

A Study of Bittan Chouraha Bhopal with Respect to Roads and Traffic Congestion

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Abstract - Traffic congestion is a major problem of bittan chouraha Bhopal. The study of bittan chouraha , an important cross roads in Bhopal, aims to look at how traffic moves , how people walk , and how the area is built to make transportation safer and more efficient. Due to increase in population along with urbanization industrialization and improving conditions. This research will look at the major congestion points, accident records, pause points, pedestrian traffic analysis, vehicular traffic analysis and asking people for their opinions through surveys. Based on the result the study will suggest solutions like better traffic signals, safer walking paths and encouraging other ways to travel, to make the intersection safer, easier to use and more efficient for everyone.

Key Words: Congestion, Pause points , Intersection

1.INTRODUCTION

Indian cities are struggling with traffic congestion, pollution, and inadequate public transport, making it difficult for people to move around efficiently, this has led to longer travel times, increased air pollution. The rise in traffic is becoming a big problem.

The area is analyzed is Bittan chauraha square. it is one of the busiest intersection of Bhopal owing to its location at an important commercial area (fulwari , 10no. market , mandi , bittan ground). Bittan chouraha serves as significant urban node within the site, characterized by dense commercial developments. The vibrant and prominent urban fabric functions as a major shopping hub, supported by a diverse range of facilities and amenities that contribute to its central role in the area's urban dynamics.

2.1. Major activity:



SOURCE : POHOTOSHOP

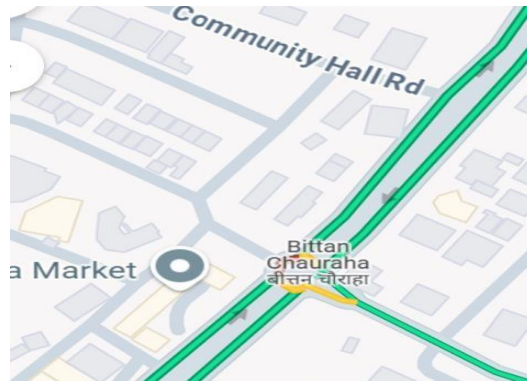
Fuel station: A fuel station located on the Junction acts as a major stopping Point for the vehicular traffic.

Commercial zones: A few commercial buildings are aligned.

Hospitality zone: Major hospitals are zoned near the bittan junctions.

Seasonal fairs: The bittan ground adjacent to the junctions serves a major role.

2.2. Road Network:



SOURCE :GOOGLE MAP

chauraha to 10 no. market , fulwari and mandi .

Bittan chauraha Bhopal situated in area colony , is a key intersection connecting several major roads and

facilitating traffic flow in city this area known for its proximity to bittan market , a popular shopping destination .

Key roads covering bittan chauraha :

Bhojpur club road this roads connects bittan chauraha to key areas like rani kamlapati railway station , community hall road connects bittan chauraha to char imli , 7 no. chauraha road connects bittan chauraha to Sagar gaire and other commercial area and Rajiv Gandhi chowk road connects bittan

2.3 Transportation and Traffic dynamics

The area is an important stop for transportation, so it is often studied. A report by the Bhopal Municipal Corporation (2021) says that traffic congestion are a big problem, especially during rush hours. Many roads meet at the same point, causing blockages, which means the roads need to be improved.

Public Transport Accessibility: Bittan Chauraha is well-served by city buses and autorickshaws, making it a vital link for commuters. However, studies (Singh, 2020) indicate that the lack of dedicated pedestrian pathways and organized parking spaces exacerbates traffic challenges.

Smart City Initiatives: Recent initiatives under the Bhopal Smart City Project aim to address these issues through the construction of flyovers, underpasses, and the introduction of intelligent traffic management systems (BMC Report, 2023).

2.4 Traffic pattern and congestion analysis:

TIME CARS	NO. OF BIKES	NO. OF
8-10 AM	1600	1200
10-12 AM	1500	900
2-4 PM	1100	900
6-8 PM	1800	1600

Table -1: Hence table 1 proves that peak time of congestion is on office hours (8-10 am , 6-8 pm) .

2.5 Impact of traffic congestion :

1. **Reduced accessibility :** Traffic jams make it hard for customers to get to businesses near the junction. Long travel times and trouble finding parking discourage people from visiting, which means fewer customers for shops, restaurants, and services in the area.

2. **Delayed deliveries :** Traffic jams create problems for businesses that need goods delivered on time, like restaurants, shops, and wholesalers. Delivery trucks get

delayed, which messes up stock levels, annoys customers, and hurts profits.

3. **Increased costs :** Businesses spend more on transportation because of wasted fuel and longer travel times. Using different routes or delivery methods to avoid traffic also increases costs.

4. **Costumer inconvenience:** Constant traffic congestion frustrate customers and may push them to shop elsewhere or online. This is especially bad for businesses that rely on people dropping by or walking in.

5. **Loss of productivity:** For businesses like offices, banks, and consulting firms near the junction, traffic jams make employees late. This lowers productivity and affects how smoothly the business runs.

2.6 Limitations and Challenges :

Challenges in traffic management:

1.**High traffic volume :** Bittan Chauraha gets a lot of traffic because it connects important roads like Link Road Number 3 and Hoshangabad Road. The roads can't handle so many vehicles, which causes frequent traffic jams.

2.**Lack of traffic discipline :** Not following traffic rules, illegal parking, and careless driving make traffic jams worse. Street vendors and other unauthorized activities on the roads add to the mess.

3.**Insufficient Traffic Signals and Monitoring :** Few traffic signals and not enough traffic officers cause unorganized movement, especially during busy times. Advanced traffic management systems are not fully in use yet.

Limitations in pedestrian friendly infrastructure :

1. **Absence of dedicated pedestrian path :** The area doesn't have good footpaths, so people have to walk on the road edges. This is unsafe and adds to the traffic jams.

2. **Unsafe crossing :** There are no proper pedestrian crossings, or they are not clearly marked, making it risky for people to cross the busy roads.

3. **Encroachments on walkways :** Footpaths are often taken over by street vendors, parked cars, or temporary setups.

4. **Poor lighting and maintenance :** poor maintained walkways discourage pedestrian activity ,particularly during evening hours .

3. Conclusion and improvement :

1. Adding bridge to bittan chauraha which reduce traffic congestion.
2. Promoting public transport to reduce reliance on private vehicles.
3. Adding pedestrian path .
4. Infrastructure update: widen roads and add dedicates line for turning .

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