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Transactions on Transport Sciences
Peer-Reviewed Open Access Journal
Vol. 2/2026 DOI:
journal homepage: www.tots.upol.cz

Editorial

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Modern transportation research addresses an interconnected spectrum of human behaviour, vehicular automation, urban spatial design, and global macroeconomic policy. The articles compiled in this issue of *TOTS* provide data-driven insights to mitigate traffic fatalities, optimize multi-modal traffic flows, enhance social equity, and improve global supply chain performance. Road traffic accidents remain a critical global health crisis, causing 1.3 million fatalities annually (nearly 3,700 deaths per day), with speed limit violations serving as a primary driver of severity.

There are different ways to approach the speed problem. Anwer et al. used Structural Equation Modelling (SEM) to demonstrate that the deployment of smart speed enforcement cameras yields a 10% reduction in vehicle speeds within enforced areas alongside reduced speed variance across vehicles.

But who are the speeders? Focusing on developing countries, Bin Siraj et al. conducted a Driver Behavioural Questionnaire (DBQ) with 3,000 drivers in Rajshahi, Bangladesh. They identified middle-aged male drivers as the group most frequently involved in crashes due to aggressive driving, sudden speed reductions, and inattentive lane changes, with license possession, driver occupation, and physical disabilities acting as major contributing factors.

Whatever the reasons for speeding are, increasing throughput rate is not the goal of those who drive fast or exceed speed limits, while technological advancements in vehicles and service delivery models offer new operational opportunities in this respect. However, they also introduce new and complex integration trade-offs. Mohan and Gopal utilized microscopic VISSIM traffic simulations to assess the impact of autonomous vehicle (AV) penetration in heterogeneous driving environments typical of India. Their results reveal a clear divergence in performance: while AVs increase throughput on uninterrupted facilities - boosting expressway capacity by 87% and highway midblock capacity by 21% - their cautious driving logic reduces capacity at interrupted facilities, causing a 13–18% capacity drop at unsignalized at-grade intersections.

The goal of getting from A to B efficiently – i.e. having efficient mobility-modes at disposal - is the connection to the next paper, about Demand-Responsive Transport (DRT) by Campisi et al. They systematically reviewed 43 studies to examine how user demographic variables - specifically gender, age, and income - influence the adoption of DRT. Situated between fixed-route public transit and taxis, DRT provides essential flexible mobility in underserved regions, enhancing personal autonomy and social inclusion for elderly and vulnerable populations.

Solutions like DRT, other measures to reduce/replace motorised individual transport, or traffic calming activities help to improve mobility-preconditions for all road users and to improve life quality in urban settings. Physical urban design directly influences multi-agent interaction dynamics, but also local economic outcomes. To provide operational guidelines for low-speed shared zones without traffic signals, Dostalova et al. formulated a density-based delay model expressing vehicle speed as a function of local pedestrian concentration, hinting to acceptable delay for motorised traffic, throughput thresholds and high-end safety for all road users, as assistance for urban planners.

A propos non-motorised road users, Harama et al. analysed property market responses to cycling infrastructure. They conducted a systematic review of 6 empirical studies across North America, Asia, and Africa using spatial econometric models. They found that off-street trails and multi-use paths consistently generate positive or neutral residential property value impacts when connected to green space and transit access. On-street bike lanes do so as well, but different studies yield context-dependent outcomes that vary across urban core, suburban, and peripheral neighbourhood typologies.

At the international logistics scale, overall competitiveness depends on systemic supply chain efficiency, and here is were the transport of goods comes in. Ulkhaq et al. applied models including variables like customs efficiency, infrastructure, international shipments, logistics competence, tracking, and timeliness, in order to classify countries according to their logistic competence into high, moderate, and low-performance clusters. They offered targeted policy recommendations for low-performing countries to address inefficiencies through infrastructure investment, digitalization, and customs modernization.

Together, these studies demonstrate that improving transportation networks requires a coordinated approach that bridges individual driver psychology, automated enforcement, cautious AV integration, flexible public transit, evidence-based spatial design, and international logistics governance.