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Analysis of Need & Design of Parking Infrastructure in Traffic Prone Areas

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ABSTRACT — In this project we describe the need of parking facility in Railway Station areas of Panvel city. Now a day, people & vehicles has increased in urban cities causing increment in population of Panvel City. This leads to problems in transportation system like traffic jams, increase in pollution and limited space for parking. Nowadays there is lot of traffic congestion in the railway station area. As the population is increasing day by day in the urban areas the parking facilities does not meet the supply of traffic. Which leads the users to park along roadside creating congestion for other users as well as traffic congestion. The need for parking facilities is essential in such congested areas of railway station. The questionnaire survey and detailed analysis of traffic survey and parked vehicle count are carried out to know the seriousness of parking problems in current parking situation and likewise the Proposal and solutions are put forward.

KEY WORDS: Parking problem, Panvel City, Traffic congestion, Smart parking, Time-Delay

INTRODUCTION

The traffic survey was carried out panvel railway station.The most congested area from that Survey is to be justified as panvel Railway Station Area where the most no of vehicular congestion is observed. So we have decided tomake such Multi-Storied Car parking Building Near railway station Area so that the Traffic Congestion of this area may be reduced. As this Site lies in center of the City and can be reduced much traffic. This research present the design of a multi-storied car park for the mitigation of traffic challenges in public areas using various case studies. various design aspect which are considered are arrangements of deck and ramp, planning the dimensions, the bay width, aisle width, ramp dimensions, planning grid, alignment paths to exit barriers, means of escape distances, travel distances from the car to the destination, security, visibility, space allowances and lift provision.

OVERVIEW OF PROJECT

The idea behind this work is to prepare a detailed plan of Multi-Storied Parking with provision for parking area in each floor (G+2). The total area of the Parking system is 1800 m2. All the important amenities for a Parking have been included. The design of all components such as Slab, Beams, Columns has been done in AUTOCAD and STAAD PRO. The access to each floor has been provided using staircase.

LITERATURE REVIEW

Anushtha Baberwal1, Dr. A. R. Vasatkar2.- In this project they analysis of need and design of parking infrastructure in traffic prone areas parking is space for a vehicle facility is very essential to avoid

congestion of vehicle that are caused by roadside parking of vehicle .the proper parking facility lead to less consumption of fuel which is caused due to searching for parking space within the area.

Ibrahim, Hossam El-Din- The paper reviews new planning trends and creative technological solutions which can help alleviate the strain of the proble Because car parking solutions are not an end in itself, but rather a means of achieving larger community goals in order to improve urban transportation

Shradhesh Rajuji Marve1, Abhijit Nanaji Chalkhure2, Sarvesh Rajendra Jumde3, Rohit Murlidhar Khobragade4, Ankit Gurudas Chunarkar5, Shubham Maroti Thakre6 -

ing construction. In this project the multi-level car parking was designed as a complex building with G+5 and G+4 floors and analyzed, which gives a great knowledge about the designing components. The layout of the building was planned with reference of Codes to facilitate maximum utility. For emergency purpose separate dog-legged staircase is provide on back side of structure.

Kr,Venkatesh K, Pawan R, Praveen Kumar M B, Gajendra D R - This project is aimed to design an efficient parking system and helps to minimize the parking area in the city. In the modern world where the parking space has become a major concern, in our city

STATEMENT OF PROBLEM:

1. With increase in population no. of vehicles increase and due to unmanaged parking it leads of many problems
2. Around railway station area people faces difficulties as increase no. of vehicle create congestion,wastage of space and time ,traffic problems, car napping and many other difficulties

B) OBJECTIVE OF PROJECT

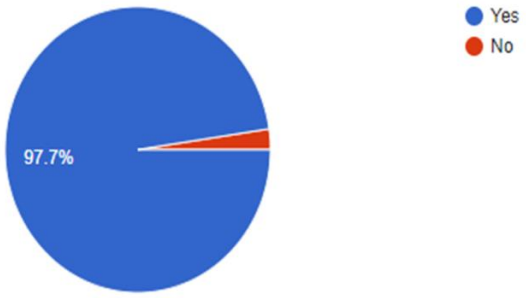
- To reduce the parking area by providing multi- Storied parking building.
- To provide the safety and secured environment for the parked vehicles.
- To reduce the traffic congestion.
- To propose a multi-storied building near regional area

METHODOLOGY

1. DATA COLLECTION

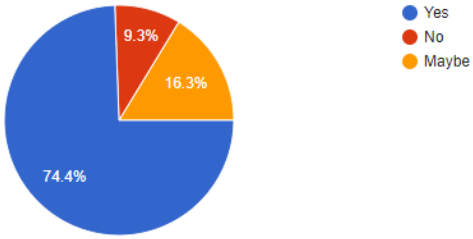
- Determination of area for study Area of railway station and chauk near railway station was decided as both are high traffic prone area. Because these are connected to main areas around and happen to be the important transportation routes of day to day use
- From these Google survey data we collected via manual survey is as below:

1. Have you faced parking issues around railway station?



2. Does it become difficult while removing your vehicle due to congested parking?

Question	Yes	No
Problem in parking?	97.7%	2.3%
Open to paid parking?	76.00%	24.00%
current parking system time consuming?	81.00%	19.00%
Recommend a separate parking infrastructure	74.88%	25.22%



The area currently has parking around more than 1800 spaces. The current parking space to demand which is including i illegally parked vehicles ratio is much less than 0.5. This means that most parking lots are effectively full during peak parking time period. The development created through the research study depicts parking need within the area, hence parking supplies or demand facilities are necessary. The above analysis shows that there is lack of parking space for vehicles in the area of panvel railway satation Road. So, there is great need for management of parking system in panvel street like railway station as well as near c.k.t clg area . But according to data collected we can conclude that there is higher demand of separate systematically organized parking infrastructure in panvel railway station.

2.DATA ANALYSIS AND RESULT

From these survey data we collected via manual survey is as below:

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Pramod.

Design & Analysis of Multi-Storied Car Parking Building (G+2), Shradhesh Marve.