IEEE Transactions on Intelligent Transportation Systems

Call For Papers

Special Issue on Public Transit Planning and Operation in the Era of
Automation, Electrification, and Personalization

MOTIVATION AND SCOPE

The advent of Connected and Autonomous Vehicles (CAVs) and Mobile Internet technologies is reshaping public transport sector. Autonomous buses are equipped with varying advanced sensors, and hold great promises to enhancing the responsiveness and flexibility of public transit system. In the context of CAVs, transit operators can not only optimize service headway but also adjust bus capacity to meet the time-varying passenger demand. Anticipated benefits of introducing autonomous buses to the existing transit systems include safety improvement, driver cost reduction, and optimal routing. Bus electrification is another global trend to replace traditional diesel buses for energy savings. Electric buses are advantageous to both operators and passengers due to low greenhouse gas emission, maintenance cost, as well as noise pollution. In recent years, demand responsive public transport (DRPT) services (e.g. customized bus, microtransit) receive huge success thanks to the development of Mobile Internet. Unlike traditional bus services or the fixed-route transit service that relies on passive recipients, fixed stops, and schedules, DRPT can provide personalized service for specific clients through interactive information platform (Internet or smartphone).

The aforementioned new types of public transit services significantly improve service quality, reduce energy consumption, and ultimately attract more ridership. To fully explore the benefits of personalized, electric and autonomous transit systems, new analytical models and data-driven methods for transit planning and operation are needed.
This special issue solicits novel contributions on all aspects of theoretical and applied studies in addressing public transit planning and operation issues in the context of automation, electrification and personalization.

LIST OF TOPICS:
Topics of interest to this special issue include, but are not limited to:

- Autonomous bus scheduling;
- Electric bus charging strategy optimization;
- Demand-responsive transit service network design;
- Charging infrastructure planning for public transit systems;
- Timetable determination for autonomous, electric and demand-responsive buses;
- CAV-enabled transit signal priority;
- Multisource data-driven public transit demand analysis and forecasting;
- Behavioral modeling of new transit service modes;
- Public transit big data analytics.

PAPER SUBMISSION GUIDELINES:
Paper submission should conform to the information for authors available at https://mc.manuscriptcentral.com/t-its.

IMPORTANT DATES:
First submission deadline: April 30, 2020
Notification of first decision: July 31, 2020
First revision submission deadline: September 30, 2020
Notification of final decision: December 31, 2020
Final manuscript (camera ready) submission deadline: February 28, 2021
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