

# Relevance of Pedestrian Circulation in Urban Design: A Study of M.P. Nagar, Bhopal

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**Abstract** - Walking is one of the vital components in designing cities. It makes cities safe, accessible, and visually more appealing. The research is looking into creating a city that allows pedestrians to use the space as safely as possible, making the space easy to walk through, and invitingly friendly. (Southworth, 2005). A good city would be environmentally conscious, inclusive to all, and a better place to live generally. The study discusses core issues in developing walkable cities, such as the ability to easily move about, safety for pedestrians, and the connection between places. At the same time, it can be seen that integrating walking spaces with public transportation makes cities perform better. For instance, one of the emerging ideas is using streets shared with both cars and people, thus reducing traffic volumes and designing a flexible space in line with change to meet new needs.

This focus involves designing cities that are responsive to climate and making public spaces more accessible for walking. (URBAN, 2021/22). The paper has used examples from places like Delhi, Ahmedabad, and Barcelona to demonstrate how pedestrian-friendly ideas have worked in real life.

The research also discusses the challenges that cities in developing countries face, which include crowded places, informal business, and scarce money for huge projects. Last but not least, the study provides a guideline to city planners and policymakers on prioritizing walking in urban design to make cities easy to live and move around in. The study encourages a paradigm shift toward better cities for walkers, which eventually leads to sustainable and vibrant cities.

**Key Words:** Walkability, Pedestrian Safety, Urban Design, Public Space Accessibility, Sustainable Cities, Integrated transport.

## 1. INTRODUCTION

The higher rate of urbanization leads to a higher traffic density inside a city. Good pedestrian circulation in a city leads safety, accessibility, and sustainability of an urban space. M.P. Nagar is a commercial hub in Bhopal with high footfall. The scenario presents a perfect case study to assess the influence of pedestrian movement on urban design. (Habitat, n.d.).

## 2. LITERATURE REVIEW

Land use, street design, and policy are reasons why pedestrian circulation changes. Advantages of pedestrian infrastructure include reduced congestion, improved public health, and increased economic activity. Good international examples of pedestrian-friendly cities include Copenhagen and Singapore.

## 3. METHODOLOGY

This study uses a mixed-method approach :

1. Primary Data Collection: Field surveys, pedestrian counts, and interviews with stakeholders (residents, shop owners, and urban planners).
2. Secondary Data Collection: Urban policies and traffic reports, supported by academic literature.
3. Observational Analysis: Pedestrian flow was mapped, bottlenecks were determined, and accessibility was evaluated.

## 4. CASE STUDY: M.P. NAGAR, BHOPAL

### 4.1 M.P. NAGAR DESCRIPTION

M.P. Nagar is one of the upsides of Bhopal city: a center of commerce with significant shopping centers, offices, and government establishments. Areas near transport hubs and commercial establishments have reported significant pedestrian activity (Corporation., n.d.).

### 4.2 EXISTING PEDESTRIAN FACILITIES

**Sidewalks:** Generally available yet narrower due to encroachment by vendors and parked vehicles.

**Crossings:** Black spots, pedestrian signals, and zebra crossings are generally not in good condition.

**Street Lighting-**Adequate Street lighting in most locations, though in some sparsely lit areas.

The area is generally well connected by the public transport system although it lacks in many places footpath forks.

### 4.3 PROBLEMS FOR PEDESTRIANS

Encroachment vendors and parked vehicles take away part of the road meant for pedestrians.

Traffic Congestion-Very high pedestrian traffic making it

unsafe for pedestrians.

Lack of pedestrian-only zones- There will simply not be any special pedestrian streets designated.

Poor maintenance -Faulty pavements and inadequate drainage will hinder walking.

## 5. ANALYSIS AND FINDINGS

1. Street design and infrastructure must be improved in areas with high pedestrian density to reduce conflict between pedestrians and vehicles.

2. Poor sidewalks discourage walking and engender over-reliance on motor transport.

3. Street or pavement activities that are unregulated and uncontrolled pedestrian crossings interrupt pedestrian flow.

## 6. RECOMMENDATIONS

1. Wider and Encroachment-Free Sidewalks: Impose strict regulations and improve sidewalk conditions to disallow encroachments.

2. Pedestrian-Only Zones: Identify select streets as pedestrian-friendly to assist mobility.

3. Better Crossings and Signage: Install well-defined zebra crossings with pedestrian signals and street signs.

Introduce smart traffic signals for pedestrians to improve safety.

4. Public Awareness Campaigns: Educate citizens about pedestrian rights and pedestrian safeguards.

## 7. CONCLUSION

This initiative would improve metropolitan mobility safety and economic vitality in M.P.R. by improving urban mobility and promoting traffic congestion in Nagar, Bhopal. Pedestrian-oriented planning will ensure the sustainability and equity of the cities. Future work could look at technological interventions and policy frameworks for a more complete understanding of the pedestrian environments.

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