

Design of Elevated Parking System in Kolhapur City

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Abstract-This project is deals with planning of parking the cars in less availability of area and controlling the traffic in Kolhapur city. In Kolhapur city we found out the location for parking, near to binduchaukand before going to the planning, we have studied the all dimension of cars and decided turning radius according to AASHTO (American Association of state Highway and Transportation Officials) and afterwards drew the line plan for parking. We are using image detection system for indicating the vacant places in parking lots and use of hydraulic lift for lifting and lowering of cars from floor to floor. Application of this project is to reducing the traffic in Kolhapur city and increases the efficiency of parking the cars.

Keywords- Elevated parking, image detection system, hydraulic car lift.

I. INTRODUCTION

The Kolhapur is a tourist destination spot and this city is famous for many places like Mahalakshmi mandir, Rankalatalav, Shahu palace, Panhala fort. Due to this we can find large number of people travelling from far places to Kolhapur for whole year. During this period we are found that the facility of car parking system is not properly facilitated to the tourist. Cars are parked haphazardly on the road side creating traffic jams and thus nuisance to traffic.

So to avoid the causes of accidents in Kolhapur we had identified a good solution for it. Multistoried parking system results in reduction in horizontal space. Also basic amenities required by the tourist as per the survey can also provide at single point. This system is best suited to provide solution to the current problem faced in the Kolhapur. It is proposed to provide the Elevated Parking System in Kolhapur in Bindu chauk, Near Mahalakshmi mandir.

II. DESIGN OF PARKING

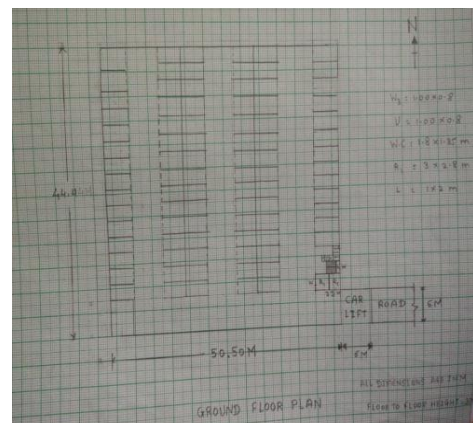
- A. *Study of dimensions of cars:* Minimum dimension of car name is Tata Nano (3.164m*1.495m*1.652m) and maximum dimension of car is Opel Vivaro Combi19 (5.399m*1.956m*1.971m).
- B. *Turning Radius:* According to AASHTO (American Association of state Highway and Transportation Officials) decide the turning radius for parking.

TABLE I. DIMENSIONS OF TURNING RADIUS

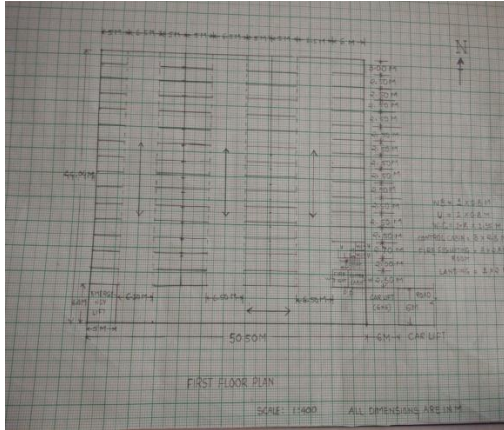
Design vehicle type	Passenger cars
Symbol	P
Minimum Design Turning Radius (m)	7.3
Centre-line Turning Radius (CTR)(m)	6.4
Minimum Inside Radius(m)	4.4

III. DESIGN THE LINE PLAN

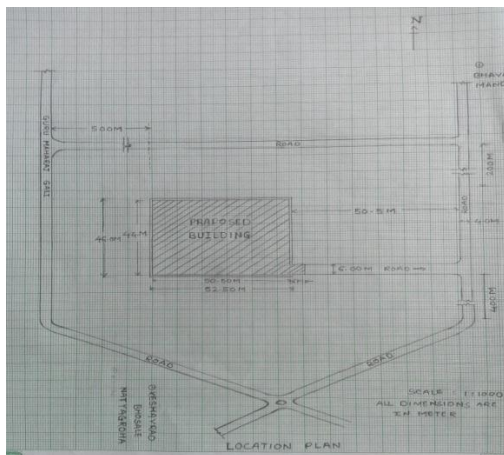
- A. *Ground Floor Plan-*



B. First Floor Plan



C. Location Plan



IV. USES OF CAR LIFT AND IMAGE DETECTION SYSTEM

By using image detection system, we get information about parking cars in parking lots in ground and first floor also. When the ground floor is fully parked at that time we want to parking the cars in first floor, so we prepared hydraulic car lift at entrance of parking on road and allow to car on car lift and after lifted car ground floor to first floor by using car lift.

V. APPLICATION OF ELEVATED CAR PARKING SYSTEM IN KOLHAPUR

In Kolhapur, there are lots of Historical and Tourist places. So there is always proud of visitors and they park their cars at road side. So it creates nuisance to traffic. We studied all this problems and found out solution for it. Elevated Parking is very helpful to increase the efficiency of parking in less spaces. In our project we fulfilled all the needs required for parking, if the ideas of our project will implement in Kolhapur city then definitely the traffic problems will be reduce upto certain limit.

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