

Quantifying the Trade-offs between Environmental Sustainability and Equity in Welfare for Mass Rapid Transit Systems (MRT).

Dr. Varun Varghese, Ph.D.

Thursday, June 15, 2023 3:30 pm - 4:30 pm (IST)

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ABOUT THE TALK :

Mass Rapid Transit (MRT) systems are known to create more opportunities for people, increasing the accessibility of different places. Additionally, they have the potential to reduce energy consumption related to transportation. However, these two aspects may compete against each other. To understand this significant trade-off, it is necessary to understand who uses private vehicles, the major contributor towards transportation related emissions. Encouraging typically high-income users to shift from their private vehicles to a more sustainable mode of transportation, such as MRT, would require making the mode attractive to them. However, this approach runs the risk of creating an inequitable MRT system for a larger low-income population. The presentation focus on the data from Dhaka, Bangladesh in estimating the sensitivity of different income groups to crowding (comfort in MRT systems) and quantify its influence on the demand for the MRT system.

ABOUT THE SPEAKER :

Varun Varghese is an Assistant Professor at the Transdisciplinary Science and Engineering Program, Graduate School of Advanced Science and Engineering, Hiroshima University, Japan. He primarily works in the field of transportation planning. His research interests involve the empirical analysis of the impacts of travel behaviour on the environment, travel behaviour during disasters, interrelationships between ICT and travel, travel demand management strategies for sustainable transportation. He is a Civil Engineer with a bachelor's degree from Dr. B. R. Ambedkar National Institute of Technology Jalandhar, master's from CEPT University, Ahmedabad, and a Ph.D. from Indian Institute of Technology Bombay. Prior to joining as an Assistant professor, he worked as a postdoctoral researcher at the Infrastructure Planning and Urban Risk Management lab at Hiroshima University, where he worked for a project funded by the Ministry of Land, Infrastructure, Transport and Tourism, Japan on the application of advanced machine learning techniques for transport planning and management.