

Sustainable Transport Measures for liveable Bengaluru

Abstract

India is one of the fastest urbanizing countries in the world and the urban centres share a major part in improving nation's economy. Growing economies have led to employment opportunities which in turn lead to a lot of migration to the cities. Rapidly growing economies coupled with urbanization pose a great threat to the resilience, sustainability and liveability of the cities. Increasing urban population and motorization in most of the Asian countries are bound to raise road congestion and environmental pollution making cities difficult to live. Recently, liveability has received more importance due to the degrading condition in the quality of life in metropolitan cities. Mobility is a major concern in many Indian cities, due to inadequate transport infrastructure, increased usage of private vehicles, traffic congestion, pollution and lack of integration between land use and transport planning thus, undermining the cities' efforts to meet global standards of living. Recently, the Government of India has also formulated 79 indicators in 15 categories in order to measure the liveability standards of 116 Indian cities focussing on four main aspects such as institutional, social, economic and physical that affects the quality of life.

This report is an outcome of last 4 years of research work under an Indo-Norway project CLIMATRANS to develop and evaluate sustainable transport measures that improves the liveability of Indian cities including, Bengaluru, Delhi, and Mumbai. The current report presents only the case study of Bengaluru Metropolitan Region (BMR) which includes Bengaluru urban district, Bengaluru rural district and Ramanagaram covering an area of about 8005 sq.km. BMR is one of the rapidly urbanizing metropolitan area with 584% increase in the city's built up area in the past four decades. The increased population in urban areas eventually lead to increased vehicle usage in the limited city's infrastructure causing traffic congestion, longer travel times and pollution making it hard to live in the city. Also, due to concretization of land, encroachment of water bodies, improper maintenance of drainage facilities has resulted in higher runoff on the roads getting the city transportation sector to a halt and thereby reducing the resiliency of the transportation system in the city. This report details about the quantitative evaluation of sustainable transport mitigation and adaptation measures aimed to improve the liveability of Bengaluru in terms of; reduced traffic congestion (VKT), reduced exhaust emissions (PM, CO, NO_x, HC etc.), reduced green house gas emissions (CO₂), reduced carbon emission intensity w.r.t. GDP growth, increased consumer surplus of sustainable modes, and also improved resiliency of transportation system. The same was done by comparing the Business As Usual scenario and various sustainable transport scenarios, for the base year and the future years 2030 and 2050. It is expected that the findings of this report will provide more scientific and evidence based decision support for framing right kind of sustainable transport planning and policy measures to make Bengaluru more liveable. Also, the basic principles and developed methodology from this study can be applied to other Indian cities as well to develop similar measures aimed at improving their liveability.