



STRATEGIES TO IMPROVE PEDESTRIAN MOBILITY IN CORE CITY

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Abstract : Pedestrian is one of the most valid components of any transportation system. For slow moving traffic and pedestrians, streets with intimate scale are more than just a means of transportation in the small urban form of old cities. They serve as a hub for socialising, shopping, and other human activities. People were given importance in the planning of the majority of traditional towns. On the other side, efficient vehicular movements are given more weight in modern urban planning, frequently at the expense of pedestrians. The primary goal of the proposed study is to concentrate on this understudied component of confrontations between pedestrians and vehicles in city centres..

Key words –Pedestrian , walkability ,encroachment.

1. INTRODUCTION

One of the most important elements of any transportation system is the pedestrian. A pedestrian is someone who is walking on the street. All societal activities eventually rely on walking as a fundamental form of transportation. Walking offers a flexible connection between modes of transportation that can't be achieved by any other method. Walking has many advantages as a means of transportation, including its availability at any time, ubiquity, ease of maintenance, cost-free nature, lack of energy consumption, and lack of pollution. People walk for a variety of reasons; every journey begins and concludes on foot. Due to the low incidence of vehicle ownership and the appallingly poor public transportation systems, there is a significant amount of foot traffic.

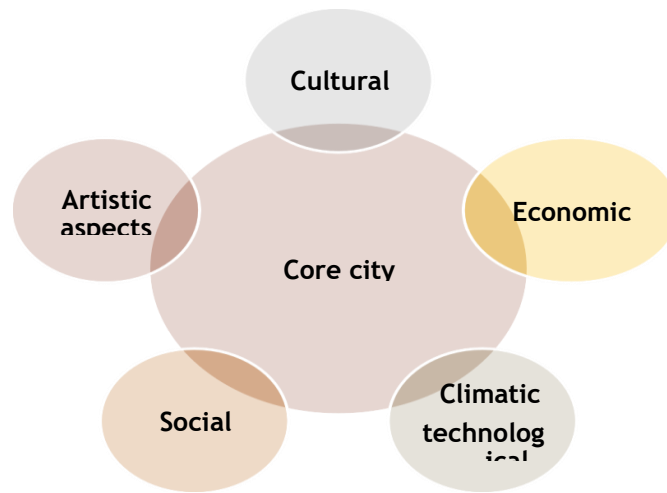
All social groups travel by foot over short distances, but those who are less well off economically are more likely to walk large distances. Many people lack access to any kind of transportation, and motorized vehicles are unable to meet all of their transportation needs. The majority of people in developing nations have no access to any kind of transportation; instead, they only walk because motorized transportation cannot meet their daily transportation needs. Streets with an intimate scale are for slow moving vehicles and pedestrians in the small urban form of traditional cities; these streets are more than just a means of transportation. They serve as areas for human activity such as socializing, shopping, and other transactions. Most historic towns placed a high value on the welfare of their residents. As opposed to this, modern urban planning. More emphasis is placed on efficient automotive movements, frequently at the expense of people. The primary goal of the suggested research is to concentrate on this understudied component of city centre problems: resolving conflicts between automobile and pedestrian activities.

2. LITERATURE REVIEW

(Steinberg, 2008)**Core city** -It is cultural , administrative and economic heart of the city. Mostly they are characterised by high density development specialised function and having heritage value. Due to various reasons the core city starts deteriorating in all spheres like physical, economical social and environmental. Old city centers give a city its identity where as contemporary urbanisation is uniform in nature.

2.1 Why we need to revitalize?

Core city are a product of saturation process of interlinkage between Social, cultural , economic, climatic technological and artistic aspects of people.



2.2 How to Pedestrianize?

Pedestrianization can be accomplished in a variety of ways depending on different methodologies and techniques; these methods are specifically focused on the scenario and the area's hierarchy. Here are a few strategies for achieving pedestrianisation.

1. Converting streets to pedestrian thoroughfares will require individuals to travel on foot along the previously used streets for vehicular traffic.

Figure 2-1 Why we need to revitalize?

2. Gradually reduce traffic and parking to make it easier for locals to transition to walking because they don't really miss that many parks from year to year.
3. Maintain a dense and low scale: There should be plenty of eye-catching features that are simple to access in order to keep people interested.
4. Honor the human scale: This emphasizes more on how things will come out in the end. Will the user like exploring this area on foot? Exist any areas where people can sit and gather? Do you have anything to look at?
6. Fill the centre: This is excellent for cities with residential apartments in the town centre.
5. Promote student housing: Since students are typically up later and like to go by bicycle and public transportation, bringing them into the town centre gives it more energy.
6. Adjust the cityscape to the changing seasons: Depending on the season, this will make the centre more user-friendly. Winterized sections retain the heat in, whilst open, shaded areas work well in the summer.
7. Encourage the use of bicycles as a primary form of transportation: All that is required to encourage the use of bicycles is an increase in the number of bicycle lanes, bicycle crossings, and bicycle parking places.
8. Convert parking lots into public squares: This strategy tries to make better use of big, empty places like former parking lots for more appealing events like fairs.

2.3 Park and Ride System

- This system's goal is to reduce traffic entering the city centre by providing either bicycles for rent at parking lots or a pick-up area within the same parking complex.
- After parking their autos, the passengers take the bus or continue riding to their destination. Oxford served as the location of the UK's first Park & Ride system.
- Because these parking lots can be located outside of the CBD area at convenient locations that are close to the majority of likely destinations, there will be reduced traffic jams of cars entering the city centre.
- Long-term parking is not permitted at the park and ride facility. It is only used by carpoolers and individuals who want to leave their car there all day while they go to work or shop, and then have it picked up when they are through.
- In larger cities where parking is a bigger issue, the value of this method is more obvious. Brisbane would be one of these instances. If you work in the city, parking your car in some parts of Brisbane may cost you \$25 per day. Using this technique, employees can leave their car parked outside of the CBD and save money on parking there. The park and ride system can include big car parks at railroad stations in a city with a comprehensive pedestrian railway system.
- Because customers can store their cars in the parking lot for free and then pay to take the train, bus, or rent a bicycle, depending on the local council, this system may wind up being rather commonly used. This results in lower costs for the consumer and benefits the environment by reducing carbon emissions from cars that travel shorter distances.

2.4 Bicycle Storage

Anyone can rent a bicycle in a city, such as Copenhagen, and use it to go around. The town council takes care of maintaining these bicycles. The simplicity of the cycling system is one of its beauties. There is no requirement for manned stations everywhere, and the system simply needs occasional maintenance to remain functional. A large number of bicycle parking stations are dispersed across the city, and anyone who needs to travel from one side of the CBD to the other can borrow one of them. When they get at their location, they park the bike in the closest parking garage and

receive their money back. The ability to get their money back is a terrific incentive for people to return their bikes rather than just leaving them somewhere.

S.No	Title, Author	Objectives	Findings
2.	PEDESTRIAN MOBILITY ENVIRONMENTS: DEFINITION, EVALUATION AND PROSPECTS - Julio Soria1 , and Rubén Talavera2	To analysing the factors are relevant to define Pedestrian Mobility Environments (PME) and assess their performance.	Measuring the performance of Pedestrian Mobility Environment a) Transport modes factors: (i) Pavement (ii) Street design (iii) Permeability and (iv) Traffic b) Land-use factors: they determine the type of pedestrian flows, they are in many cases the destination of these flows. c) Pedestrian profile factors: Human component
3.	National Mission on Sustainable Habitat (NMSH)		To address the issue of mitigating climate change by taking appropriate action with respect to the transport sector such as evolving integrated land use and transportation plans , achieving a modal shift from private to public mode of transportation , encouraging the use of non-motorised transport , improving fuel efficiency, and encouraging use of alternative fuels etc.
4.	Urban Street Guidelines,2016		Attributes of good footpath design include: a) Accessibility by all users. b) Continuity and connectivity. c) Adjoining landscaping to create a buffer space between pedestrians and vehicles and also provide shade. d) Adjoining social space (area where pedestrians can safely participate in public life). e) Width of footpaths is to be determined based on the street hierarchy and ROW, land use and pedestrian traffic and as per the universal accessibility design. f) Footpath should provide clear and unobstructed minimum walking zone, all such elements like trees, street lights and street furniture etc should be accommodated within MUZ (Multi utility zone) h) In case of obstructions that cannot be removed, footpath width should be suitably increased in that portion to ensure minimum clear width of walking zone. i) Footpath should have tough and anti skid surface
5.	Revitalization as a catalyst for remaking core cities in the changing world. Jariwala Pooja Bipin chandra, Sejal S. Bhagat.		<ul style="list-style-type: none"> • It requires a comprehensive programme with active involvement. • Initiatives of a few people can make all the difference to the revival of a city. Depending upon the stage of decay, the strategy of urban renewal has to be decided. • Problems are different, contexts differ, needs change, and therefore the policies and programme to deal with each city and town also differ

Table 1 Analysis of literature study

MAJOR PARAMETER INVOLVED IN A NALYSIS OF STUDIES

S.no	Case study	Author	Objectives	Strategies
1	Ahmedabad (manek chowk)	"The manekchowk initiative"	<ul style="list-style-type: none"> • Aim to transform the central space of, Manek chowk into an exclusive pedestrianzone • To reduce conflict between vehicular traffic and pedestrians. • To reduce traffic noise and vehicular emissions in the Manek chowk area by prioritizing pedestrian movement and enhancing the available space. • The improvement of public spaces based on road safety objectives • Reclamation of spaces for the people can be scaled up across other areas of Ahmedabad 	<ul style="list-style-type: none"> • Introduce priced parking and provide designated on-street parking areas for unloading goods. • Derelict sites & government plots (PWD office, fire station) within and beyond 500 m radius identified as off-street parking options. • Segregate paved pedestrian areas from vehicular RoW. • Pedestrianise Manek Chowk central space, re-route traffic to maintain network. • Employ traffic calming measures like raised intersections, tactile paving, geometric correction etc • Provide better walking amenities, shaded space, seating areas and amenities such as toilets & drinking water. • Provide lighting for public spaces. • Provide better signage at the same time considering privacy of residents • Designated paved areas for hawkers/ street vendors. • Organise service lines, provide drainage, solid waste management and electricity for better functioning of vending areas • Paved walkway around

				<p>monuments.</p> <ul style="list-style-type: none"> • Special lighting of monuments. • Urban design guidelines for improvement of heritage façade and signage. • Visibility and connectivity to the elements to be emphasised
2	<u>Mid town Manhattan</u>	Mid town Manhattan Pedestrian network development	<ul style="list-style-type: none"> • It is global business centre accommodating 340,000 workers daily. It is a major tourist attraction , a civic centre, with institution and entertainment uses and a growing residential community of 14000 people. • Three regional transportation hubs and an outstanding mass transit system used by daily by millions of people to access the area . • As the area functions as an office cum commercial district , downtown patterns are determined by a nine to five weekdays schedule . Midtown's core is an area of approximately four square miles. 	<ol style="list-style-type: none"> 1. Curb lines were changed to widen sidewalks and street corners . 2. Sidewalks surface were improved and pedestrian boulevards introduced 3. A new crosswalk and traffic signal was installed 4. Signal time for pedestrians was increased, especially in the bow tie, especially during the evening hours 5. Traffic was channelized through new lane marking and signage 6. Truck delivery hours were limited to off – peak hours i.e. 10 am to 4 p.m. 7. Bus stops were extended and new bus shelters were constructed 8. No stopping / parking regulation were enforced
3	Aminabad ,Lucknow	Pedestrianisation-of-commercial-area-a-case-study-of-aminabad-lucknow. Chandra malhotara	Due to heavy traffic congestion of vehicles and pedestrians, illegal encroachment of hawkers and vendors, on street parking	<ol style="list-style-type: none"> 1. To start this as a Pilot Project which would give people time for acceptance of the initiative. 2. If required in future, Underground parking can be provided below Hanuman Mandir and recommended facilities can be replicated to other stretches in the area too. 3. Municipal Corporation should revise its architectural controls mainly for the renovation and building size. 4. Overhanging cables should be cast underground. 5. Zoning of spaces should be done like all food vendors in one zone etc. 6. Restriction of vehicular traffic from 6am-10pm can be done by placing Automatic Bollards. 7. Municipal Service should be

					<p>given in the pedestrianized street which are distributed as per ward basis- Sweeping, Washing of Street, Drinking Water, and Electricity.</p> <p>8. It is recommended to put shed all over the footpath stretch if possible for pedestrians.</p> <p>9. Valet Parking all the people who come to the market & park their vehicles in off-street parking</p> <p>10. Free Parking Permits Issued to the residents and priced parking for rest all of the people to get parking self financed.</p> <p>11. <i>Other facilities that should be provided at the stretch</i> <i>Resurfaced Pavements, Sensors, CCTV Camera, Landscaping, Artwork, Dustbins, Vegetation, Public Toilet, Benches, MUZ, Universal Design, Shelter</i></p>
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Table 2 Case Study Analysis

III. CONCLUSION

The idea of "walkability" encompasses all features of urban space that are tied to quality and can be expressed as the essential component of an effective urban transportation system.

- By enabling safe and appropriate mobility accessibility, the inclusive mobility might be increased.
- Recognizing that the roads serve as both a social and a transportation place.

This requires balancing the areas designated for automobiles and pedestrians while simultaneously constructing a foot-specific environment to support users' mobility, social interaction, play, and recreation.

- Additionally, local government should provide for the needs of pedestrians by ensuring that a significant number of facilities and services are evenly spread across the city. The following are examples of actions that walkability indicators could be used to support:

1. The building of a path system inside the city
2. Having enough public transportation stops to accommodate all possible consumers' demands
3. The layout of rest or sojourn areas
4. Nodes that are intermodal and guarantee accessibility
5. Knowledge and security. Safety of paths and crossings is also a basic feature for the attractiveness of walking.
 - Limitation of motorized traffic flows is necessary to protect vulnerable users. So the use of safety/security-oriented indicators is significant to evaluate all utilizable measures (30 km/h-zones within residential and commercial zones, over/underpasses, traffic lights crossings) to aim this goal.
 - The difficult task of creating policies to maximise the chance for urban environment enjoyment falls on urban and transportation planners. To enhance walkability, modal rebalancing, and, more broadly, the economic, social, and environmental elements of urban life and mobility, it is crucial that designers of urban environments prioritise soft mobility (walking and cycling).

IV. ACKNOWLEDGMENT

I provide my warm regards and sincere thanks to my thesis guide, **Prof. Mahima Thussu**, who has been a constant source of inspiration and provided all technical and moral support during the course of research. Working under her guidance has been a great learning experience.

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