

UNDERSTANDING PEDESTRIAN TRANSIT IN VIEW OF URBAN SCENARIO

Ar. Manita Saxena

Professor, SOA IPS Academy, Indore, India

Ms. Poonam Kaur

Final Year B. Arch, SOA Academy, Indore, India

ABSTRACT

This paper explains the importance and methods of pedestrian transit systems in context of planning in urban pedestrian systems on street level. The aim is to understand the role of urban planning in making a good city and better pedestrian transit systems and to overcome the challenging conceptions of public spaces. The objective of the research is to study the nature of streets, how streets work in present context, transit nodes and pedestrian network in a city.

This paper provides a first step to standardize the way we look at pedestrian systems in context of walk able cities. It draws together research on walk able cities and pedestrian facilities to know how better integration of underground pedestrian networks and skywalks along with other pedestrian facilities and urban pedestrian systems can be achieved.

Key words: Pedestrian accessibility, urban planning, public space, public facilities, pedestrian environment

Cite this article: Ar. Manita Saxena and Ms. Poonam Kaur, Understanding Pedestrian Transit in View of Urban Scenario. *International Journal of Architecture (IJA)*, 2(1), 2016, pp 16–22.

<http://www.iaeme.com/IJA/issues.asp?JType=IJA&VType=2&IType=1>

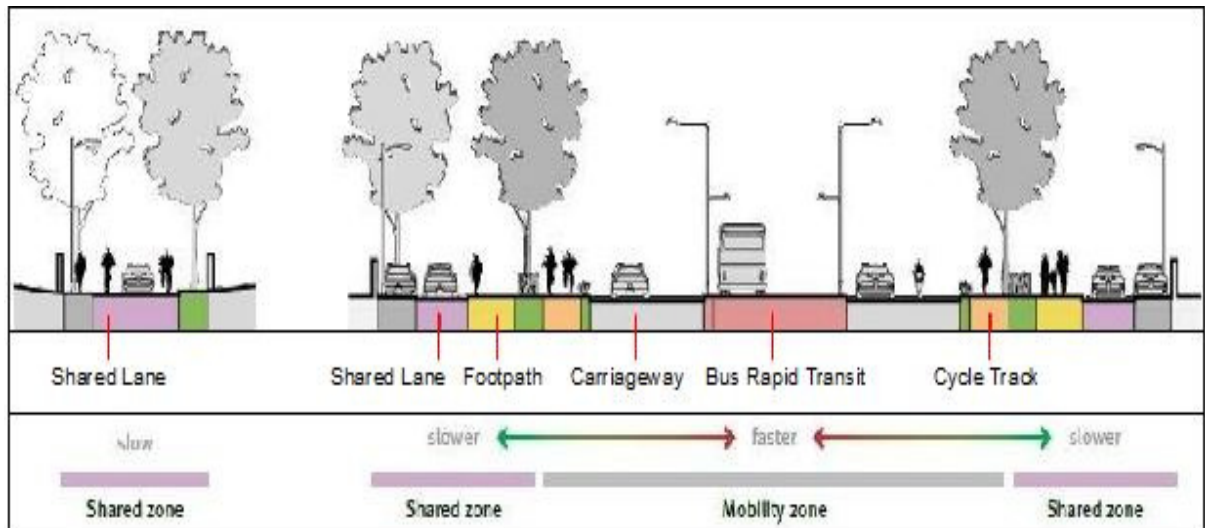
1. INTRODUCTION

Although, it has been identified that it is extremely important to keep pedestrian spaces integrated and in flow, which is difficult to achieve especially in city centres of metropolises where road resources on the ground are crowded by vehicles for the efficiency of intensive commerce and concentrated services (Huang & Lu 2007).

Our vision for better street design has to be widened and streets are needed to be designed for all users and not just motor vehicles. Streets foster social and economic bonds, bring people together and make a city livable. Overtime, in Indian cities, the streets function less as social gatherings and market spaces and more as conduits for increasing volume of traffic.

Separating pedestrian and vehicular traffic, to shield pedestrians from inclement weather and encourage downtown development, in many large cities of the world,

underground and above the ground pedestrian systems were advanced through the construction of either subway systems or skywalk systems along with other street design elements such as footpaths, sidewalks, service lanes, bus lanes, and utilities and so on. These type of pedestrian systems functioned as a medium by connecting transport, working and socio-economic places together with a multi-functions to create a livable space.



2. NEED AND BENEFITS OF PEDESTRIAN DESIGN GUIDELINES

Often at the expense of other functions of the streets, the designs focus on improving the carriageway for vehicular mobility by allotting more space to it and taking in consideration the pedestrian facilities. Pedestrian footpaths may be eliminated but the pedestrians cannot be, and due to inadequate pedestrian infrastructure people are forced to walk on the carriageway. The same is the case with street vendors, cyclists and public transport. In the end, everyone end up sharing the main vehicle carriage way, which leads in reduction in amount of space for vehicles and is uncomfortable, unsafe and inconvenient for pedestrians and motor vehicles as well. So, why not provide adequate space for all users in the first place?

The improper space for pedestrians, inappropriate curb heights, missing sidewalks, encroached space by trees, utilities and inadequate amenities are the major reasons why good pedestrian design guidelines are needed for streets. Better streets make better cities and a better place to live in. Mobility problems can be solved by making streets efficient and not simply widening them. Improved design consideration on streets would provide:

- Reduction in use of car and other vehicles, therefore **reduction in congestion and pollution.**
- **Increase in comfort** for the walking population.
- If shorter trips could be made by foot, **dependency on cars would be reduced.**
- **More equity** in amenities to all sections of the society and in provision of comfortable public spaces.
- **Better health** for people who walk and more exercise will be there.

3. GOALS FOR STREET DESIGN



Goal 1: Mobility and Accessibility

Convenient, fast and safe movement of maximum number of people through the city.

- Equal or higher priorities should be given to public transit and pedestrians.
- Provide transit oriented mixed land use patterns and redensify city within 10 minutes 'walk of MRTS.
- Special lanes for HOVs (high occupancy vehicle) and carpools during peak hours should be provided.

Goal 2: Safety and comfort

To ensure pedestrian safety:

- Proper street lighting for pedestrians and bicycles should be provided.
- Commercial facades are required to have minimum 30% transparency.
- By removing setbacks and boundary walls create "eyes on the street". Thus it will discourage misbehaviours, shady corners, etc.
- To encourage walkability, provide safety, development of street activities commercial or hawking zones may be created at regular intervals.

For climatic comfort:

- Use of High albedo materials for paving reduces urban heat island effect.
- Trees are an essential component for streets – to reduce solar gain and provide shade to pedestrians.
- Protection can be provided to pedestrians by providing arcades and overhangs in buildings.

Goal 3: Ecological

Reduction of Heat Island Effect and aid storm water management:

- Decrease Heat Island Effect by increasing plantation, greenery, reflective paving, etc.
- Decrease impervious surfaces by planting trees, permeable paving, etc. to increase ground water infiltration and seasonal flooding.

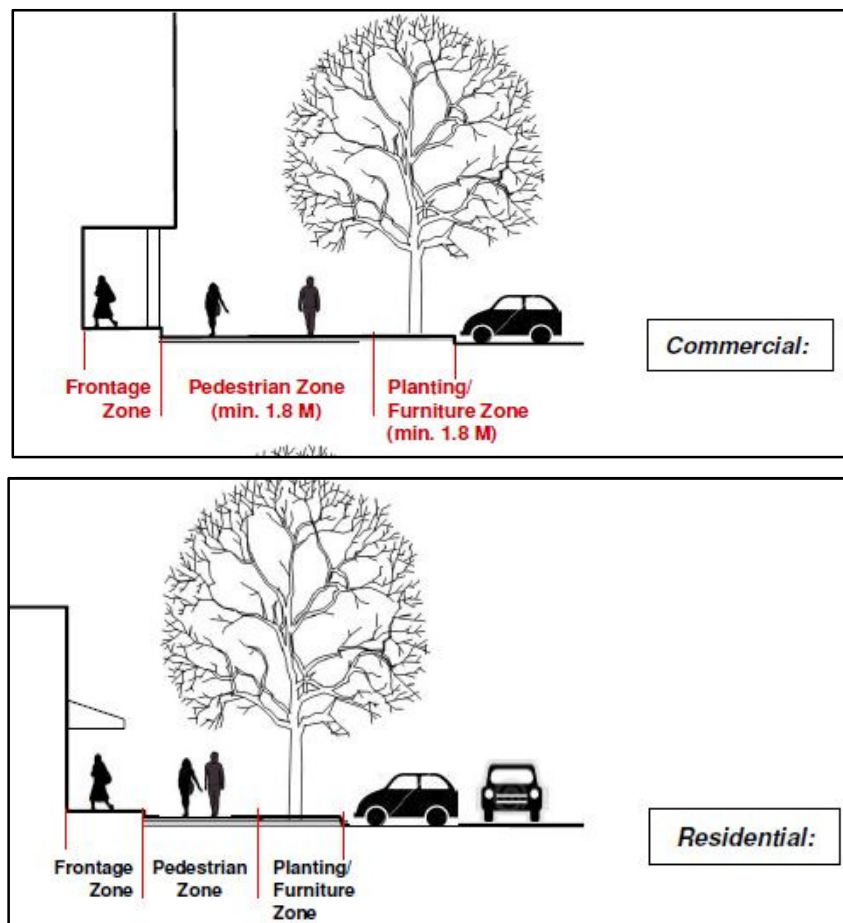
4. DESIGN PARAMETERS

Pedestrian only zone

The primary component of every street in a city is The Pedestrian Zone. It is not only a zone to ensure smooth, comfortable transit of pedestrians and public transport users, but an area with socio-economic factors, safety and quality of life of people in a city.

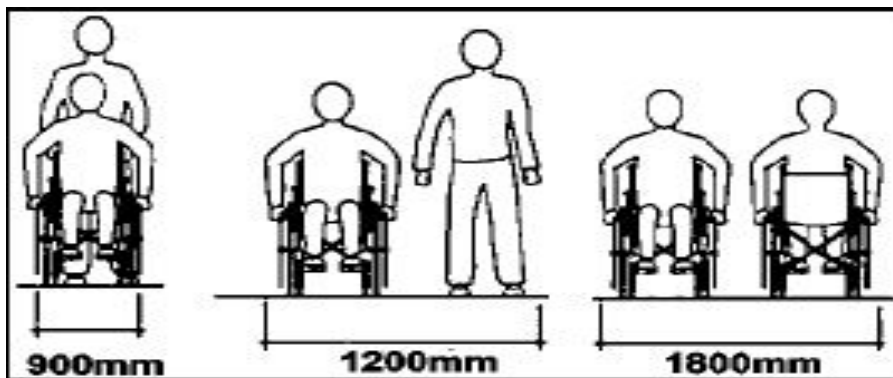
'Dead width' or frontage zone

Windows and hawker zone in shopping streets, or entries and staircase up to buildings - create a stoppage of pedestrians or users of the buildings. This is an important part of a successful and active street. The hawker zone is about 0.5 to 1.0 m of extra space, which must be given for conflict free movement of pedestrians.



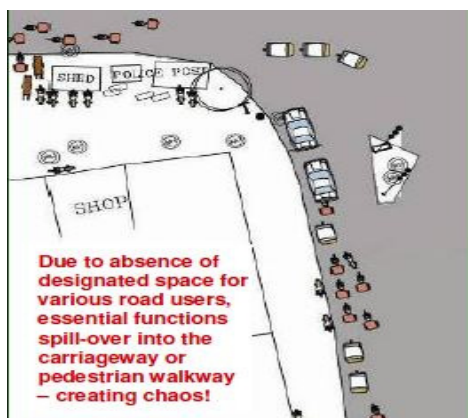
Universal Accessibility

Universal Accessibility is required for all sidewalks, crossings and public spaces – for people using wheelchairs, handcarts, crutches, bicycles, walkers, aged people, visually or hearing impaired. Elements such as curb ramps, raised table top crossings, tactile paving, auditory signals and accessible signage can be used.



Multi-functional zone with planting

Multi-functional Planting zones with plantation and street trees are desirable on every pavement to provide shade and climatic comfort. To reduce flooding and reduce the pressure on storm water infrastructure, planting zones can be doubled as natural storm water catchments and filtration systems aiding in groundwater recharge.



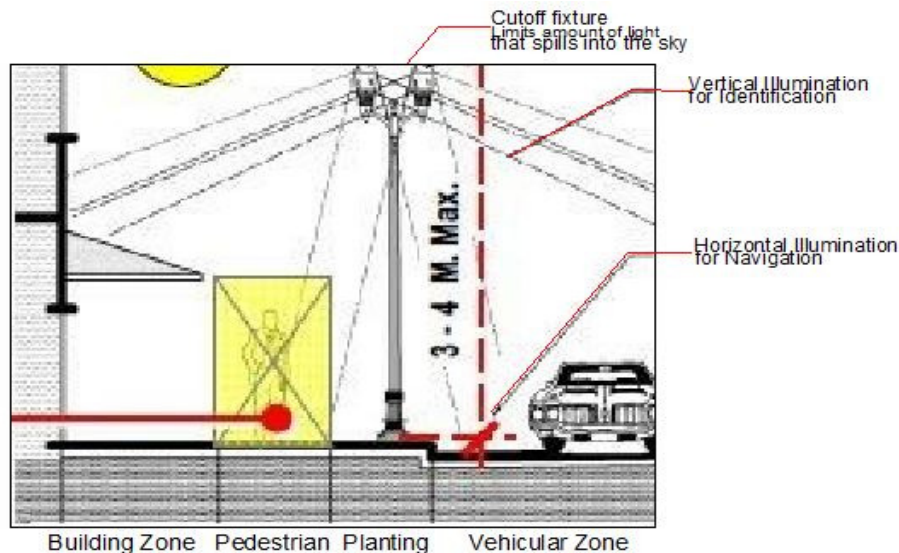
Crossings

Marked crossings are an important part of the pedestrian transit that enable safe and convenient pedestrian travel. At-grade Crossing, Mid-Block Crossing, Raised Crossings, Grade Separate Crossing (Foot Over Bridge), Grade Separate Crossing (Humped Crossing) are some of the types of crossings.



Pedestrian scale street lighting

Need of light for pedestrians are different from vehicles and so are need to be designed and integrated within the overall lighting strategy in the street. This will provide safety of pedestrians on pavements after dark.



5. CONCLUSION

It is not inappropriate to conclude that roads for Indian cities are much more than just a carriageway for cars. Their mismanaged and neglected edges carry more road users; the pedestrians, the cyclists, the hand-carts, the street vendors and the cycle rickshaws than the cars carried by its well defined and nicely constructed central portions. Indian cities have high percentage of walking and cycling, high percentage of informal economy comprising of street vendors, weight pullers and a large number of people still rely on cycle rickshaws for employment and transport. It is of prime concern, that a new transport paradigm of “people above cars” is mandated to tackle this apathy of transport planners and urban local bodies towards the prominent modes like walking and cycling, which are still used by many people.

REFERENCE

- [1] Pedestrian Design Guidelines © UTTIPEC, DDA 2009.
- [2] IRC: 103-1988 Guidelines for Pedestrian Facilities (1988).
- [3] Indian Road Congress (1990). Guidelines for Capacity of Urban Roads in Plain Areas, New Delhi: IRC.
- [4] Guidelines for pedestrian facilities, IRC: 103- 1988ITPI Journal (Institute of town planner India) 2004,43-46 and 2005, 62-65.
- [5] *Street Design Guidelines* Unified Traffic and Transportation Infrastructure Centre, DDA (2010).
- [6] *Public Places–Urban Spaces: The Dimensions of Urban Design*, Matthew Carmona,(Oxford: Architectural Press, 2003).
- [7] *Urban Street Design Manual*, Abu Dhabi Urban Planning Council (2009).
- [8] Planning for Pedestrians: A way out of Traffic congestion: Tudor Morar (Romania), Luca Bertolini (Netherlands).
- [9] Improving Pedestrian Accessibility to Public Space through Space Syntax Analysis: Ruben Talav Era (Spain).
- [10] The Development of Underground Pedestrian Systems in City Centres under the Guidance of walkable cities: Jianqiang Cui, Andrew Allan, Dong Lin.
- [11] Olakanbi Bolaji AbdulRaheem and Osama Abdulwahab Rayis, Style Generative Tool for Suakin Architecture. *International Journal of Architecture (IJA)*, 2(1), 2016, pp 01–15