

Stringent Traffic Policies: A Study of Traffic Congestion in Commercial Areas of Malviya Nagar Jaipur

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Abstract—The increasing demand of commercial sector in the cities has left the cities with one of the major problems, i.e., traffic congestion. Traffic congestion in an area not only leads to air and noise pollution but also it causes loss of productive human hours. Not every time road widening is a solution as the space available for road widening is limited. Transport authorities must come up with some alternative solutions to resolve the traffic congestion in main commercial areas of the cities. Malviya Nagar, Jaipur in the 90s has witnessed a remarkable growth of the commercial sector. The Gaurav Tower, a first mega shopping mall of Jaipur city, was established at Malviya Nagar, and till now it is the major source of attraction for the people of Jaipur. Various commercial centers were also established with the course of time and have become the main reason for traffic congestion. The traffic congestion problem is now at its peak. This paper reviews the current traffic congestion problem and suggests some solutions which could solve the problem. Vehicle quota scheme and Road pricing can help in achieving the desired objectives. The public transportation needs up-gradation and expansion. The frequency of buses needs to be increased to promote the use of public transportation system. Also, the introduction of Metro Rail Transport System in commercial areas can reduce the traffic on roads. Incentives for transformation towards the smaller foot-print cars and two-wheelers would be economically and socially viable way.

Keywords: localized vehicle Quota Scheme, Road Pricing, congestion pricing, car-pooling.

1. INTRODUCTION

India being the second largest populated country, its cities are most congested in the world. Talking about the vehicle distribution, it is uneven as the mega cities like Delhi, Kolkata, Bangalore; Mumbai holds the 14% of its total registered vehicular traffic. Other countries have buses, cars, truck, and motorcycles as their main components of vehicular traffic but in India network of auto-rickshaws, hand-pulled rickshaws, and bullock cart. The increase in roads length from 1951 to 2005 is 8 folds while the increase in vehicles on roads in the same period is 100 folds (CMP 2010 report). This reflects the traffic on the Indian Roads. National Urban Transport Policy

2014 says that in urban areas, the growth in population and economic opportunities has aggravated the vehicular density on roads and hence, vehicular congestion is now the driving issue in modern day world. Along with this increasing delays in travel time, accidents, and level of pollution. Various steps are being taken time to time to sort the problem of traffic congestion on roads. The broadening of the carriageway, construction of bridges and subways are the efforts government is putting to mitigate the problem of traffic congestion in India but what India needs at this phase of time is the formulation of new stringent policies that could solve the current as well as future traffic congestion problem.

Indian Scenario: In the last two decades our car-centric development approach has left our cities with pollution, congestion and looking for sustainable solutions. Once what was a luxury has now become a necessity. The weak policies and low taxes for car ownership in India are one of the major reason for the rise in traffic on roads with a rate of 13% or more (CMP 2010) have brought our cities in the clutches of traffic jams and more often accident fatalities. In India, many families have more number of cars than the number of family members which they park roadside or sometimes even on the roads which creates the problem of traffic flow in residential areas. A WHO study of 2014 says that 13 of the most polluted cities in the world are in India and also India experiences 120,000 deaths every Year due to traffic fatalities. Talking about the Jaipur city the growth of traffic on roads is nearly 12 % (Transport department, Rajasthan). The government of India still focuses on investing in road expansions and overpass construction projects rather than curbing car ownership and improving public transport services.

2. STUDY AREA

The case study is of Jaipur, Rajasthan which covers geographical area of 2940 Sq. km. Jaipur city is located at the altitude of 431 m above mean sea level and at 26.92' N latitude and 75.82' E longitude. The atmosphere of Jaipur city

forms the part of tropical summer land and therefore shows a significant variation in temperature. The climatic condition of Jaipur is hot and dry. In the following paper, the focus is in Malviya Nagar area of Jaipur which faces the severe traffic congestion in its commercial areas and mainly in Gaurav Tower region. Traffic congestion is a more severe problem during the peak hours (during the morning and evening Peak hours). Various strategies have been opted by the transport management authorities to solve this traffic congestion problem, but still, the issue is not resolved. Besides, being the capital of the state, it is also the primary tourist destination. Since last decade, automobiles are growing at a reckless rate in Jaipur city. The increased socioeconomic status of the residents, the availability of easy financing for automobiles, lack of adequate mass transport system and the growing need for the use of transport for daily activities have resulted in the steep growth of vehicle ownership in the city. The average annual growth rate of automobiles in Jaipur is around 13% (Source: CMP, 2010).

Malviya Nagar, Jaipur in the 90s has witnessed a remarkable growth of the commercial sector. The Gaurav Tower, first mega shopping mall of Jaipur city, was established at Malviya Nagar, and till now it is the primary source of attraction for the people of Jaipur



Fig. 2: Showing the Overcrowded Gaurav Tower Market
(Source: Times of India)

Various commercial centers like Crystal Court, Fort Anandam, and World Trade Park were also established with the course of time and have become the main reason for traffic congestion. The traffic congestion problem is now at its peak. The main reason for traffic congestion in the Gaurav Tower Market area is illegal encroachments on the road, shortage of parking spaces, illegal taxi drop and pick up points, informal sectors along the roadside. Fig 2. Shows the roads where major traffic congestion occurs in Gaurav Tower Market area.



Fig. 1: Map Of Jaipur
(Source: Map of India)

The increase in registered automobiles on limited road space has led to crowding and congestion on roads.

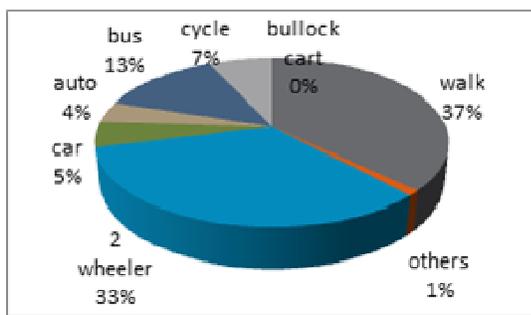


Fig. 3 Modal Share of Jaipur

(Source: CMP 2010 Report by Wilbur Smith)

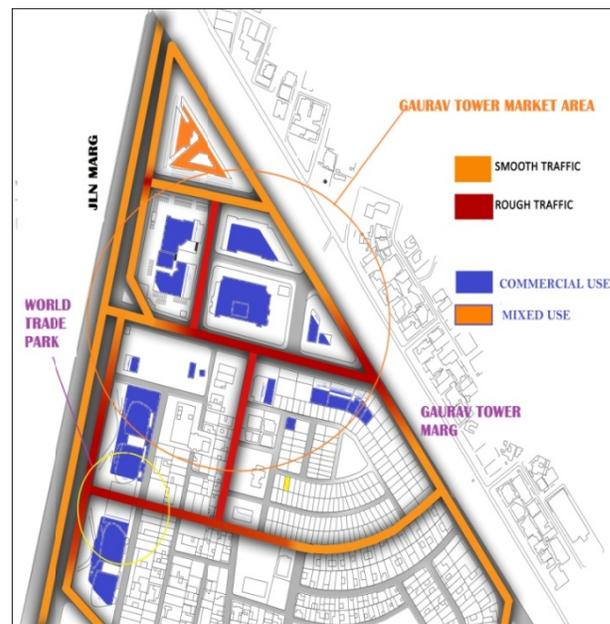


Fig.4 Traffic flow characteristic of Malviya Nagar, Jaipur

(Source: Author)

3. OBJECTIVES:

- 1.) To study and analyze the existing traffic congestion problem in commercial areas of Malviya Nagar, Jaipur.
- 2.) To suggest efficient strategies and transport policies for controlling the traffic congestion problem in the study area.

4. ANALYSIS

Based on the study and surveys carried out in Gaurav Tower Market area where the problem of traffic congestion is more serious as highlighted in fig.2 various factors were noticed that causes discrepancies to traffic flow. In the following section, a brief discussion has been done on these factors and their impact on traffic flow.

- 1.) **Parking problem:** parking has always been an issue in every commercial area of all the cities in the world. Most of the commercial building either doesn't provide spaces for parking or they provide insufficient spaces which force the drivers to park their vehicles on the roads. The same issue was identified in the study area. As per the data provided by traffic police more than 50,000 people visit the Gaurav Tower Market area or nearby area. The parking capacity of most of the commercial buildings like Crystal Court, Gaurav Tower & WTP are the inefficient effects of which can be seen in the area. People park their cars in the nearby residential areas creating another problem for the recipient of those areas. To get the better insight of the parking problem see **Table1**.

2	Gaurav Tower	69700	1800	150	-1650
3	Crystal Court	128372	3800	1160	-2540
4	Fort Anandam	1500	45	65	+20
5	Gaurav Tower Central	9000	270	450	+180

(Source: author)

- 2.) **Informal Sector:** The roadside vendors though they have a temporary built-up but they occupy the roadside parking spaces, pedestrian walkways, carriageways. Also, it was identified in the study area that people who visit these vendors park their vehicle on the roads which lead to bottleneaking of the road section in that particular area. The informal sector has been a significant problem in urban commercial areas, and while planning, they cannot be ignored. Even after vacating the places by the government the informal sector occupies their places again and again.
- 3.) **Pedestrian Traffic:** In Gaurav Tower Market area, it was noticed that there are no pedestrian walkways so people are forced to walk on the roads and as an effect of which motorized vehicle have to lower down speed which causes traffic congestion. This is, in fact, the common problems with commercial areas people prefer to walk on the roads rather than walking on the walkways.
- 4.) **Location of Gaurav Tower market on the major route:** Gaurav Tower Market area lies on the major route of the city. People from nearby areas either come to that area for work or follow that route to reach out their working destination. This led to the high peak hourly traffic in the morning and evening hours. Mainly the congestion problem is high during 8:00 am to 10:00 am in the morning and 6:00 pm to 10:00 pm in the evening. It was also noticed that traffic problem is more serious in the evening.
- 5.) **Illegal taxi and auto-rickshaw pick up and drop points:** In Indian cities, this problem is quite very common. The auto rickshaw holds the wide range of network in the city of Jaipur, and they acquire a space for their elicit pickup and drop point. These are one of the main reason for traffic congestion in Gaurav Tower area.

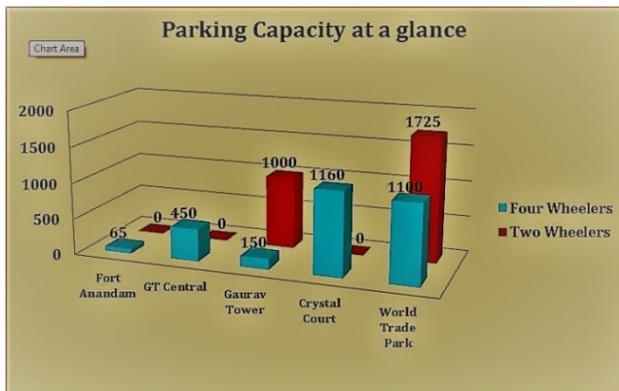


Fig.5 Chart showing the parking capacity of Gaurav Tower Market Area

(Source: Cityofjaipur.com)

Table 1: Parking Data of Gaurav Tower Market Area

Sr. No.	Building type	Built Up (sq.m)	URDPFI(required)	Actual Parking (car)	Surplus /Deficit
1	World Trade Park	160465	4800	1100	-3700

5. STRATEGIES AND POLICIES TO COUNTER TRAFFIC CONGESTION PROBLEM IN GAURAV TOWER MARKET AREA

- 1.) **Localized Area Licensing Scheme:** One optimal way is to make the driver to switch the roads road during peak hours or to change their traveling hours. This can be done by charging people a fee to enter in Gaurav Tower area

during peak hours in the morning and evening. Company cars must pay more than the standard rates.(refer 6 A.T.H Chin)

- 2.) **Congestion Pricing:** drivers must be charged a fee for entering the Gaurav Tower Market area. The notion is to make sure that vehicles using the road infrastructure made a financial contribution towards it, restrict the people from going for unnecessary journeys and promote the use of public transport systems..(refer 6 A.T.H Chin)
- 3.) **Build better public transportation system near Gaurav Tower area:** From the survey data collected it was noticed that people don't have a good image of public transportation systems of Jaipur in their mind. This is due to the reason such as poor frequency of buses on roads, overcrowded buses and lack of connectivity with the major centers. Gaurav Tower Market area also faces this problem that's why people prefer to come in their own vehicles. So government needs to work towards this sector.(refer 4 Bates. J)
- 4.) **Promoting car-pooling and penalizing the lone person traveling in a vehicle:** Cars comprised of at least four persons must be allowed to enter free in the Gaurav Tower area. Also, there should be Pick up points to promote the carpooling. Also, heavy duty must be put for the person traveling alone in the car.
- 5.) **Penalizing large cars:** the cars must be designed keeping in mind the footprint of the cars. The larger footprint car occupies larger space so in order to accommodate more cars on a particular road span. Taxes must be raised on the purchase of the large cars.
- 6.) **Promoting the use of 2 wheelers:** Apart from raising the taxes on the purchase of large cars, the government must provide subsidies for the purchase of 2 wheelers. Doing so would not only solve the current traffic problem but also save the fossil fuel and leads to a sustainable environment.
- 7.) **Building new multilevel parking premises:** the Gaurav Tower area lacks multilevel car parking premise which can solve the problem pertaining to parking in the area. Development authority or Municipal Corporation can build scheme related to the parking premise, or it can be given to private corporation to build and maintain it.

6. CONCLUSION

This paper focuses on highlighting India's perspective towards traffic congestion. As working Population of India is among largest in the world; the traffic congestion problem may become serious in Indian cities. The paper shows the condition of traffic in the commercial area of Jaipur and how various policies and strategies can combat these congestion problems. The congestion problem not only lies with road pricing or congestion pricing techniques and area licensing scheme alone. Legislative governance and fiscal measures, proper land use and distribution planning, funds and investment in efficient public transport system, large investments in roads, efficient traffic management techniques and measures with efficient enforcement make up the rest of the equation.

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