

Call for papers

The 21st International IEEE Conference on Intelligent Transportation Systems

Maui, Hawaii, USA, November 4-7, 2018

Workshop

Integrated Urban Roadway Control – Contemporary and Future Solutions

Urban traffic control has been implemented in a number of ways and in a number of operational conditions. From deployment of traditional traffic signals (on arterial streets) to future wireless-communication-based control (without traffic lights) in Connected and Automated Vehicle (CAV) environment, there is a number of interesting solutions that deserve our attention. For example, traffic control has worked as an interface between freeway and arterial operations in urban networks. It has been used to give priority to various traveling modes (e.g. priority for public transit) and address varying traffic conditions (e.g. adaptive traffic control). It has been also used to limit access in certain areas (e.g. gating) or quickly flush out traffic from heavily congested networks during/after incidents. New applications of urban traffic control include speed-advisory systems where we transferred from ‘digital’ communications with drivers (stop (red) or go (green)) to ‘analog’ communications where CAVs can be slowed down to avoid stops at the intersections. Even newer solutions propose direction-less and flexible utilization of road infrastructure in CAV environment. So, where are we going as an industry responsible to develop safe and efficient traffic control in ever-changing urban environment? Urban traffic control is becoming more ‘analog’ than ever before – trying to effortlessly merge operations of various types of facilities, modes, and entities in time-varying conditions. This workshop is intended to address such contemporary and cutting-edge concepts that researchers and industry professionals are developing and considering for implementation. The workshop is envisioned as a forum of ideas coming from a mixture of professionals from academia, industry, and government. Invited speakers will present on a variety of cutting-edge research topics and innovative field developments, with orientation towards emerging technologies and practices. Then, the floor will be opened to audience to merge into discussion with the speakers.

List of Topics: Traffic signals in connected and automated vehicle environment, Traffic signal systems and operations in multimodal environment, Adaptive traffic control systems, Performance-measurement-based traffic signals, Innovative traffic signal control algorithms and methods, Traffic control as a congestion mitigation measure (gating and metering), Freeway ramp metering and variable speed limit control, Traffic signal control for oversaturated operations, Modeling and simulation exercises with advanced traffic signal systems, Incident-responsive traffic signal control, Traffic-responsive signal control, Traffic signals in environment of Big Data and Cloud Computing, Learning reinforcement and other soft-computing methods for urban traffic control

