

OTHMANE BOUALAM

PhD Candidate in Transportation Engineering

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PROFILE

Transportation engineer and PhD candidate at Széchenyi István University specialising in the capacity modelling of single-lane roundabouts. Research focuses on autonomous-vehicle penetration and the effects of pedestrians and cyclists on entry capacity, combining field observations, microscopic traffic simulation, nonlinear regression, likelihood-ratio testing and explainable machine-learning techniques. Research outputs include a peer-reviewed journal article and conference publications on roundabout operations, autonomous vehicles and vulnerable road users.

RESEARCH INTERESTS AND EXPERTISE

Roundabout capacity modelling	Autonomous and connected vehicles	Pedestrian and cyclist impacts
Microscopic traffic simulation	Traffic operations and safety	Statistical and explainable modelling

EDUCATION

2021 - Present	PhD in Civil / Transportation Engineering Széchenyi István University Győr, Hungary Research topic: capacity assessment and modelling of single-lane roundabouts under autonomous-vehicle penetration and vulnerable-road-user demand. Expected completion: 2027.
2019 - 2021	MSc in Infrastructure Engineering Széchenyi István University Győr, Hungary
2017 - 2018	BSc in Civil Engineering Mohammed First University Oujda, Morocco

RESEARCH AND TEACHING EXPERIENCE

2021 - Present	Doctoral Researcher Széchenyi István University Győr, Hungary Designing field-data and microsimulation studies; developing capacity models for single-lane roundabouts; analysing interactions among conventional vehicles, autonomous vehicles, pedestrians and cyclists; preparing journal and conference publications.
During PhD	Teaching and Academic Support Széchenyi István University Győr, Hungary Supporting transportation-engineering teaching and research activities, including data processing, simulation-based analysis and scientific communication.

SELECTED AND FULL PUBLICATION RECORD

Seven scientific outputs listed in MTMT, including one peer-reviewed journal article and conference publications. Citation counts are dynamic; links below lead to the authoritative MTMT records.

- Nagy, V., Boulam, O. and Borsos, A. (2026). Mikroszimuláció-alapú körforgalmi kapacitáselemzés, az autonóm járművek, gyalogosok és kerékpárosok interakcióinak figyelembevételével. In: XVI. Nemzetközi Közlekedéstudományi Konferencia, pp. 643-650. [\[MTMT\]](#)
- Boulam, O. and Borsos, A. (2024). Impact of VRUs on the Capacity of Single-lane Roundabouts. Conference contribution. [\[MTMT\]](#)
- Boulam, O. and Borsos, A. (2024). Modelling the capacity reduction effect of bicycles and pedestrians in single-lane roundabouts. In: XIV. Nemzetközi Közlekedéstudományi Konferencia, pp. 88-99. [\[MTMT\]](#)
- Boulam, O. and Borsos, A. (2023). Roundabout Capacity Modeling: A Comprehensive Review. In: I. Közlekedésbiztonsági konferencia / Transport Safety Conference, pp. 185-196. [\[MTMT\]](#)

- Boualam, O., Borsos, A., Koren, C. and Nagy, V. (2022). Examining the Impacts of Autonomous Vehicles on Roundabout Capacity. 34th ICTCT Conference. [\[MTMT\]](#)
- Boualam, O. and Borsos, A. (2022). Investigating the Potential Effects of Autonomous Vehicles on Roundabout Capacity. XX European Transport Congress / XII International Conference on Transport Sciences, pp. 173-182. [\[MTMT\]](#)
- Boualam, O., Borsos, A., Koren, C. and Nagy, V. (2022). Impact of Autonomous Vehicles on Roundabout Capacity. Sustainability, 14(4), 2203. <https://doi.org/10.3390/su14042203> [\[MTMT\]](#)

RESEARCH METHODS AND DIGITAL SKILLS

- **Traffic analysis:** capacity estimation, traffic-flow analysis, field-data processing, queue and entry-flow assessment
- **Simulation:** PTV Vissim, scenario design, autonomous-vehicle penetration modelling
- **Data and modelling:** R, Python, nonlinear regression, likelihood-ratio testing, SHAP-based interpretation
- **Engineering software:** AutoCAD Civil 3D, Microsoft Office

LANGUAGES

Arabic - Native English - C1 French - C1

ACADEMIC PROFILES AND IDENTIFIERS

- **LinkedIn:** <https://www.linkedin.com/in/othmane-boualam-486b33138/>
- **ResearchGate:** <https://www.researchgate.net/profile/Othmane-Boualam>
- **MTMT publication records:** <https://m2.mtmt.hu/>
- **Hungarian Doctoral Council profile:** https://regi.doktori.hu/index.php?lang=EN&menuid=192&popup=1&sz_ID=41543

ACADEMIC STRENGTHS

Scientific writing; literature review; analytical problem-solving; experimental design; field-data collection; traffic simulation; statistical modelling; research presentation; international academic collaboration.