

Walkable Cities: Concept, Issues and Challenges

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Abstract

One of the characteristics that makes humans unique is urbanisation. The gradual movement of people from rural to urban regions and activities is a complicated process that is closely linked to both technological advancement and economic growth. Walking was the most fundamental mode of transportation when cities were first established, with the aim of bringing people together. Walking does not consume fuel and is free of cost. However ever since the advent motorization in the nineteenth century we are witnessing a constant decline of the pedestrian environment. Sidewalks were removed or shortened in order to provide space for automobiles, more and more vehicular lanes were added onto existing streets as traffic volumes increased. It became increasingly more difficult for pedestrians. However over the years we have realized our folly and are starting to pay attention to pedestrians and once again rejuvenate walkability as a major medium of transportation. This has led to formulation of the concept of walkable cities.

Keyword: Walkability, cities, streets, pedestrian, urbanism, livability, mobility

I. INTRODUCTION

Streets are undiscovered public spaces that enhance living in high density urban areas. Streets should be looked at as CONNECTIVE TISSUES and DESTINATIONS. Along with cars, walkers can also be a part of good streets. Streets handle several basic urban concerns, including mass transit, open space, livability, mobility, safety, interest, and economic opportunity. According to Alan Jacobs, "streets are places of social and commercial encounter and exchange." Either way, one of the primary functions of cities is to serve as hubs for human activity.

The most fundamental kind of transportation is walking. It protects the environment and our health. Since it is such a simple kind of transportation, we frequently overlook its significance and necessity. Anyone who is moving—walking, running, standing still, or using a wheelchair—is considered a pedestrian. Nowadays, there are fewer pedestrians on the roads. Prior to the development of motorization, this was not the case in antiquity. "Cars are happiest when there are no other cars around," said Dan Burden. When there are other people around, people are happiest. Walkability is not defined by the count of sidewalks in a city but the people on those sidewalks- "The Pedestrians". Walkability is valued for various reasons. It not only prevents congestion on roads but also promotes good health.

Walkable cities: This is a concept of the 21st century Urbanism. It started by the urban design movement which promotes walking, NEW URBANISM in 1980's. The organizing body for this is Congress for the New Urbanism. In simple words the cities that boost walking

and pedestrians would be called a walkable city. A city which discourages the engines on the road instead of foot. If all the functions and basic necessities of a citizen like the grocery store, workplace, a place of worship, school or college, etc. are made safely accessible at all times to him/her by the means of walking or cycling then it would termed as a walkable city. Walkable city is the one that lays out comfortable walking environment, proper connectivity to other public transport, safety, good infrastructure, and accessibility.

II. NEED IDENTIFICATION

Our cities are now dominated by cars. In a developing nation like ours, walking is still relatively new. Simply said, walkers have little bearing on planning strategies. The condition of the pavements, which are gradually being chipped away to make more room for motorised traffic carriageways, makes this clear. Walkability is defined as the number of people using the streets rather than the number of pavements in a city. The idea that design should prioritise human mobility over vehicle mobility is a problem these days. The repercussions of driving longer distance and an explosive number of automobiles are also contributing to petrol consumption and climate change.

Figure 1- A Burgeoning Problem;
Source: Darpan Sharma, July 2014, Hindustan Times]

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Prof. Dinesh Mohan states, "Eight years after the central government announced the National Urban Transport Policy, the problems identified in it have either not changed or gotten worse."

Money is scarce for enhancing the amenities available to bicycles and pedestrians. Many issues, including obesity, the environment, the oil crisis, security, and public safety, can be resolved by walking and bicycling. People of the creative class, particularly those with young talent, like neighbourhoods with a vibrant street scene and a pedestrian culture that results from being walkable. There are no pavements along 40% of Delhi's whole road length! Additionally, the pavements that do exist are of poor quality in terms of their width, geometry, and surface (RITES Transport Demand Forecast Study: May 2008).

III. BENEFITS OF ACTIVE TRANSPORTATION-WALKING AND CYCLING

3.1 PUBLIC HEALTH:

Increased fitness and better physical, mental, and social health are linked to physical activity. Reducing dependence on automobiles and promoting walking and cycling can enhance physical activity levels, mitigate the risk of obesity, and tackle many health issues like heart disease, some types of cancer, and type 2 diabetes. Depression and other mental health conditions are linked to inactivity. Reducing reliance on cars and increasing chances for convenient access to leisure are two benefits of expanding active transport networks. Overweight and obesity have become increasingly common in recent years, impacting both developed and developing nations like India. The National Health and Nutrition Examination Survey (NHANES) reports that 17% of youngsters between the ages of 12 and 19 are obese. It's common knowledge that walking and other outdoor activities are dangerous in certain neighbourhoods.(Saniyal D, Raychaudhury M).

In New Delhi, the rates of obesity and overweight among schoolgirls were 5.3% and 15.2%, respectively, in 2006–2007. This might be the result of affluent societies in our countries adopting more westernised lifestyles, which are probably living in obesogenic environments similar to those found in developed countries like the US, per a research paper. This is because they have better access to labor-saving equipment and better nourishment, and they are less likely to work in physically demanding jobs when they have more resources at their disposal.(Mehta, Agrawal, Bhasin, and S.K. Dwivedi).

3.2 PUBLIC SAFETY

Walkability helps in providing safety to the people too. This stimulates self-policing. Walking promotes interaction in two aspects person to person interaction as well as person and a building interaction. With people on the streets there is less certainty for crimes as it ensures eyes on the streets.

3.3 ENVIRONMENT SUSTAINABILITY

Among the greenest modes of transportation, active mobility produces no pollution. Active transportation reduces air pollution, greenhouse gas emissions, energy consumption, and contributes to more efficient land use when it replaces automobile travel.

3.4 ECONOMIC BENEFITS

Active transport is the best way of indulging into physical exercise. There would be reduced medical bills as walking and cycling being a physical activity cut shorts a lot of health related problems like obesity, stress, mental illness, etc. It is believed that shoppers are walkers- "walkers shop more than the drivers." Also it saves the cost of the fuel spent on vehicles and thus save a large amount for the individual and thus a country in whole.

3.5 SOCIAL BENEFITS

There are numerous community level benefits. Walking promotes interaction in two aspects person to person interaction as well as person and a building interaction. Walkability helps in providing safety to the people too. This stimulates self-policing. Pedestrian culture leads to encounters that turns into friendship.

Humans have always lived on the streets, as Donald Appleyard once stated. These have served as the social hubs of towns and cities, the locations where kids first learned about the outside world, and the gathering spots for neighbours.

3.6 BENEFITS OF A CAR

- Fast commute from one place to another
- Advantage to old and sick people
- Door to door transportation
- Can be used in all weather conditions
- Large land heavy loads can easily be carried

The amount of area taken up by the cars is much more than that by the bus and the cycles. The road networks eat away a large span of the urban area of Delhi. This has been evident studying the MASTERPLAN of Delhi over the years.

IV. FACTORS AFFECTING THE PEDESTRIAN'S DECISION TO WALK OR NOT?

The three major factors responsible for influencing a pedestrian's decision to walk are safety and security, comfort and convenience. Another factor responsible for impacting walkability is Infrastructure consisting of the landscaping, pavement maintenance, street lights, street furniture like benches or dust bins, etc.

4.1 SAFETY AND SECURITY

One of the main causes of people's preference for or against walking is this. In Delhi, vulnerable road users (VRUs) include motorcyclists, cyclists, and pedestrians who account for approximately 75% of all traffic accident victims. The International Conference on Traffic Safety, which was held in New Delhi in January 1991, adopted "The Delhi Declaration on the Safety of Vulnerable Road Users" in response to the deteriorating road environment. It highlights the following ideas:

- supporting bicycling and walking - creating a well-maintained public transit system - mandating slower car speeds
- creating traffic safety through teaching, enforcement, and advertising; - building roadways to limit speeds and to segregate users of varying sizes, weights, and velocities;
- introducing advancements in vehicle design

Delhi's percentage of people who cycled dropped from 36% in 1957 to 4% in 2008. Even after this, the number of traffic fatalities in New Delhi has gone up, while the number of bicycle riders has decreased. All of the respondents to a TERI (The Energy and Resources Institute) survey on captive cyclists on Delhi roadways were men. According to the transport ministry, the number of road fatalities in India was 4% in 2011, but in 2012, 6600 cyclists lost their lives in incidents, up from 5443 in 2009.

4.2 CONVENIENCE AND ACCESSIBILITY

For walking or cycling, the most important elements are distances and destinations. Patterns of land use and density have an impact on this. The level of activity in and around the place is known as density. According to Lawrence D. Frank, PhD, and Peter Engelke, "Higher density levels affect travel by reducing trip lengths (by locating activities closer together), reducing vehicle ownership (by reducing the need to have a vehicle), and increasing mode choice options (by making walking and bicycling more appealing)."

In June 2010, Kaid Benfield cited Ewing and Cervero, who suggested that, unintentionally, density assessments may be substituting other crucial factors (e.g., central

locations, short blocks, and mixed uses, all of which reduce travel time and promote walking) for other more significant factors. The state of Delhi has a vast variety of land use patterns. Because daily necessities are now accessible to pedestrians at shorter distances, this facilitates their ability to reach a variety of functions.

4.3 STREET DESIGN AND INFRASTRUCTURE

To encourage walking and bicycling, streets can be equipped with features like bike routes, crosswalks, sidewalks and shade trees. For night-time safety, street lighting should also be taken into account. By purposefully slowing down vehicle speeds and impeding vehicle movement, traffic calming measures can be used in streets to concurrently discourage driving.

V. CONCLUSION

The pedestrianization or making the cities walkable should be the first priority in urban planning. Streets in the cities have been largely occupied by vehicles. The reasons for underutilization of the pedestrian infrastructure must be ascertained and corrective measures must be taken by civic authorities also where there is absence of pedestrian infrastructure, efforts should be put in to provide and manage the same.

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