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INSTITUTE OF TRANSPORT STUDIES
交通運輸研究所

The Interplay of Virtual Accessibility and Physical Accessibility in Shaping Activity-travel Behavior

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Room LG.59, LG/F,
Central Podium Levels,
Run Run Shaw Tower,
Centennial Campus, HKU

Speaker Bio: Dr. Chandra R. Bhat is the Director of the Data-Supported Transportation Operations and Planning (D-STOP) Tier 1 USDOT University Transportation Center and the Joe J. King Chair in Engineering at The University of Texas at Austin, where he has a joint appointment between the Department of Civil, Architectural and Environmental Engineering (CAEE) and the Department of Economics. Bhat is a world-renowned expert in the area of transportation and urban policy design, with far reaching implications for public health, energy dependence, greenhouse gas emissions, and societal quality of life. Methodologically, he has been a pioneer in the formulation and use of statistical and econometric methods to analyze human choice behavior. His current research includes the social and environmental aspects of transportation, planning implications of connected and automated smart transportation systems (CASTS), and data science and predictive analytics. He is a top-cited transportation researcher in the world and his students have won many national and international awards for their MS theses and PhD dissertations. Last year, he received the 2017 Lifetime Achievement in Transportation Research and Education Award from the Council of University Transportation Centers (CUTC).

Abstract: In this study, we propose a conceptual and analytic framework anchored on the concepts of physical and virtual accessibility (the "ease" with which opportunities or activities can be reached in the physical and in the virtual space, respectively) to investigate the rich interplay between virtual and physical activity engagements in multiple activity purposes, while controlling for information and communication technology (ICT) use measures, physical accessibility measures, and demographics. Our framework considers that activity-travel choices are consequences of individual, household, and work characteristics that are mediated by virtual accessibility and physical accessibility. As part of our analysis, we also analyze activity chaining characteristics during travel to study any fragmentation impacts caused by ICT use on activity engagement and scheduling. We use data from the 2011 and 2012 National Travel Survey in Great Britain to jointly model multiple activity and travel outcomes. Our results provide important insights for social welfare, work-life balance, and equity policies, and suggest that decisions regarding virtual activity participations and in-person out-of-home activity participations are determined as a package. Ignoring this package nature of choices can lead to misleading inferences about the effects of virtual activity participations on in-person out-of-home activity participations.

FREE ADMISSION Places are limit ed & prior registration is encouraged. For registration and enquiry , please contact Mr. Kevin Leung at hkits@hku.hk