TRANSPORTATION RESEARCH PART A:

CALL FOR PAPERS

Special Issue on Urban Mobility Electrification

Models / Algorithms / Behaviour Analysis / Transport Policies / Big Data Analytics for Urban Mobility Electrification

Topics of Interest to this special issue include, but are not limited to:

- *Innovative Approaches and Policies to Infrastructure Planning, Operation, and Maintenance for EVs*
- *Advancements in Behavioral Modeling within Electrified Mobility Systems*
- *Optimization Models for EV Charging and Routing Operations*
- *Policy Analysis and Empirical Studies in the Realm of e-Mobility Systems*
- *Integration of Electrification, Automation, and Ride-Sharing Technologies*
- *Cutting-Edge Charging, Battery, and Energy Management Technologies for Electrified Mobility Systems*

Submission Guideline*:*

All submissions will go through the journal's standard peer-review process. For guidelines to prepare your manuscript please visit Guide for authors. Your paper can be submitted via Editorial Manager.

When submitting your manuscript, please choose "VSI: Urban Mobility Electrification" 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.

Submission deadline*:* ***15 December 2024***

More information can be accessed via the following link: https://www.sciencedirect.com/journal/transportation-research-part-a-policy-and-practice/about/call-for-papers#urban-mobility-electrification

Special issue information:

The electrified mobility system is an intricate ecosystem, encompassing various elements like human-driven electric vehicles (EVs), autonomous electric vehicles, batteries, charging infrastructure, road networks, and mixed traffic flows. It also involves various stakeholders such as government entities, EV owners, passengers, and charging facility operators. The rapid development of electrified mobility systems worldwide has given rise to a couple of transportation, social, and economic challenges. To effectively address these challenges stemming from the exponential growth in electric vehicle adoption, it is imperative to cultivate a profound understanding of EV-related travel & charging behaviors and policies, more crucially, to establish a sustainable system that relies less on subsidies to facilitate widespread EV adoption.

The travel behaviors and charging strategies of EV users are currently undergoing significant transformations, owing to the rapid advancements in battery and charging technologies. For instance, the proliferation of long-range EVs with driving ranges exceeding 200 miles has made electric vehicles suitable for a broader spectrum of travel needs. Urban EV owners no longer need to recharge their vehicles daily; instead, they typically visit public charging stations once or twice a week. Moreover, the widespread adoption of fast charging, battery swapping, and home charging technologies has substantially mitigated inconveniences and waiting times for EV owners. Nevertheless, existing charging infrastructure and deployment models, often referred to as facility location models akin to traditional refueling stations, may not be suitable for planning urban EV infrastructure. To cater to the mounting demand for charging and accommodate the evolving charging behaviors in urban electrified systems, it is imperative to engage in more edge-cutting methods and empirical research on charging behavior, charging facility planning, and the formulation of policies governing EV incentive programs.

Additionally, emerging technologies like automation and ridesharing services are coexisting and intertwining with EVs in our society. This dynamic is reshaping the electrified mobility systems into a more challenging yet remarkable and sustainable ecosystem, comprised of vehicles, users, and grid networks. The explosive growth in the fleet size of EVs has ushered in new challenges for this evolving ecosystem. Hence, there is a pressing need for advanced battery and energy management policies to enhance the sustainability and cost-effectiveness of both electrified mobility systems and grid networks. These advanced strategies encompass a range of initiatives, including spatial-temporal coordination of charging station pricing, safeguarding batteries from overcharging, and implementing battery health monitoring. These innovative management strategies will not only extend the lifespan of EV batteries and charging facilities but also reduce the overall costs for all stakeholders within the EV-based ecosystem.

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