ABSTRACT

The global economies have been impacting the urban settlements by changing the requirements of their inhabitants. One of the direct impacts of which have been changing transportation requirements. Thus, road network and public transport system have been the primary requirements of the urbanites. But due to many reasons the transportation facilities are unequally provided in different sized settlements. Also, within the settlement various factors create differentials to accessibility provisions to different parts of a city, which in turn impacts its spatial, demographic and socio-economic structure.

Internationally, models have been generated on examining the impacts of distance from the centre of the city or various public transport provisions on population density, workforce & employment distribution, land values, etc. to benefit urban and regional planning studies. But in India, little efforts have been made for the same. Present research is undertaken to test whether higher accessibility levels of nodes have positive and higher correlation coefficients and higher goodness of fit for different parameters of urban structure to develop a model on impacts of accessibility on developed area, population densities, and land values. An emerging metropolis i.e. Amritsar, is selected for research.

Result from the research testifies that network based accessibility indices have strong relationships with each other. Developed area & gross density and net density & commercial land values are strongly correlated. All the parameters of urban structure have been tested to have strong positive relationship with accessibility indices at the city scale. However, some of the parameters of accessibility do not impact the parameters of urban structure at area level. Research recommends the planning authorities to conduct scientific studies with mathematical models on accessibility measures and use the same in planning traffic and transportation systems in cities.