda, M. J., Two-Echelon Facility Location Problems Using Approximation Methods. 96th Annual Meetings of Transportation Research Board (TRB), Washington, D.C.
- **Bahrami, S.**, Nourinejad, M., Amirjamshidi, G., Roorda, M. J., A plugin hybrid electric vehicle routing problem with recharging. 95th Annual Meeting of the Transportation Research Board (TRB), Washington, D.C.

Leadership Experience

Role	Title	Agency	PI	Period
Project Manager	Potential Impacts of Automated Vehicles on Transportation and Land Use	Toyota Motor Engineering and Manufacturing North America	Y. Yin	2020 - 2021
Project Manager	Hybrid Optimization of Ride-Sharing Requests	Ford Motor Research and Advanced Engineering	Y. Yin	2020 - 2021
Project Manager	Design and Analysis of City Logistics Systems in Toronto	Purolator Express Delivery	M. Roorda	2017-2019
Project Manager	Applications of Drones for Last Mile Logistics	Transport Canada	M. Roorda	2019-2020

Teaching Experience

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

Media Coverage

- **Forbes:** How autonomous vehicles might reshape our cities.
- **University of Toronto Engineering News:** How self-driving cars could shrink parking lots.
- **Global News:** Parking lot karma: How driverless cars could change the urban landscape.
- **TechXplore:** How self-driving cars could shrink parking lots.
- **Science Daily:** How self-driving cars could shrink parking lots.
- **New Atlas:** Parking lots: Why autonomous cars could save acres of space.
- **IEEE Spectrum:** How Self-Driving Cars Might Transform City Parking.
- **REMI Network:** Self-driving cars may condense parking lots: study.

Service to Profession

Committee Member	
TRB Freight Transportation Planning and Logistics (AT015)	2016-Present
TRB Regional Transportation Systems Management and Operations (AHB10)	2016-2019
Organizing Committee	
2021 International Symposium on Transportation Data and Modelling	
25 th International Symposium on Transportation and Traffic Theory (ISTTT25)	
Editorial Board	
Sub-editor of freight routing, supply chain and logistics optimization, TRB - AT015	
Session chair	
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 100th Annual Meeting session on Freight Operations and Logistics

Peer Review Service (Num. of reviews)

Transportation Science (2)
Transportation Research Part A: Policy and Practice (13)
Transportation Research Part B: Methodological (14)
Transportation Research Part C: Emerging Technologies (25)
Transportation Research Part D: Transport and Environment (6)
Transportation Research Part E: Logistics and Transportation Review (17)
Transportation Research Record (17)
IEEE Transactions on Intelligent Transportation Systems (13)
Transportation Letters (5)
Journal of Advanced Transportation (4)

Service to institution

University of Michigan

IT and Communications Committee at Department of Civil & Environmental Engineering
2023 Towner prize judging committee

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

Mentored and Supervised Students

Ph.D. Students

Yutian Liu (Eindhoven University of Technology)
Elham Heydari-gharaei (York University)
Tara Radvand (University of Michigan)
Zahra Ashrafi (York University)

Master Students

Senna Baijens (Eindhoven University of Technology)
Hamzeh Moghaddam (Eindhoven University of Technology)
Dennis Andreoli (Eindhoven University of Technology)
Mohammad amir Ahmadian (York University)
Joshua Dhaness (York University)
Amirsalar Alampoor (Sharif University of Technology)

Undergrad Students

Patrick Meredith Karam (University of Toronto)
Jeffrey Jiang (University of Toronto)
Motahare Shafiei Fard (Sharif University of Technology)
Mobina Nankali (Sharif University of Technology)
Shaghayegh Nouhi (Sharif University of Technology)

Honors and Awards

- Runner-up to best paper award, ITS Canada, 2019.
- Runner-up to best conference paper award, 54th Canadian Transportation Research Forum, 2019.
- Richard Soberman graduate student fellowship, University of Toronto, 2017.