

Optimal Integration of On-Demand Transit Services with Fixed Route Transit Network for Cost-Effective First and Last Mile Connectivity

Prof. Sabya Mishra

Friday, September 15, 2023 10:00 am - 11:00 am (IST)

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ABOUT THE TALK :

The growing demand for integrated and shared mobility services has resulted in a number of public-private partnerships, where public transit agencies and mobility companies collaborate to expand transit service coverage. Nonetheless, many collaborative efforts have failed due to financial restraints and low ridership. The failure of many of those systems can be attributed to the ineffective pre-implementation evaluation of the integrated system, which can be attributed to the lack of a reliable performance evaluation tool capable of assessing the integrated system's performance prior to implementation. Considering this gap, this talk focusses on the research work carried out to examine and propose a simulation-based model framework that examines the benefits of an integrated mobility service system comprised of a Fixed-Route Transit (FRT) service system and on-demand services. The on-demand services include Demand-Responsive Transportation (DRT) services and Transportation Network Company (TNC) services, which act as feeders for FRT to ensure first and last-mile connectivity solutions. This talk discusses four integration-strategies with ten potential integration scenarios and four non-integration scenarios, comprising a total of fourteen possible scenarios for completing a trip between an origin-destination pair. The research work assesses the advantages of properly evaluated integrated system at the pre-implementation stage which can boost mobility and user experience.

ABOUT THE SPEAKER :

Prof. Sabya Mishra is a Professor in the Department of Civil Engineering at the University of Memphis. Before joining University of Memphis, he worked as a Research Assistant Professor at the National Center for Smart Growth Research and Education, University of Maryland College Park. He is involved with a number of national and state transportation projects from Federal Highway Administration, U.S. Department of Transportation, Maryland State Highway Administration, Maryland Department of Transportation, and Michigan Department of Transportation. His areas of expertise include Travel Demand Modeling, Transportation Planning and Policy, Econometric Modeling, Transportation Economics and Finance. He is a member of Transportation Economics Committee (ABE20) and Freight Transportation Economics and Regulation Committee (AT010) of the Transportation Research Board.