

Parking Problem at Vadodara Railway Station

Kinjal Jain, Prof. Krupa Dave

Abstract— Rapid growth in vehicles population has put enormous strain in all million plus cities. Due to high vehicle ownership and poor public transport facilities specially in the cities where population between 1 to 2 million. This study concerned with Vadodara city. Development of a city or of a region can only take place if proper atmosphere and infrastructure is made available. Besides the majestic view of its elevation, one more thing catches our eye, People parking and taking out their vehicles from most congested place is Railway station. This region has been already more congested because of hustle bustle of people more congested from account their vehicles. Main objectives of this study is to identify the problems in existing parking area by collecting parking survey data. This study can help to find innovative solution to the current problems such as increasing vehicle density, capacity of parking area and poor parking facility etc.

Index Terms— Vehicle ownership, Congested parking, Vehicle density, Urban development, Parking surveys

I. INTRODUCTION

Urbanization is increasing globally including developed and developing countries. India is also facing this phenomenon due to migration of population in search of employment and better quality of life. The population has already surpassed 1.2 billion and it continues to grow at a heady rate. The new development due to this migration is not taking care of integration of infrastructure facilities and there is a increasing gap in demand and supply. Due to continuous increase in number of vehicles , parking problem arises in big cities. There are different options available to transport planner. Alternate may be multistory or basement parking. The multi-storey or basement parking is require to be provided to reduce time to park and unpark vehicles The aim of this study is to identify the problems related to parking in existing area by collecting parking survey data and to give alternative solution and to carry out modification for smooth flow of vehicle.

II. OBJECTIVES

The specific objectives of the research work are as follows.

- A. To identify the problems related to parking in existing area by collecting parking survey data.
- B. To carry out modification for smooth traffic flow.
- C. To find out benefits of project.
- D. To carry out impact study of project.
- E. Benefit from future economic and trade growth

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III. STUDY AREA PROFILES

Baroda is the third largest city of Gujarat state. The population in Baroda city is increasing year to year rather than decreasing. It is one of four cities with population over 1 million. Baroda is one of the cities having high literacy rate (78%) of Gujarat. The Vadodara Railway Station belongs to the Western Railway zone of Indian Railways and is a major Junction on the Western Railway Main Line. Vadodara junction is Gujarat's Busiest Junction with almost 150 trains passing every day. One can travel to almost all the The strategic location of Vadodara is so that it is a connecting link between Surat and Ahmedabad, the growth engines of Gujarat. Also, it lies in DMIC (Delhi Mumbai Industrial Corridor)

IV. PARKING PROBLEM AT VRS

- A. Indian standards are not followed and this leads to haphazard parking to the a great extent.
- B. Due to haphazard parking more time is waste for parking and accessing the Parked vehicles. So the reason is Vehicle often get damaged in the process of parking and accessing the vehicles.
- C. If people have to keep their vehicles in unlocked condition, this is not at all correct from safety point of view.
- D. One does not get proper facility even on paying the amount and this is not justified.
- E. Platform no 7 is situated at a fair distance from the entrance of the main railway station. So people have to walk for a distance of about 600m- 700m for parking after their vehicles to reach middle of Platform no.1 During peak hours bottleneck condition is experienced in the area near the exit of main station due to narrow approach roads towards platform 7. IS are not followed and the parking of vehicles unsystematic.

V. METHODOLOGY

To achieve the objectives a methodology is framed. For this work study area is to be identified for collecting data. Main stretches of the study are identifying the problems on existing parking area by the conducting different surveys. After the selection of study area the objective of work should be decided. For achieving that goal the data collection and data analysis results some remedial measure for road safety is going to be suggested. Last step is to give conclusion of this whole work done.

VI. DATA COLLECTION

Table 1. Statistics of no. of vehicles parked at various parking facilities

Name	Area(Sq.m)	Types of Vehicles	Staff	Regular	No. of vehicle during peak hrs
P -7	4309	2 wheelers	648	1620	1566
		4 wheelers	22	33	16
		Cycles	-	108	81
RMS	1065	2 wheelers	140	1944	1510
		Cycles	-	162	54
IFMS	2100	4 wheelers	-	594	65
		Rickshaw	-	217	70
		Taxi	-	120	38
HB	347	2 wheelers	108	541	520

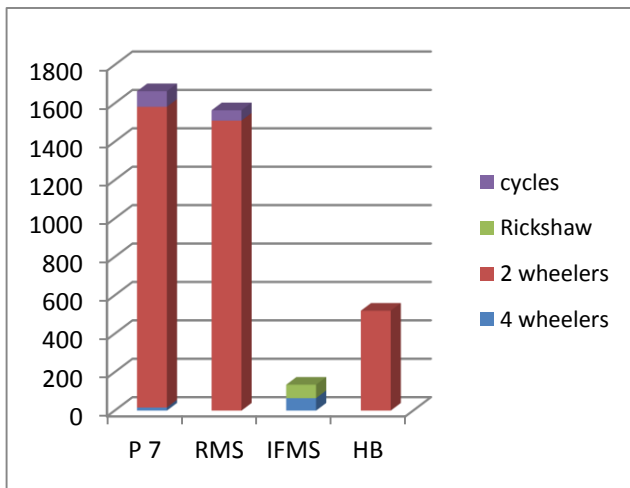


Fig (i) Comparison of flow of Vehicle at Various Parking Area

VII. PARKING AREA ANALYSIS

A. RMS Parking

Vehicles parked at RMS at present, with the parking to be done with Indian standards. As presented above no of vehicles parked here are 1564 and calculating number of vehicles parked according to Indian standards are 532 vehicles. So the number of vehicles which are parked at present its thrice from the original capacity.

B. HB Parking

The number of vehicles parked here are 520 and according to Indian Standards 172 vehicles are parked. So the number of vehicles which are parked at present its thrice from original capacity.

C. Platform no 7 Parking

Platform no 7 is situated at a fair distance from the entrance of the main railway station. So people have to walk for a distance of about 600m- 700m for parking after their vehicles to reach middle of Platform no.1 During peak hours bottleneck condition is experienced in the area near the exit of main station due to narrow approach roads towards platform 7. IS are not followed and the parking of vehicles unsystematic.

VII. RESULTS

A.The current scenario clearly suggests that redesigning has to be implanted at the earliest using the available resources. The parking area available near railway station is very limited and precious. The land acquisition for this purpose is very difficult hence they are occupied by private sector ages. Hence the only land owned by municipal corporation and railway authorities can be put up to use.

B.The current geography leads us to two directions, either reach up to the sky or below the ground. It means to provide multilevel parking or underground basement parking or combination of both. The extent of penetration in both the directions may increase the parking area to such extent that the Indian standards for parking would be satisfied and fair amount of vehicles would be accommodated.

VIII. CONCLUSION

The most Severe and foremost problem of parking provision would be eliminated. Indian standards of Parking would be followed. The damage to vehicles caused due to Haphazard parking would be avoided. The time taken to reach the platform for far away parking area would be reduced. Traffic congestion occurring due to haphazard on street parking would overcome. Current Traffic Problem near platform no.7 during peak hours would be reduced. The decrease in parking load on platform no.7 would greatly affect the congested movement of ST buses. The aesthetic beauty of surrounding of Railway Station would be greatly enhanced. The state of art Parking facility, would give an everlasting impressions on the travelers residing in the city or visiting station first time.

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ABBREVIATION

RA	Railway Authority
VRS	Vadodara Railway Station
RMS	Railway Mail Service
HB	Hiral Baug
IFMS	In Front Of Main Station