

# RESEARCH SEMINAR

DEPARTMENT OF GEOGRAPHY AND RESOURCE MANAGEMENT  
THE CHINESE UNIVERSITY OF HONG KONG

## Understanding group travel behaviour from metro smart card data: A case study of Shanghai, China

23 Feb 2023 (Thurs)  
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The popularisation of Information and Communication Technology has created a huge amount and variety of urban big data, like smart card data generated in the public transit system and GPS-tracked trajectories data. They provide enormous opportunities for us to understand human mobility patterns. This talk introduces a case study of Shanghai to illustrate how to explore the spatiotemporal characteristics of group travel behaviour using metro smart card data containing 122.9 million trips. We develop a co-existence-based methodological framework to support the exploration. Results show that group travel behaviour is distinctly different from individual travel in terms of both time and space: group travellers are more likely to travel during weekends, on holidays, and in the afternoons and evenings. They also prefer to perform group behaviour near the stations, which are located in the city centre or the centres of new towns in suburban areas, and are close to attractions and public facilities. The presented analysis has various potential applications to transport management, planning and design, such as improving the management of public events and supporting the design of group ticket policy.

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Yongping Zhang is an assistant professor at the School of Public Affairs, Zhejiang University and deputy director of the ZJU-CMZJ Joint Lab on Data Intelligence and Urban Future. His research interests are mainly in the fields of urban big data analysis, smart cities, digital urban governance and sustainable transport, recently with a particular interest in understanding urban issues with shared micromobility data and mobile phone data. He received his PhD degree from University College London, master degrees from Cardiff University, Radboud University Nijmegen and Peking University, and a bachelor degree in GIS from Wuhan University. .



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