

Transportation Research Part C

Special Issue Call for Papers

Dynamic Transportation Network Modeling: Emerging Technologies, Data Analytics and Methodology Innovations

Scope:

Dynamic transportation network modeling is essential to understand the dynamics of vehicular/passenger flow and transportation system performance and to support decision making of system-level transportation management. Tremendous research has been dedicated to model dynamic transportation networks in the past few decades with rich outcomes on both theory and practices. However significant challenges need to be overcome to support widespread deployment of traditional dynamic network models in terms of computational efficiency and calibration. In addition, recent years have witnessed new challenges to network modeling, largely attributed to emerging technologies and systems, such as connected and automated vehicles (CAVs), shared mobility services, and smart cities, all enabled by new communication and sensing technologies. They also bring a variety of new data sets that hold great potential to improve network models, theories and transportation systems. Emerging technologies and large-scale multi-source data call for new theories, models, computational methods, data analytics, and application scenarios to study dynamic transportation networks that are multi-scale, multi-modal, and multi-jurisdictional in the context of emerging transportation systems. This special issue encourages submittal of papers regarding new theories and methods to integrate emerging systems into dynamic transportation network modeling, methods to coherently integrate DTA models with increasingly available data, methods for large-scale computation, and real-world network modeling case studies. Relevant topics include, but are not limited to:

- *data analytics and data-driven methods for large-scale networks*
- *within-day and day-to-day dynamic processes*
- *theories and models of integrating shared mobility services (e.g., shared cars, trips, bikes, e-bikes, and scooters) in dynamic networks*
- *theories and models of integrating connected automated vehicles in dynamic networks*
- *theories and models of integrating smart and connected communities in dynamic networks*
- *freight modeling in dynamic networks*
- *dynamic network loading and traffic simulation (micro/meso/macro)*
- *dynamic OD estimation*
- *stochastic modeling of transportation networks*
- *online (or real-time) dynamic models*
- *activity-based modeling and analysis*
- *mathematical foundations for networked ODE/PDE systems with routing functions at nodes.*
- *game theory on networks, e.g., Nash-Stackelberg games*
- *dynamic vehicle routing for emerging systems*
- *dynamic traffic/transportation management and control strategies, such as dynamic congestion pricing, network-wide traffic control, etc.*

Submission Method:

Guidelines for manuscript submission can be referred to <http://ees.elsevier.com/trc>.

When submitting your manuscript, please choose “**VSI:DTA2020**” for “Article Type”. This is to ensure that your submission will be considered for this Special Issue instead of being handled as a regular paper.

Important dates:

- Special issue article type becomes available in EES: May 15th, 2020
- Submission deadline – August 1st, 2020
- Author notification of first round of reviews – November 1st, 2020
- Author notification of second round of reviews (if needed) – January 1st, 2021
- Special issue completed – April 1st, 2021

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