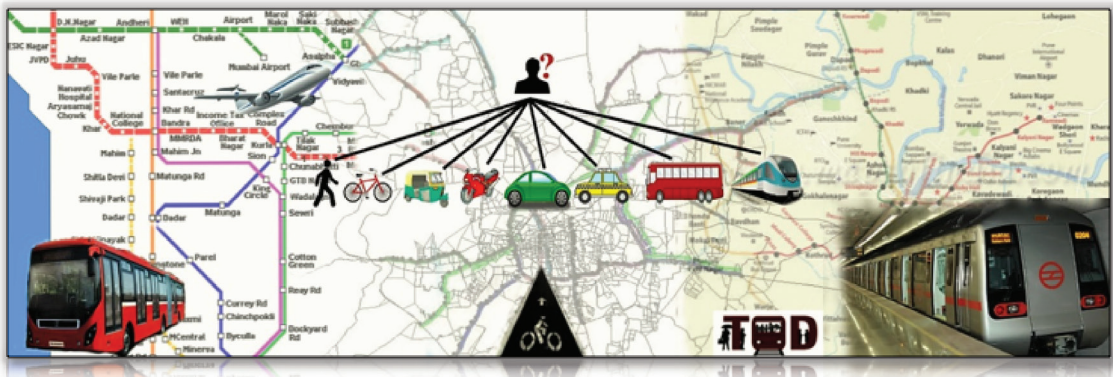


Urban transportation modeling system for sustainable city



To evaluate any urban transportation system based on economic, environmental and social sustainability indices, one needs a modeling system that replicates the behaviour of travellers under various land use and transportation scenarios. As a part of my research such modeling systems have been developed for our cities. These models should be sensitive to the short-term decisions of individuals, such as choice of transport mode, route and departure time; medium to long term decisions like choice of work place and residence; and land use policies of the planning bodies. These decisions depend on the socioeconomic characteristics of individuals and attributes of the land use transport system.

Behavioural models were developed for explaining car ownership, choice of mode, trip frequency, choice of destination, and route used when using a private vehicle and when using a public transport with the combination of access and egress modes. These individual behavioural models become the building blocks of the overall urban transportation modeling system. These calibrated and validated modeling systems were used to evaluate the policy options such as transit oriented development, mixed land use concepts, walkable neighbourhoods and in general for estimating the demand by the proposed road links and mass transit systems. This modeling system, in fact, can be used for evaluating sustainable urban mobility plans.

One of the important outcomes is the relative importance assigned by the travellers to attributes like waiting time, in vehicle travel time, number of transfers and transfer time, monetary costs, crowding levels inside vehicles and access and egress times.