

Time Organization for Decongesting Urban Mobility: New Methodology Identifying People's Behavior

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Abstract : Quality of life, environmental impact, congestion of mobility means, and infrastructures remain significant challenges for urban mobility. Solutions like car sharing, spatial redesign, eCommerce, and autonomous vehicles will likely increase the unit veh-km and the density of cars in urban traffic, thus reducing congestion. However, the impact of such solutions is not clear for researchers. Congestion arises from growing populations that must travel greater distances to arrive at similar locations (e.g., workplaces, schools) during the same time frame (e.g., rush hours). This paper first reviews the research and application cases of urban congestion methods through recent years. Rethinking the question of time, it then investigates people's willingness and flexibility to adapt their arrival and departure times from workplaces. We use neural networks and methods of supervised learning to apply a new methodology for predicting peoples' intentions from their responses in a questionnaire. We created and distributed a questionnaire to more than 50 companies in the Paris suburb. Obtained results illustrate that our methodology can predict peoples' intentions to reschedule their activities (work, study, commerce, etc.).

Keywords : urban mobility, decongestion, machine learning, neural network

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