

Review of Behavioral Observations of Users at Board Office Junction, M.P. Nagar, Bhopal

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Abstract - This research paper presents a detailed review of user behaviors at the Board Office Junction in MP Nagar, Bhopal - an important urban crossing where there is massive traffic flow with pedestrians in huge volumes. The objective of this research study is to identify behavioral patterns that influence the flow of traffic, safety, and convenience for pedestrians by systematically observing the interaction of pedestrians, vehicles, and public transport. The key observations show challenges such as pedestrian non-compliance with traffic signals, congestion caused by street vendors, and vehicle violations. (Bhopal Municipal Corporation., 2022). The study further explores the role of urban infrastructure and traffic control measures in shaping user behavior and provides recommendations for improving traffic management, safety, and overall urban mobility in the region.

Key Words: User behavior, pedestrian behavior, traffic flow, urban mobility, street vendors, public transport.

1. INTRODUCTION

The Board Office Junction is in the heart of MP Nagar, Bhopal and it is a key intersection that connects many commercial, residential, and educational areas. It is very interesting and complicated place, because a very busy spot like this makes a complex balance between people, cars, and public transport. The aim is to assess how individuals move around the junction, tracking both pedestrian and vehicular movement and the overarching contribution of urban infrastructure to these behaviors. Urban planners as well as policy-makers should know these patterns to develop the strategies that keep the traffic flowing, improve the pedestrian safety, and make sure that this essential junction performs its function well. (Gupta P., 2020)

2. LITERATURE REVIEW

The study of behavioral observation of users at Board Office Junction in MP Nagar, Bhopal, asks for an in-depth understanding in the context of urban studies, transportation behavior, movement of pedestrians, and user interactions in relation to the urban design. There are many studies and theoretical frameworks which provide an understanding into

these dynamics and how they particularly relate to the Indian city, including its specific issues of urban concerns.

Literature on behavioral observations in urban spaces, especially with a focus on Indian cities, is essential to understand the dynamics of user behavior at Board Office Junction in MP Nagar, Bhopal. This body of research will allow for the holistic analysis of pedestrian and vehicular interactions, safety concerns, and the role of urban design in shaping the user experience at this key urban node through the application of global urban theories to local case studies. (Kumar, 2019)



Figure 1: Satellite image of Board Office Junction (Source: Google Map)



Figure 2: Photo of the junction from different directions (Source: Author)



Figure 3: Photo of the junction from different directions (Source: Author)

3. CAUSES

At the Board Office Junction in M.P. Nagar, Bhopal, traffic congestion and delays are likely caused by a combination of factors, typical of busy urban junctions. Here are some common causes that may contribute to the formation of traffic jams or bottlenecks in that area include:

1. High Traffic Volume
2. Inefficient Signal Timing
3. Pedestrian Interference
4. Presence of Informal Vendors and Encroachments
5. Unregulated Parking
6. Construction and Maintenance Work
7. Seasonal or Event-Driven Traffic Surge

4. METHODOLOGY

The research is an observational design used to document the user behaviors in and around the Board Office Junction. The observing period lasts over one month during peak hours from 2:00 PM to 8:00 PM and during off-peak hours from 6:00 AM to 9:00 AM. Observations were made through direct visual inspection of the junction area, recording the behaviors of pedestrians, vehicles, and public transport users. Informal interviews were conducted with local commuters and vendors to gather insights into daily usage patterns. (*Bhopal Municipal Corporation., 2022*)

The focus areas are:

- Traffic rules and traffic regulations are followed while vehicles are in motion.
- Pedestrian movement and practices on safety. (*Gupta P., 2020*)
- The interaction between pedestrians and traffic signals is a crucial aspect of the control system.
- The influence of street vendors on pedestrian behaviour and vehicular movement is evident. (*Traffic Behavior and Pedestrian Safety in Urban Area, 2020*)
- The behaviour and problems faced by commuters in public transport.

5. RESULTS AND KEY FINDINGS

A. Pedestrian Behaviour.

- The lack of designated crosswalks and frequent unauthorized crossings on the road, especially during peak hours, was a common issue for pedestrians.
- During rush hour, this behaviour was more common among younger walkers and office staff.
- The use of mobile phones by pedestrians was observed, resulting in slower speeds and reduced awareness of surrounding traffic.
- Narrow footpaths and the presence of vendors caused pedestrians to spill onto the road, leading

to increased accident risk and impeding vehicular traffic.

B. Vehicular Traffic Flow.

Peak traffic hours at the junction can result in severe traffic congestion. What are the implications?

- Pedestrians and vehicles alike are often hindered by gridlock that occurs when cars cross intersection roads.
- A significant number of traffic rule violations, such as jumping red lights, illegal parking, and crossing crosswalks, were reported.
- The presence of traffic police did not guarantee uniformity in enforcement.
- Public Transport Behaviour: Buses and auto-rickshaws frequently come to a stop in the middle of the road, which can hinder traffic flow and cause delays.
- Public transport drivers appeared to be unconcerned about their behaviour, frequently stalling and starting, leading to increased congestion. (*Sharma, 2018*)

C. Impact of Street Vendors.

- Street vendors occupying pedestrian pathways can hinder the smooth functioning of existing paths, leading to blocked footpaths and an increased need for pedestrians.
- Additional hazardous behaviours, such as jaywalking and crossing without signal delay, were triggered due to this.
- Bottlenecks were created due to pedestrian interactions between vendors near busy intersections, including commercial centres and bus stops. This was a problem for many businesses.
- Vendors provided convenience, but their presence exacerbated pedestrian and traffic congestion. (*Gupta P., 2020*)

D. Effectiveness of Traffic Management Systems.

- Vehicles were more likely to obey traffic signals at the junction during off-peak hours, but they incurred significant penalties for violations during peak times.
- During the long waiting periods and inconsistent signal timings, frustration was also experienced.
- The presence of traffic police was noticeable, but their actions were more reactive than proactive.
- Regular enforcement during peak hours was not a priority, leading to numerous rule violations. . (*Sharma, 2018*)

6. DISCUSSION

These observed behaviors highlight several key issues regarding urban mobility at the Board Office Junction. Pedestrian safety is of great concern, as is their tendency to jaywalk and disregard traffic signals. Delays are exacerbated by overcrowding and traffic violations, especially during peak hours.

Urban mobility is heavily dependent on public transportation, but its uncontrolled stopping behavior contributes to congestion. Despite their positive impact on the local economy, street vendors create obstacles for pedestrians and cars, contributing to an already chaotic atmosphere.

Furthermore, urban infrastructure, which includes narrow footpaths and poorly maintained traffic signals, is crucial in determining user behavior. Without proper pedestrian infrastructure, such as secure crossings and clearly marked footpath routes, people are more inclined to take risks.

7. RECOMMENDATIONS

Following the results, various recommendations are put forward to enhance the user experience and traffic flow at Board Office Junction:

- Pedestrian Infrastructure enhancements such as wider footpaths, more uniform pedestrian lanes, and pedestrian bridges or underpasses at busy intersection locations would help reduce the number of people walking on streets.
- Better Traffic Signal Management: Optimizing timing of traffic signals and improving coordination between traffic lights and crossings for pedestrians would increase flow of vehicles and foot traffic. (Gupta P., 2020)
- Public awareness campaigns should focus on traffic regulations and pedestrian safety to decrease dangerous behaviours like jaywalking and using mobile devices while walking.
- Vendor Management suggests establishing vending zones that are not located near pedestrian paths and roadways to minimize traffic congestion and enhance safety for pedestrians.
- Strengthened enforcement of Traffic Rules: Adding more traffic police during rush hour would help curb rule violations and maintain smooth flow of traffic.

8. CONCLUSION

In MP Nagar, Bhopal's Board Office Junction, the challenges faced by rapidly urbanizing areas in India are a microcosm of these problems. These studies reveal complex behavioral

patterns which affect both traffic safety and pedestrian movement, as well as general urban mobility. To ensure a more secure and efficient urban environment, infrastructure upgrades are necessary, along with better traffic management measures and the promotion of responsible user behavior.

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BIOGRAPHIES



Hey, this is Tanisha Chouhan (author), my main intention in writing this research paper is to reach out to people and help them. I hope it helps you. All the very best.