Redesign of Palace Road Bengaluru as per TENDER SURE Guidelines.

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Introduction

The urban roads nowadays have set an example for intense congestion of traffic due to the rapidly increasing population which in turn increase the number of motorized vehicle users. Bangalore being one among the fastest developing cities of our country is also experiencing the same problems and is yet to get worsened in the upcoming years. On the other hand the safety of pedestrians and cyclists is least neglected and as a result of this they are most oftenly prone to be the part of accidents. The Tender SURE Project which has been initialized in the present decade is an attempt to bring necessary changes in the urban roads execution by addressing various major problems related to traffic, pavement condition, travel lanes, footpaths, sub-terrain utilities, drainage, etc. The project is also concerned with the redesign of existing roads by providing wider and uniform travel lanes, providing enough space for bus bays and improving the geometric conditions of the existing roads and providing suitable street furniture. Mr. Vidyadar Patil B, Mr. Kilabnur Pramod, Mr. Madhav M P (2017) conducted a case study on Subedhar Chatram Road, Bangalore for the redesign of the road under Tender SURE guidelines by providing an overlay according to IRC:SP 76-2015 and have given details regarding the existing traffic conditions, pedestrian facilities and parking facilities. Similarly Basavraj Kabade, K.T.Nagaraja, Swathi Ramanathan, A.Veeraraghavan and P.S.Reashma (2018) have conducted studies on 3 stretches namely Vittal Malya Road, Residency Road, St. Mark's Road and Cunningham Road to find out the adequacy of pedestrian facilities on the Tender SURE Roads. For the redesign of the present road AutoCAD Civil 3D software is made use as it provides an easy and effective design approach.

The project overcomes the issue of repeatedly digging the roads for repair and maintenance and thus arrives at an once for all solution. The motto of the project is to expend additional and right relatively than to expend much extra by investing for wrong numerous times. Thus, in return this project struggles for improving the condition of present urban streets and finally to improve the quality of lives of people, as good road networks provide a greater accessibility to all the basic and important needs of people improving their growth and life condition. White topping is one among the prominent methods of pavement rehabilitation which is in practice in these years. It can be taken as a permanent solution for the entire design life of the pavement as the once properly rehabilitated white topping pavement can serve as long as for 30 years. Keeping in view the construction and maintenance cost of laying a cement concrete overlay, thin white topping overlay can be effectively laid on the existing asphalt road. A detailed design procedure of thin white topping overlay is provided for the estimated amount of traffic and its future growth.

Methodology

The study stretch was selected from SBI Circle to Chalukya Circle which comprises of 1.5 km located in Bengaluru city. A detailed reconnaissance and pavement condition survey was conducted to know about the existing pavement condition. It was then followed by the pavement strength analysis or BBD survey, traffic analysis for understanding the existing traffic flow and peak hour pedestrian volume count to determine the adequacy of present footpaths. Finally detailed geometric design and the cross sections were obtained by AutoCAD Civil 3D and then a detailed pavement design was carried out to determine the thickness of the rigid overlay.