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# Indian Urban Slow Traffic System: Cycle

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**Synopsis:** *It is sometimes argued that the unprecedented increase in Car-ownership in urban areas will make the cyclists virtually disappear. This is not correct approach. In the absence of a cheap, quick and dependable man transit system is more and more people are using cycles. Thus the total number of cycles is increasing everywhere. In India the cycle is the conveyance of the poor and middleclass people and therefore cycle traffic is bound to increase in near future. A single system of communication is an all purpose road serving nonchalant cyclists, other hostile wheeled vehicles and pedestrians but that is irritating and dangerous. That cycles are not useless, obsolete and inefficient means of transport, and are not to disappear and that there is a strong case of planning for cyclists in urban areas.*

## I. INTRODUCTION

The first bicycle in the world was made in 1867. In India the bicycle arrived for the first time in the beginning of the twentieth Century. In 1948, there were only two factories in India with an installed capacity of 1.2 lakhs bicycles. This increased to sixty three factories in 1965 with a yearly production of 6-7 lakhs. The annual production of cycles at present is estimated at 20 lakhs approximately and is expected to reach a target of 35 lakhs. Thus every year the production and the sale of cycle in India are rising at a phenomenal rate.

## II. FUTURE OF NON MOTOR ABLE TRAFFIC (CYCLE)

A study conducted in Delhi revealed that 95% of the total daily trips of persons up to an income level of Rs.3000.00 per month, 85% in the income group of Rs.3600/- to Rs.4500.00, 32% in the income group of Rs.4500.00 to Rs.6000.00 and 18% income group of Rs.6000.00 to Rs.8000.00 per month are by cycles. In fact, cycle trips account for about 25% of the total passenger's trips in Delhi.

Minimum Wage in Delhi with effect from April 1, 2018 to September 30, 2018

Schedule of Employments	Category of Workmen/Employees	Minimum rates of wages in Rupees
		Basic Rate Per Month
All Schedule employments	Unskilled	13584
	Semi skilled	14958
	Skilled	16468

In the U.K., cycle-ownership varies widely in different towns, but in many areas cycles sell out number cars. The National Travel Survey (1964) revealed that 14.9% of the Journeys to and from work were made by pedal cycle. In Cambridge, nearly half the employed population cycle to work, even though the percentage of owning cars is slightly above the national average. That in why, an extensive cycle way system was proposed for Cambridge. In Harlow, Basildon, Stevenage, good provisions for the cyclist have been made because of the high rate of cycling. It is believed that if proper provision is made, cycling will still play a significant role in the pattern of communications on local scale. In the U.S.A., the majority of the people own cars. Yet the rate of cyclists, it was observed rose from 35 lakhs in 1960 to 60 lakhs in 1965. In about 40 cities, including Chicago, they had provision of bikeways for cycle traffic. There are cycle-clubs also throughout the U.S.A. It is a fact that cycles are used for essential rather than leisure journeys. Since there is an increased production and sale of cycles everywhere, it indicates that people like cycle because they must, not because they want to. The real reason for the increase as far as India is concerned is that the cycle is the most dependable, convenient and economical method of transportation for short distances. Man transit system has somehow not proved itself cheap, quick and dependable. On the contrary, cycles are cheap to buy and cheap to run. There is no noise and no smoke (pollution). The bicycle occupies very little parking space. It is handy and safe. It provides Indian milkmen and cultivators with the opportunity to bring milk, and other perishable products to the cities and adjoining towns. A large number of students, teachers and workers have found the bicycle a good companion. It has helped spread education. Every day a large number of students come to the cities from distant villages on bicycles. It has made Indian workers and farmers more mobile. Thus cycles are neither useless nor out of date. They have a bright future.

### III. FEASIBILITY OF NON MOTOR ABLE TRAFFIC

The two kilo mileage covered by the cyclists is no doubt small. The increasing level of car-ownership might reduce at some places the present rate of increase in cycles. If good provision of cycle ways and cycle tracks is made than cycling to school and cycling for pleasure and for exercise especially by coronary fearing men is reported to be on an increase in the U.S.A., particularly where bike-ways are provided. Thus it is certain that cycles will continue to be used for essential short-trips, if a proper provision is made irrespective of high level of car-ownership is that area.

Whether cycle will virtually disappear or be retained in a particular city or town might depend on the suitability of local environment for cycling its size and terrain. That is why cycle traffic will vary in different cities. Kolkata and Mumbai may not have the same cycle traffic as in Delhi. For cyclists speed (48%) and economy (26%) are the main reasons for not using public transport to work. There substantial variation between the proportion of people cycling to work in different towns and within towns. It is found that they do not always correlate with difference in level of car ownership, nearness to employment, yet flatness of terrain is found to be the most important.

### IV. ADOPTABILITY OF NON-MOTOR ABLE TRAFFIC

Planning is centered on the cars and the pedestrians. Poor cycles are omitted. What is the total kilo mileage of cycle way – cycle track system in the cities and towns of India, where there is considerable cycle traffic?. In most of the master plans prepared for the various areas, cyclists are not given importance that they deserve. There has been very little planning for the cyclists in India. There is only one all purpose road with the nonchalant cyclists, other hostile wheeled vehicles and pedestrians. This is dangerous and leads to confusion. Therefore it is very necessary to have a separate system for the cyclists. The Central Road Research Institute in New Delhi and the Highway Research Station in Madras have under taken this sort of work. The new scheme of comprehensive development programme for Delhi has started a construction programme of cycle tracks at the cost of 200 lakhs. Future action programme for the Madras city has decided to carryout a cycle survey in order to be better equipped for the future. The Central Road Research Institute has recommended the use of the various methods for segregation of cycle traffic at road intersections in Bangalore. There is better planning in Chandigarh Roads are classified in to seven road systems and the cycle traffic has been allotted the seventh category.

A common road for the cyclists and the car drivers has reduced its capacity and has made the cyclists vulnerable to more accidents. Ministry of Transport (U.K.) figures for 1964 show that for every mile traveled, pedal cyclists suffer four times as many casualties as users of other vehicles. If cyclists continue special measures must be taken to reduce this serious accident rate. Planning for the cyclists would help to a great extent. The quality of urban living will certainly be enriched if they are obliged to cycle on paths that are safer, quickest separate from those of motor cars. In Delhi, a substantial percentage of people going to and from the work centers use cycle. Travelling in Delhi has become a nightmare for most of us. Unless who has a car and could avoid and hostile buses. The rattling “Phut-Paths” and nonchalant cyclists, there is no pleasure in moving about in the city. According to O & D survey conducted in 1957 about 07 out of 10 vehicles plying on Delhi roads where cycles. It is estimated that the number bicycles would increase to about 07 lakhs by 1970-71.

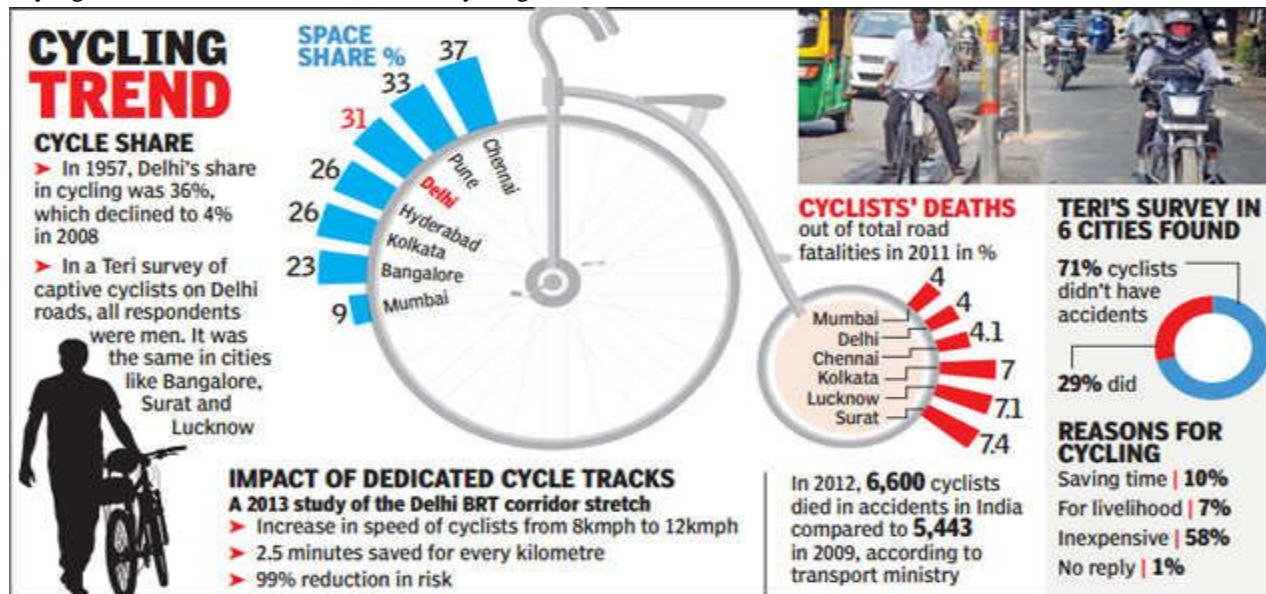
#### A. Less Than 4% Of Commuting In Delhi Done On Cycles Now



The ‘modal share’ of cycling in Delhi’s transport had reduced to about 4% .



**NEW DELHI:** In 1957, more than 35% of Delhiites commuted on bicycles. Fifty years later, the ‘modal share’ of cycling in the city’s transport had reduced to about 4% and—given the rapid increase in private vehicle ownership—is likely to have dipped further by now. Cyclists have gradually disappeared with motorized transport eating into the little space they had, and the city has not created new infrastructure or space to help them adapt to these changes, says a report by The Energy and Resources Institute (TERI), entitled *Pedaling towards a Greener India* that was released on Wednesday. The report analyses trends in cycling and cycle ownership using government data. While cycling’s share in public transport has diminished across the developing world, the fall has been precipitous in India. In Chinese cities, cycling’s share in transport still ranges from 11% to 47%. In Beijing, for instance, cycling’s share fell from 38.5% in 2000 to 16.4% in 2010. Two decades ago, a third of commuting in 80 Indian cities was done on bicycles, but by 2007 this average had fallen to 12%, and the report says it is likely to drop further “given that Indian cities are not taking any significant initiatives to create a safe cycling environment”.



Although bicycle ownership has increased in cities, it has not kept pace with the increase in households. Where 46% of Indian households owned bicycles in 2001, in 2011 the number reduced to 42%. Even in rural areas, where cycling is the only cheap mobility option, cycle ownership is limited to 46% compared to almost 100% in rural China. In contrast, the yearly increase in car ownership between 2001 and 2011 was 15% in urban areas compared with 3% for cycles. Similarly trend is observed in Ahmedabad, Bangalore, Pune, Agra, Baroda and Surat, etc. The high volume of cycle traffic coupled, with the peculiar behavior of cyclists have located heavy congestion on urban roads. Cyclists were found to be involved in approx. 30% of total accidents in Delhi. All these factors lead us to conclude that there is indeed a strong need for planning for the cyclists. We must form an effective system which is continuous, segregated and linked by reasonably direct routes through the heart of the housing areas to the industrial areas, town centers, schools and recreation centers etc.

## V. PLANNING PATTERN FOR NON MOTOR ABLE TRAFFIC

Planning for cyclists means a comprehensive system cycle ways and cycle tracks to cater the needs of the present as well as future cycle traffic, cycle-tracks run side by side to the main roads and are interrupted suitably at road junctions. Cycle-ways may be independent of the road network and in variably great separated at road junctions.

There can have the following patterns:

- A continuous cycle ways-cycle-track system parallel to the main road system to be used by cyclists and pedestrians.
- A continuous cycle-ways-cycle-track system separated from the main road system to be used by cyclists only.
- A Combination of 'a' & 'b'.

Running cycle-tracks parallel to the main roads sometimes make them 'diametrically' opposed! The motorists enjoy plying on the smooth flow of the main roads between the built up areas but cyclists and pedestrians prefer short cuts along the local roads because

the narrow tracks and right angle bends present no problem to them. It would seem reasonable, therefore, if the cycle-tracks and pedestrians are planned to run through the heart of the housing areas connecting them to the industrial areas and town centers. For economy, cycle ways should be related to pedestrian system rather than main roads. This permits the under passes to be shared reducing expenses to the minimum. Cycle ways and footpaths or pedestrian paths may be combined where flow of cycle are light. If segregation of, cycle-traffic will pose a serious problem to the traffic flow and control. Providing grade separation or subways for cycle-traffic at intersections, although highly desirable, may not always be possible due to the poor finance. A good comprehensive cycles-cycle track system deserves consideration.

## VI. SEGREGATION AT INTERSECTIONS

At intersections segregation of cycle traffic can be done as mentioned below:

- A. Approach roads do not have separate cycle track. Cyclists keep to the left while approaching intersection. The right turning movement of cyclists reduces safety and capacity at intersection because of conflicting movements.
- B. Lane system is introduced to maneuvers of cyclists. Cyclists have to take the appropriate lane about 100 m. before the intersection.
- C. Special pocket lanes are provided for each direction of cycle traffic to corresponding lanes of fast traffic. The pocket lanes are marked suitably. At the cross over point flashing signal is installed.
- D. Cycle tracks are provided parallel to pedestrian crossings, suitable waiting spaces are provided for the cyclists before they take to proper lanes. By signalization, the conflict points can be avoided.
- E. Where volume of traffic is very high the above mentioned methods will not be suitable. In such cases cycle-traffic has to be diverted to less important roads or grade-separations or subways have to be provided.
- F. Sometimes, subways or grade separation may not be possible due to financial reasons. In such cases a multiphase signal may be installed to segregate effectively the cycle-traffic at grade.

## VII. CONCLUSION

In the absence of a cheap, quick and dependable man transit system, more and more people have taken to cycles. Cycle has proved itself a significant means of transportation for poor and middle class people in the pattern of communication system at a local area. As a result, cycle traffic in urban areas is increasing at an alarming rate. Surprisingly, one of the reasons for the low ownership is that bicycles are not affordable anymore, according to the TERI study. Focus group discussions in five villages in Uttar Pradesh and Bihar and a survey of 1,200 cyclists in six cities—Meerut, Jhansi, Jaipur, Surat, Bangalore and Delhi—by TERI revealed that low-income households find it extremely difficult to buy a cycle. TERI has recommended that the government waive off taxes on cycles that cost less than Rs 5,000. It has also suggested priority loans for buying cycles and distribution of free cycles to students. Cycle sharing, which has caught on in many European cities, is now available in Delhi and Bangalore. The TERI report points out that Chinese cities have popularized cycling by implementing large sharing schemes. Those in Wuhan and Hangzhou are among the largest in the world. R K Pachauri, director general, TERI said the Netherlands has managed to slash its health budget by promoting cycling. Harsh Vardhan, Union minister for health and family welfare, said "If cycling is adopted, it will ensure that every bit of extra fat is burnt". He added this will reduce the country's disease burden of cardiovascular diseases, hypertension, diabetes etc. "I promise I'll personally write to the surface transport ministry and the urban development ministry so that whatever is required is done," he said. Thus proper provision of cycle ways cycle track system where circumstances are conducive to cycling is in evitable. A single system of communication with its non-chalant cyclists and other hostile wheeled vehicles is dangerous and irritating. Separate system for the cyclists in consequence would save them from total accidents and would increase the road capacity. And above all, the quality of urban living will certainly be enriched if cyclists are obliged to cycle on paths that are safer, quieter and separate from the use of motor-vehicles.

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