Lecture Notes in Mobility

Ciaran McNally · Páraic Carroll · Beatriz Martinez-Pastor · Bidisha Ghosh · Marina Efthymiou · Nikolaos Valantasis-Kanellos *Editors*

Transport Transitions: Advancing Sustainable and Inclusive Mobility

Proceedings of the 10th TRA Conference, 2024, Dublin, Ireland - Volume 1: Safe and Equitable Transport

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Lecture Notes in Mobility

The book series Lecture Notes in Mobility (LNMOB) reports on innovative, peer-reviewed research and developments in intelligent, connected and sustainable transportation systems of the future. It covers technological advances, research, developments and applications, as well as business models, management systems and policy implementation relating to: zero-emission, electric and energy-efficient vehicles; alternative and optimized powertrains; vehicle automation and cooperation; clean, user-centric and on-demand transport systems; shared mobility services and intermodal hubs; energy, data and communication infrastructure for transportation; and micromobility and soft urban modes, among other topics. The series gives a special emphasis to sustainable, seamless and inclusive transformation strategies and covers both traditional and any new transportation modes for passengers and goods. Cutting-edge findings from public research funding programs in Europe, America and Asia do represent an important source of content for this series. PhD thesis of exceptional value may also be considered for publication. Supervised by a scientific advisory board of world-leading scholars and professionals, the Lecture Notes in Mobility are intended to offer an authoritative and comprehensive source of information on the latest transportation technology and mobility trends to an audience of researchers, practitioners, policymakers, and advanced-level students, and a multidisciplinary platform fostering the exchange of ideas and collaboration between the different groups.

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Preface

We are pleased to publish the Conference Proceedings of the 10th Transport Research Arena (TRA 2024), held on April 15–18, 2024, in Dublin, Ireland. The conference brought together 4500 delegates from 57 countries who came together to discuss research findings, the latest innovations in policy, technology and practice, and the future directions of mobility and transport.

The conference tagline was *Transport Transitions: Advancing Sustainable and Inclusive Mobility*, and four primary conference themes were defined, namely

- Safe & Inclusive Transport
- Sustainable Mobility of People and Goods
- Efficient & Resilient Systems
- Collaborative Digitalization.

TRA takes place every 2 years, and TRA2024 featured an array of plenary sessions, ministerial sessions, strategic sessions and special sessions which took place alongside the technical programme. A call for papers was issued in early 2023 which resulted in 1182 submissions. A double-blind peer review process was initiated, which ultimately resulted in 784 papers that were chosen for presentation at the conference (66% conversion rate). These papers were presented in a combination of oral or poster presentations over the course of the conference.

All accepted papers presented at TRA 2024 are published in a topical collection of the journal European Transport Research Review (ETRR) or within these proceedings. Both are published in a fully open access format.

TRA is a multi-modal conference that draws on the support of key stakeholders. These include the European Commission, ACARE (Advisory Council for Aviation Research and Innovation in Europe), ALICE (Alliance for Logistics Innovation through Collaboration in Europe), CEDR (Conference of European Road Directorates), ECTP (European Construction Technology Platform), ERRAC (European Rail Research Advisory Council), ERTRAC (European Road Transport Research Advisory Council), ETRA (European Transport Research Alliance), and the Waterborne technology platform. Key Irish supporters of the event were Transport Infrastructure Ireland, Enterprise and Ireland and the Irish Government's Department of Transport.

The editors would like to express their thanks to the presenters, authors, reviewers, session chairs, committee members and sponsors for helping deliver such a successful event. TRA 2026 will take place in Budapest, Hungary.

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