Literature Review on Planning of Multi-Storied Parking Building For Phule Market Jalgaon

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Abstract- *The world's population is always growing, and towns and cities have developed around their public transport systems. By increasing car ownership and the demand for travel for various purposes, it has been possible to accommodate the growing population and developing metropolitan centres. No matter their level of wealth or social standing, people now travel in increasingly uncomfortable and occasionally unpleasant circumstances. With a city or town getting bigger, demand for transportation and travel intensity tends to rise significantly, especially when the city centre or other major centres of activity keep expanding in terms of population and employment. Due to the numerous risks generated by people or a lack of parking structures, parking in public places can be highly difficult and without much security. Ample parking facilities must be provided to meet the demand for parking in order to reduce parking stress and any danger or insecurity to cars and owners. Multi-level parking has brought about a number of benefits, including better space utilisation, comfort for drivers because the stress of securing a parking spot is reduced, increased security, and environmental harmony.*

This project uses a variety of case studies to demonstrate the design of a multi-story parking structure for the alleviation of traffic problems in public spaces. The layout of the deck and ramp, planning of the dimensions, bay width, aisle width, ramp dimensions, planning grid, alignment of paths to exit barriers, means of egress distances, travel distances from the car to the destination, security, visibility, and space are just a few design elements that are taken into account.

Due to the increasing in vehicles, parking has become a critical problem. To address this issue, parking spaces are needed in significant marketplaces. Due to our limited land resources, it is crucial to build multilevel parking because it can house a lot of automobiles in one location. 200 cars and 400 bicycles can fit in the multi-level parking that we built for this project. Planning for multilevel parking is based on a framed building, with a G+2 basement and ground floor.

Keywords- Car Parking, Multistory, pavement, underground Parking

I. INTRODUCTION

The world's population is always growing, and towns and cities have developed around their public transport systems. By increasing car ownership and the demand for travel for various purposes, it has been possible to accommodate the growing population and developing metropolitan centres. No matter their level of wealth or social standing, people now travel in increasingly uncomfortable and occasionally unpleasant circumstances. With a city or town getting bigger, demand for transportation and travel intensity tends to rise significantly, especially when the city centre or other important centres of activity keep expanding in terms of population and employment. . Due to the numerous risks generated by people or a lack of parking structures, parking in public places can be highly difficult and without much security. Ample parking facilities must be provided to meet the demand for parking in order to reduce parking stress and any danger or insecurity to cars and owners.The issue of congestion on the main as well as internal roadways of these cities has been made worse by the high population density, numerous pavement vendors, pavement encroachments, heterogeneous type of traffic, and commercial area development along all the major routes.

It is essentially a stacked parking lot with many entrances and exits to reduce traffic jams. Systems for parking cars have existed virtually since the invention of the automobile. In most places where there is a lot of traffic, there are parking systems. Over time, the number of car parking systems and related technologies have grown and changed. The requirement for vehicle storage led to the creation of car parking facilities from the beginning of the 20th century. Because of advances in science and technology, there are now more cars and other vehicles on the roads of every city in the globe.

The old-new methods used in the past to develop rural roads have shown to be capable of accommodating an increase in the number of cars. The current towns do not have adequate parking facilities, therefore cars are parked on the sides of the roads, in driveways, on pavements and in green spaces, which frequently results in traffic congestion. Traffic jams destroy the valuable time of workers, and if this issue is not resolved now, it will eventually become a severe and problematic issue. The issue needs to be resolved immediately by building multi-level parking structures in visible locations. The second issue that local development agencies may encounter while attempting to carry out such projects is a lack of funding. To clarify the foregoing the above problems, selection of "Multi-storeyed parking building" as is recommended.

II. LITERATURE REVIEW

Richard Arnott,John Rowse

Arnott and Rowse developed an integrated model of curve side parking and traffic congestion in a downtown area. Curve side parking is exogenously priced below its social opportunity cost, and the stock of cars cruising for parking, which contributes to traffic congestion, adjusts to clear the market for curve side parking spaces. Denser downtown areas have garage as well as curve side parking. Because of economies of scale in garage construction, garages are discretely spaced. The friction of space confers market power on parking garages. Spatial competition between parking garages, as model in Arnott determines the equilibrium garage parking fee and spacing between parking garages. In order to balance the whole costs of garage and curve side parking, the stock of automobiles cruising for parking is also adjusted. In order to offer an integrated model of curve side parking, garage parking, and traffic congestion, this study merges the components of the two models. It then investigates curve side parking policy in this context using a numerical example with characteristics typical of a medium-sized US city. The main finding is that raising the curve side parking cost seems to be an extremely desirable policy since it produces efficiency advantages that may be several times as great as the additional cash received.The Arnott model estimates the equilibrium garage parking price and distance between parking garages for king garages.

Eduardo Barata , Luis Cruz, João-Pedro Ferreira(2012)2

This study emphasises the significance of adopting integrated parking management policies that ensure not only a more rational use of the available parking spaces, a balance between supply and demand, and the generation of income to pay for the costs of the parking facilities, but also an increase in the attractiveness of alternate modes of transportation. On the UC campus, estimates of parking supply and demand flows have been made. The findings show that there is congestion and that the parking lot is underpriced. A study on the characteristics of campus commuters and their travel alternatives is offered in order to encourage critical thought about these problems and to pinpoint potential research topics to address their socioeconomic repercussions. In order to establish the relative relevance of commuters' characteristics in terms of their willingness to pay for them, logistic regression modelling is used and discussed in this paper.

Paul A. Barter (2013)3

This paper offers a global comparative view on the non-residential off-street parking regulations in 14 significant East, Southeast, and South Asian cities. These are areas with severe and pervasive parking issues. It makes use of a novel typology that divides parking policy methods into three categories: "conventional," "parking management," and "market-oriented." There are several unique parking policy orientations found in the cities under investigation. Asian cities may be anticipated to have off-street parking regulations similar to many older parts of western cities, given their features (most have relatively low automobile ownership, high-density construction, and significant use of public transport). However, the majority of the Southeast and South Asian cities analysed have parking regulations that are shockingly traditional and encourage a dependency on automobiles. It is less unexpected that certain cities, mostly in East Asia, do not adhere to such a traditional auto-centric approach. It is surprising, however, that their parking rules continue to call for a minimum amount of space and typically reject the most popular alternative to the traditional strategy (parking management).

Saleh Abdulaziz Al-Fouzan (2012)

The aim of this paper is to examine the current standards for car parking in the UK, the USA, and the Kingdom of Saudi Arabia (KSA), to draw the main conclusions from those experiences, and to make appropriate suggestions for raising those standards in the KSA. In order to examine automobile parking standard requirements for various forms of land use in the UK, the USA, and the KSA, the article adopts a comparative methodology. The article demonstrates how transportation planners in the UK and the US employ parking laws, particularly the implementation of auto parking standards, combined with other planning and transportation initiatives to encourage sustainable mobility options, to decrease dependence on cars, and to minimise

traffic congestion. Local authorities in the UK and the USA have moved from requiring minimum standards for car parking to maximum standards.cases there could be chances where your paper receives number of critical remarks. In that cases don't get disheartened and try to improvise the maximum.

Puay Ping Koh , YiikDiew Wong (2013)

This essay focuses on the demands and conduct of pedestrians in relation to the land use context. Face-to-face interviews were performed with respondents during their first and last miles of travel at nine different transport stops. In contrast to residential settings, it was discovered that more infrastructure compatibility issues were given priority in industrial settings. There were also differences in the motivations for walking or not walking amongst the various land use categories. The next step was to forecast the likelihood of walking and utilising alternative forms of transportation using a multinomial logit choice model. Sand and tyre combination compressibility and strength properties for appropriateness of sand tyre chip mixture for embankment. They came to the conclusion that the compressibility of the sand-tire combination up to 20% was 1%, which was within tolerance limits for an embankment height of 10 metres, created cohesion between 7 and 17.5 KPa, and also raised the internal frictional angle from 38 to 40 degrees.

Zhen (Sean) Qian , Feng (Evan) Xiao, H.M. Zhang(2012)

We look at the design of parking fees and parking availability to lessen traffic congestion and overall societal expenses. The morning commute model developed by Viceroy now takes into account users' preference between two parking lots (clusters). To determine the impact of each component on network performance and traffic profiles, we first determine the travel patterns under various parking capacity, parking prices, and accessibility to the destination. Some intriguing conclusions include the following: (1) expanding the central parking lots is not always ideal; (2) setting parking rates and capacity so that commuters prefer to park in the distant region during early arrival; and (3) a shorter access time always lowers societal expenses. Finally, we calculate the ideal parking rates, capacity, and access times that result in the lowest possible overall societal costs. The ideal trip profile makes use of both parking clusters when the closer one does not have a significant accessibility advantage over the distant one. Thus, the ideal parking option may efficiently lower the social expenses as well as the queue time. Even more noteworthy is the fact that under the ideal parking solution, all users are better off than they would be in the absence of parking options. However, this cannot be accomplished by enacting a single dynamic toll that is system-optimal.

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