

TOWARDS NON-MOTORIZED TRANSPORT SYSTEM

Roads are meant to facilitate the movement of people and goods. But these become congested with resultant growth in traffic, owing to the growth in economy of any nation. Consequently, the main purpose of roads for improving mobility gets defeated. As the roads are designed and developed with the motor vehicles as the principal users, these have been the sources of air pollution, greenhouse gas emissions, injuries and fatalities from road crashes, lost productivity from congestion etc. Such problems are further expected to aggravate with the projected growth in motor vehicles, unless we establish cleaner, safer and more efficient transport systems. This kind of shift is urgently required globally, but most acutely in the developing countries, where the growth in motor vehicles and high rates of urbanization are expected to add to the pressures on the environment and society.

While promoting economic growth, the road transport sector has also had a major impact on the environment and the socio-economic development of the people. As per literature survey, road transport accounts for 25% of world energy demand. This sector is known to produce 17% of the world's energy-related Carbon Dioxide emissions, making it a key contributor to climate change. The cost of urban air pollution, in terms of healthcare alone, is estimated to approach 5% of GDP in developing countries. According to the WHO, road traffic injuries were the ninth leading cause of death around the world in the year 2009. By the year 2030, this is expected to rise to be the fifth leading cause of deaths. Almost half of those who die in road crashes are pedestrians, cyclists and users of motorized two wheelers – collectively known as “vulnerable road users”. The proportion of this category of users in road fatalities is substantially higher in developing countries, largely due to the

lack of proper footpaths and cycling lanes to protect them from high speed impact. Safe and less polluting modes of transport coupled with an efficient public transport system could help to set countries on the path of low-carbon economy and a more congenial environment.

Non-motorized transport (NMT) is the most clean, efficient and healthy way to travel for the individuals and also for the environment. Cities with higher percentages of non-motorized trips have lower per capita energy use, which translates into less dependence on fossil fuels, negligible emissions of air pollutants and less pressure on scarce resources such as land. The use of NMT results in tangible economic benefits derived from the increased productivity and reduced morbidity of an active and healthy population. Safe NMT infrastructure on urban roads could improve mobility for short distance travellers. A secure non-motorized transport linked with adequate public transport system could support the majority of people in developing countries in their usage of the only viable modes of transport and also lighten the financial and social burden of injuries.

Designing a safe and sustainable road infrastructure means promoting the three aspects of safety, environment and accessibility. The underlying goal of all road designs should be to make roads safe and attractive and to balance the competing interests of all road users. Add to this, the already considerable financial consequences of congestion in cities and the combined cost of lack of road safety, clean transport and accessibility are assuming alarming proportions. When appropriate planning and funds are invested in making attractive urban road infrastructure for vulnerable road users, policy makers tend to

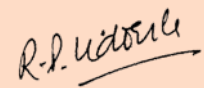
demonstrate their commitment to creating pleasing and sustainable cities. The implications mean that urban planning and transport planning should aim to optimize land use and the existing infrastructure, so as to create high density, mixed use towns and cities. Such a vision would mean less motorized mobility and more journeys on foot or bike.

The provision of NMT infrastructure such as dedicated cycling lanes, bike parking zones, pedestrian crossings, pedestrian overbridges & underpasses, specific traffic signals and adequate walking lanes coupled with the development of a safe road culture, would serve to increase NMT usage while, also lowering road casualties. A modal shift in favour of NMT would result in less congestion, smoother traffic flow, and therefore, better accessibility for all. In order to minimize travel time and maximize convenience as well as designing the most sustainable roads, the integration of the NMT infrastructure into the larger transport network must be a key consideration.

Cities in India vary considerably in terms of their population, area, urban form, topography, economic activities, income levels, etc. Accordingly, the design of the urban transport systems would have to depend on these specific features. Further, transport planning is intrinsically linked to land use planning and both need to be developed together in a manner to serve the entire population and yet minimize travel needs.

In short, an integrated master plan is needed to institutionalize the features of sustainable transport systems. In developing such plans, attention would have to be paid to the future growth of a city around a pre-planned transport network, rather than develop a transport system after uncontrolled sprawl has taken place. Transport plans should, therefore, enable a city to take an urban form which best suit the geographical constraints of any location and also that best support the key social and economic activities of the residents.

A successful road, defined in terms of infrastructure, should be that creates a multi-modal, safe, environment friendly, low-carbon and accessible transport system for all users. After all, sustainable roads are cost-effective and resource efficient. Both investments for improving existing roads and for constructing new roads, should allocate resources specifically for NMT infrastructure. It would be a critical step towards bringing about a paradigm shift, where the safe and sustainable mobility of all users including pedestrians and cyclists, is considered the ultimate aim by the designers, planners, engineers and financiers of roads.



(R.P. Indoria)
Secretary General