



WALKABILITY IN URBAN PEDESTRIAN ENVIRONMENT (COIMBATORE)

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Abstract

Walking is fundamental to urban life. Walking is also considered to be a clear example of a sustainable mode of transport, especially suited for urban use and/or relatively shorter distances. Walking is about pleasure as much as destination. It's the most versatile form of travelling. A walk can be enjoyed at the same time as listening to music, it is a quantitative and qualitative measurement of how inviting or un-inviting an area is to pedestrians. The various benefits of Walk ability are like reducing in the amount of carbon emission into atmosphere, environmental sustainability, and economic growth, improvement of health status and overall quality of life of people. Aching out for wildlife, or having a chat with friends or the people you meet along the way. This study thus focused on the walkability of The study revealed that Walkability in Urban Pedestrian Environment with the sample of 595 in Ramanathapuram, Coimbatore.

Key words: Walkability, Urban Pedestrian, Environment

Introduction

“God made us walking animals – pedestrians. As a fish needs to swim, a bird to fly, a deer to run, we need to walk, not in order to survive, but to be happy. The single biggest difference between infrastructure of an advanced nation and a backward nation is its footpaths, not its highways.” - Enrique Penalosa, Former Mayor of Bogota, Colombia. Walking is considered to be significant in urban areas rather than rural areas due to the life style of people in urban areas and the infrastructure available. Habit of waking is reducing among urban dwellers as they get everything in their door step today through online shopping. Lacking of adequate Walking can have significant impacts on the health and thus medical professional recommend at half an hour of walking every day. Thus, the importance of walking is slowly recognized by the people and they take initiatives to spend some time for walking to manage their health. The various benefits of Walk ability are like reducing in the amount of carbon emission into

atmosphere, environmental sustainability, and economic growth, improvement of health status and overall quality of life of people. For example, in terms of health benefits, when people walk it helps them to keep their health fit and it is also recommended by the health professionals to walk at least for half an hour per day to have a good health as the present life style is not conducive for the same. Walkability in India is influenced by land use, household density, safety, accessibility, aesthetics and urban streetscape, environmental quality comfort and infrastructure. Walk ability is considered to a social activity apart from the its understanding as a ways of transport and quality of public space Gehl, (2011). It is termed as a potential model of "The extent to which the built environment is friendly to the presence of people living, shopping, visiting, enjoying or spending time in an area". Abley, Stephen, (2005). "A city's attractiveness or its opportunity for walking is often expressed as 'walkability'" Tribby et al. (2015). "While progress has been made towards protecting people in cars, the needs of these vulnerable groups of road users are not being met." - WHO, (2009).

Review of literature

Mayank choudhary and Sudhanshu Dube (2018) have conducted a study on "Problems faced by pedestrians on BRTS Indore". They have stated that pedestrians walking are considered to be one of the significant mode of travel for many in Indian cities and also a effective mode for short trips. Their study focused on sidewalks by collecting data from pedestrians in Indore city which includes three locations (Vijayanagr, Palasia and Bhawarkua). The results of the study revealed that safety, convenience and comfort are the problem experienced by the pedestrians due to obstructions in sidewalks, time delay and poor maintenance of sidewalks. **Ankit Bansal, Tripta Goyal and Umesh Sharma (2018)** their study titles "Pedestrians safety on crosswalks in India- Need of the hour" reveled that pedestrians casualties have drastically increase from 11.7 percent in the years 2017 in which 31 percent are connected with crosswalks. The findings revealed that majority of the crosswalks are not maintained according to its standards like signage, markings and surface conditions. The study also found that pedestrians refuge islands and guardrails are absent which questions the safety of the pedestrians. **Rankavant and Tiwari (2016)** their study findings revealed that zebra crossing is mode of crossing preferred mostly by the pedestrians to cross the roads. The pedestrians perceive that zebra crossing helps them to save time and energy compared to other modes. The findings also show that female pedestrians avoid underpasses and zebra crossings frequently than other modes. The study also found that age and usage of overpass had a significant inverse correlation which means that higher the age lower is the usage of overpasses and vice versa. **Shah and Vedagiri (2018)** their study findings showed that vehicle type and vehicle speed had a significant impact on the conflict faced by the pedestrians. The pedestrians also faced difficulties in walking due to encroachment in the pathways and subways. **Syed Mohammed (2020)** study reveals that more than half of the pedestrians (52.4 percent) met with accidents when they were crossing the roads. The data also shows that 18 percent of the pedestrians are hit by the vehicles when they are walking on the roadside. The arterial roads had more number of pedestrians crashes compared to other roads which

accounted for 76.2 percent of the crashes. The inner ring road which has numerous business establishments and place of worship on other sides is found to be one of the main reasons for the pedestrian and vehicle crashes. **Aravinthkumar Jayaraman, et.al (2020)** their study focused on the nature, severity and sources of injuries sustained by the pedestrians involved in crashes. The study findings revealed that, 67 percent of pedestrians who were killed in road accidents had head injuries and 52 percent of pedestrians who met non-fatal injuries experience low injuries. The findings also showed that head injuries are mostly seen in the pedestrians who are struck by the vehicles from behind (86 percent) and those who struck by vehicles from side less faced head injuries (36 percent).

Sachin Dass , Dhirendra Singhal and Praveen Aggarwal (2015) their study results revealed that proper maintenance of subways will make more women to use it for crossing the road. More than 43 percent of the pedestrians voted for foot over bridge for crossing the road and elderly people have preferred for ramp rather than stairs due to their health conditions. The elder have also requested for lifts and escalators for which can help them in crossing the road. Cleanliness is found to be the major expectations from most of the pedestrians. Sitting arrangements is also found to be a major aspect which needs immediate concern to help the pedestrians.

Objectives of the study

- To examine the state of existing pedestrians' walking path conflict in Coimbatore city.
- To find out the problems that is faced by pedestrians in the use of main sidewalks and subways.
- To provide suitable recommendations that will enhance and facilitate walk ability.

Methodology

The design of the study is descriptive. A sample of 595 respondents are included in the study. The Purposive sampling was used to select the respondents and data was collected from them. The data collected is analyzed using statistical tools like mean, Standard deviation, ANOVA, T-test analysis. The field walk ability survey assesses pedestrian infrastructure in these areas (residential, educational, and transit hubs). Each area with high pedestrian volume are selected based on preparatory surveys. Use of the ten criteria as given in the Global Walk ability Index is used to assess the walkability of the city. Field surveyors were asked to rate the road stretches from 1 to 5 for each of the parameter (1 being the lowest and 5 the highest) in each of the area types. The averages for each of the parameters were translated into a rating system from 0 (lowest score) to 100 (highest score). The responses were recorded according to the scaling pattern and total scores were obtained. Based on mean and standard deviation the total scores are classified as high walkability path conflict, moderate walkability path conflict and low walkability path conflict.

Analysis and Interpretation

Demographic Variable

The demographic profile of the respondents shows that majority 56.2 percent are Male, 47.7 percent of the respondents are belongs to the age group below 25, 64.4 percent of the respondents model of travel is walk, 50.1 percent of the respondents spend less than 15 minutes for walking, 45 percent of respondents travel less than 3 kilometres, 57.1 percent of the respondents have stated that inadequate lights in the footpaths is the main reason for poor walkability, 60.2 percent of respondents have rated Walkability as “worst”, 45 percent of the respondents preferred at-grade (Zebra) crossing for their road crossing, 59.2 percent of respondents have stated that street lights are to be improved, 50.6 percent of the respondents prefer to access the pedestrians crossing if it is between 51 to 100 meters, 40.8 percent of the respondents are selected from transit hub areas, 47.2 percent of the respondents have rated 1 (significant walking path conflict that makes walking impossible) for this parameter, 51.4 percent of the respondents have rated 2 (Pedestrians walkways available but highly congested, badly maintained and not clean) for this parameter, 31.6 percent of respondents have rated 1 (Average distance of controlled crossings is greater than 500m and average speed is high) for this parameter, 39.2 percent of the respondents have rated 2 (Dangerous pedestrian faces some risk of being hurt by other modes and crossing time is high) for this parameter, 47.4 percent of respondents have rated 2 (Traffic disrespect and rarely pedestrians get priority) for this parameter regarding motorist behaviour, 34.8 percent of respondents have rated 3 (Limited number of provisions for pedestrians) for this parameter regarding amenities, 30.6 percent of them have rated 2 (Little amenities at some locations) for this parameter regarding amenities, 35 percent of respondents have rated 1 (No infrastructure for disabled people is available) for this parameter, 42.7 percent of the respondents have rated 2 (Pedestrians are significantly inconvenienced. Effective with less than 1m.) for the parameter related to footpath obstructions, 42.9 percent of the respondents have rated 2 (Environment feel dangerous- pedestrians are some risk of crime) for this parameter, 39 percent of the have respondents have rated 1 (No footpath) for this parameter.

Overall Walking Path Conflict

The overall walking path conflict was determined by scoring the responses of each parameter from 1-5, where 1 represents no conflict and 5 represents high conflict. The total score was calculated by adding the scores of all the parameters. Based on the mean and standard deviation the scores were divided into high, moderate and low. The result are presented in the below table

Table No -2
Level of Overall Walking Path Conflict

S.No	Overall Walking path Conflict	No. of Respondents	Percentage
1	High	330	56.2
2	Moderate	224	37.6
3	Low	8	6.2
	Total	595	100.0

The above depicts the level of walking conflict of the respondents. The table reveals that, more than 56.2 percent of the respondents had high walking conflict, 37.6 percent of them had moderate level of walking path conflict and 6.2 percent of them had low level of walking path conflict. From this it can be understood that, walking path conflict was experienced by a good percentage of people. The major issues related to walking path conflict faced by the respondents are lack of adequate lights, congested footpaths, poor condition of footpaths, lack of adequate crossing and distance of crossing, obstructions in footpaths, lack of amenities, encroachments, and disrespect of traffic rules by motorists

Suggestion

The pedestrian space measurements vary in size and length depending on the nature of the area, users and availability of road width. Students from urban development course should be engaged while designing the pedestrian's space to create a feeling of responsibility towards their fellow being which is dependent on this space to run their daily hood. While designing the pedestrian's space we should also take into consideration the provision for future expansions (provision for waiting benches, trees for shade, bins for waste disposal, etc...). Provision of regular 3 inch width space for pedestrians walk wherever possible without considering the basic locality factors is not going to bring any change in their life style.

Conclusion

Walking is an easy and cost effective mode of travel, also benefits the health related the aspects of people. Habit of walking is slowly increasing among the people but yet to be improved. On the other side, the facilities and conditions of pathways and pavements are not healthy for walking which may considerably reduce this habit of walking. The habit of use of footpath is increasing among the people due to the awareness and commitment towards the road safety. On the other hand, people are compelled to share the roads due to the condition of footpaths and pavements or non-availability of the same. The attitude of people is also a serious concern in using the footpaths and walkways. These lead to accidents which takes the lives of many pedestrians in the road. Thus, there is a need to understand the problems, constrains and solutions for safe and comfortable walking of pedestrians.

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