



## **Communications in Transportation Research: Vision and scope**

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# Communications in Transportation Research

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## Editorial

### Communications in Transportation Research: Vision and scope



Transportation is a vibrant, practical and public-oriented field that has undergone rapid and sustained growth. Traditionally, this growth was largely due to urbanization and increased trade and travel between countries and regions across the world. At most research universities worldwide, transportation engineering, as a sub-discipline under civil engineering, mainly analyses relationships among travelers, vehicles, transport infrastructure, and environment, using highly aggregated data (e.g., origin-destination matrix, traffic volume, speed, density). In recent years, thanks to the rapid advancement in data collection and processing (e.g., high-resolution individualized real-time data), vehicular technologies (e.g., connected, automated and electric vehicles), and computational and communication enhancement (e.g., real time automatic control, cloud and edge computing), transportation engineering keeps expanding its borders, encompassing more and more emerging interdisciplinary components (e.g., shared mobility, modular vehicles, flying cars, hyperloop, boring). Not surprisingly, more and more researchers with a diverse background are involved in transportation related studies, including but not limited to computer science, mechanical engineering, electrical engineering, control engineering, psychology, urban planning, business, law. This is because transportation is essentially interdependent with a number of other large-scale systems, including electricity grid (e.g., via electric vehicles), communication networks (e.g., via connected vehicles), emergency management systems (e.g., via emergency vehicles), and even societal systems (e.g., via residential development and house valuation), which overhauls human mobility/travel behaviors, infrastructure systems, and societal awareness. Indeed, our next generation urban mobility system will become a system of multiple systems. We believe that the future transport discipline can be characterized as an inter-disciplinary system of systems with emerging components that are enabled and empowered by huge amount of data that are collected, communicated, and processed in real time and in various forms. This journal *Communications in Transportation Research* (COMMTR) is focused on the above characteristics.

#### 1. COMMTR's vision

COMMTR publishes peer-reviewed high-quality research representing important advances of significance to emerging transport systems. The mission is to provide insightful theories, impactful advances, and interesting discoveries to readers, while ensuring a fair, fast, and expert peer review to authors. We welcome submissions of a significant topic appealing to a broad audience beyond the traditional transportation engineering community, of inter-disciplinary nature (transport, civil, control, artificial intelligence, social science, psychological science, medical services, etc.), of complex and inter-related system of systems, of

evidence of data strength, of visionary analysis and forecast towards the way forward, and of potentially implementable and utilizable policies/practices.

COMMTR is an open access journal in collaboration with Tsinghua University Press and Elsevier. This journal targets to publish papers that have paradigmatic change contributions *to the transportation field*. Pure theoretical submissions (e.g., an improved algorithm for a transport problem or using familiar techniques to solve new transport problems) are generally not acceptable, unless with paradigmatic contributions. It is understandable that there will not be a large amount of paradigmatic change research. Therefore, this journal stresses the contributions *to the transportation field*, in other words, existing technologies, methods or insights in other disciplines may have paradigmatic change contributions *to the transportation field*. We envision that a large majority of papers published in this journal will be of this type.

#### 2. COMMTR's scope

##### 2.1. Article types

Full length articles are expected to present a major advance to the transportation field. Articles include an abstract (no more than 250 words) and sections with sub-headings such as introduction, data, results, discussions, conclusions, and methods. Figures or tables are particularly encouraged. A typical full length article is no more than 7000 words + no more than 8 display items (figures or tables). A photograph and a brief biosketch of each author should be provided at the end as an illustration. In particular, we encourage open data and codes for replication.

A Review is an authoritative, balanced survey of recent developments about a specific topic in the interest of the journal's community. Although Reviews should be recognized as scholarly by specialists in the field, they should be written with a view to informing non-specialist readers. Thus, Reviews should be presented using straightforward prose, avoiding excessive jargon and technical detail. Reviews should be about 9000 words long and typically include no more than 8 display items (figures or tables). A photograph and a brief biosketch of each author should be provided at the end.

Discussions present in-depth analysis of a heavily discussed research topic, product, and/or trend of innovation related to the journal's community. They should be commissioned by the editors. They should be of immediate interest to a broad readership and should be written in an accessible, non-technical style. A typical discussion should not exceed 1500 words in text, no abstract, up to 2 display items, and no more than 10 references. A photograph and a brief biosketch of each author should be provided at the end.

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Editorials present a short, invited opinion piece that discusses an issue of a critical topic/theme that may attract due attention by the community. Editorials should be forward-looking and/or are able to stimulate novel research ideas. Editorials should have fewer than 1500 words total, no abstract, a minimal number of references (definitely no more than 5) and at most 1 display item. A photograph and a brief biosketch of each author should be provided at the end.

### 2.2. Submissions expected (distinctions with transportation discipline journals)

Exemplar article titles may include but not limited to the following styles, “An unnoticed side effect of electric vehicles in urban transport network: An empirical analysis”, “On the nexus between transportation and communication networks: Model development, field experiments, and large-scale implementation”, “Blockchain technology application in transportation: status and research opportunities”, “Artificial intelligence for vehicle energy management: integrating engine data with meteorological data”. The contents will include full length research articles, reviews, discussions, and editorials.

**Generality of the Studied Problem:** We expect our submissions to deal with a general problem in the transportation field. Research dealing with a specific problem for a particular scenario will not be considered by this journal. The research should have potential to benefit and be applied by other studies.

**Evidence of Data Strength:** The authors should demonstrate the strong evidence of data strength. Findings from unique and/or large-scale dataset are particularly welcomed. This journal does not focus on the methodological aspect and lengthy equations should be avoided. A pure theoretical paper will be not considered by this journal unless supported by experimental or empirical data.

**Emerging Transport Solutions:** The journal only accepts submissions focusing on emerging transport solutions. A traditional traffic engineering or network modelling study without fundamentally new concepts will not be considered.

**Fast Turnaround:** We aim to provide first decision to authors within three weeks after submission. A paper will undergo, in principle, at most two reviews; that is, a revised paper will receive either an “acceptance” or a “rejection” decision, but not a “revision” decision.

### 3. Editorial board membership

An outstanding inaugural editorial board has been assembled including prominent scholars and rising stars across the world. Editorial board members have a term of three years. The membership renewal will be determined based on i) the contribution of the candidate to the field of transportation, ii) the contribution of the candidate to this journal, and iii) the balance/diversity of research expertise, geography, and gender. In principle, each editorial board member is expected to publish at least one

paper in his or her term. In the early stage of the journal, all submissions will be handled by the two editors-in-chief.

### Declaration of competing interest

None.

### Acknowledgement

We wish to express our sincere gratitude to Tsinghua University Press for covering the open access charges for our authors, and Elsevier to provide publishing service for the journal. Together with them, the editorial team will endeavor to develop a forward-looking journal with impact beyond the transport community.



Xiaobo Qu is a Chair Professor (with tenure) in the Department of Architecture and Civil Engineering, Chalmers University of Technology in Sweden. His research is focused on improving large, complex and interrelated urban mobility systems by integrating with emerging technologies. To date, Prof. Qu has secured research funding well above 9 million Euros from the Australian Research Council, Swedish Innovation Agency Vinova, STINT, and European Union. He has published over 120 journal articles published at top tier journals in the area of transportation. He is an elected member in Academia Europaea-The Academy of Europe.



Shuaian (Hans) Wang is a Professor at The Hong Kong Polytechnic University (PolyU). Prior to joining PolyU, he worked as a faculty member at Old Dominion University, USA, and University of Wollongong, Australia. Prof. Wang's research interests include shipping operations management, green shipping, big data in shipping, port planning and operations, urban transport network modeling, and logistics and supply chain management. Prof. Wang has published over 150 journal papers. He dedicates to rethinking and proposing innovative solutions to improve the efficiency of maritime and urban transportation systems, to promote environmental friendly and sustainable practices, and to transform business and engineering education.

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