A behavioral spatio-temporal framework for network wide estimation of nonmotorized travel in urban grids

Tuesday
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2:30PM-3:30PM
Jarvis Hall, room 223
University at Buffalo
North Campus
Limited Seating

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Dr. Shankar is a tenured full professor of civil engineering at the Pennsylvania State University. He has been a faculty member since 2004, prior to which he was an Assistant Professor of civil engineering at the University of Washington, Seattle. Dr. Shankar spent a sabbatical year at the University of California at Berkeley as well. In addition to fifteen plus years as a faculty member at major research institutions, Dr. Shankar has held leadership roles in consulting and government. Dr. Shankar is a registered professional engineer in the State of Washington. Dr. Shankar is a member of several journal editorial boards, notably, as Associate Editor of Analytical Methods in Accident Research, Associate Editor of the International Journal of Microsimulation, as editorial board member of Transportation Research Part B, Accident Analysis and Prevention and the International Journal of Applied Logistics. Dr. Shankar also serves on two Transportation Research Board Committees relating to highway safety analysis and performance, having served on the committee on passenger demand forecasting as well in the past. Dr. Shankar is a cited author in transportation with seven articles being in the top 100 cited articles list (since 1970) in journals such as Accident Analysis and Prevention, Journal of Safety Research, and Transportation Research Record.

Abstract: In this talk, the estimation of pedestrian exposure on a network wide basis will be discussed from a statistical model development standpoint. Pedestrian exposure data is crucial for a variety of purposes: for evaluation of sustainability of modal shifts, for evaluation of activity response to technological interventions, for consistent estimation of pedestrian risk in vehicle-pedestrian collisions, and for other sustainability assessments relating to energy use and recycling. Further, network topology influencing pedestrian travel needs to be incorporated in a manner that allows for time of day estimation models. A statistical framework incorporating these issues will be presented along with example models from the downtown grid in Seattle. Implications for bridging the framework with various transportation-related aspects of sustainability analysis will be presented along with conclusions and findings from the statistical model.