NOVA SCOTIA ENERGY
R&D CONFERENCE 2014
ENERGY FOR CHANGE

"Sustainable Conservation – Heading for Harmony"

Abstract: Dr. Ahsan Habib, Dalhousie University

Travel Demand, Energy Use and Our Future in Nova Scotia: A Framework for a Comprehensive Monitoring and Modelling Approach

This presentation offers an overview of a long term research program at Dalhousie University that involves development of dynamic urban systems models. The research program focuses specifically on two areas: (1) collection of mobility and travel behaviour data; (2) development of microsimulation-based integrated transport, land use and energy modelling systems. Dalhousie Transportation Collaboratory (DalTRAC) conducted a longitudinal survey that records households' repeated long term choices, vehicle utilization and energy use. Households' location characteristics and travel behaviours are strongly related to energy consumption. The research activities extend our fundamental understanding of how households' location choice, mobility tool ownership, commuting behaviour and energy use evolve over life courses. Exploring continuity and history dependency in these critical choice and consumption processes is vital for developing improved dynamic bottom-up urban models. A prototype microsimulation model is under development for the Halifax region utilizing the data and methods developed at DalTRAC. The research program engages both urban planning and civil engineering students; hence offers an interdisciplinary research environment, fostering innovative approaches to the development of integrated models and their application for evaluating transportation and land use policies.