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Autonomous College Affiliated to University of Mumbai

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APPRECIATION

This is to certify that Dr./Mr./Ms. **Jaydeep Chougale** has presented / participated / contributed for a **SLP** length paper with the title **ALIGNMENT AND DESIGN OF ELEVATED RAILWAY TRACK AT DAHISAR - A REVIEW** in the **International Conference on Advances in Mechanical & Civil Engineering (IC-AMCE 2023)**organized during February, 24th & 25th, 2023 at Thakur College of Engineering and Technology, Kandivali (E), Mumbai.

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Alignment and Design of Elevated Railway Track at Dahisar – A Review

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***Abstract*—** Due to the surge in population in "The City where Dreams become Reality", the transportation circumstances are chaotic for the travelers. It takes a while to reach the destination from one point to other by road. Consequently, all commuters have no other choice than the "Mumbai Locals," the city's means of survival. It is the quickest and cheapest mode of commuting, especially during rush hours, but it appears to result in heavily overcrowded circumstances. Whenever commuters board a heavily congested local train, it may cause an accident. Nine people die on the Mumbai local train tracks every day, according to an India Spend analysis of data from the Government Railway Police, Maharashtra. An average of 31% of victims remain "untraced", which means they are unidentified. The Mumbai Urban Transport Project (MUTP) has identified several sub-projects to strengthen the suburban rail transport and road transport in Greater Mumbai and Mumbai Metropolitan Region (MMR) as a whole. The Mumbai Urban Transport Project places considerable emphasis on improving public transport including the railway capacity. This study pertains to the assessment/audit of the 5th and 6th line construction between Borivali and Dahisar stations on the Western Railway. This paper presents a review of the analysis and design of various types of tracks and stations for public transport.

***Keywords*—**Transport,Track,Bridge.

I. INTRODUCTION

When we think of the development of Mumbai, a lot of times the suburbs are given the least significance even though a majority of the population lives in them. If we look from Borivali – Virar, there are only 4 railway lines. It creates a bottleneck situation where the queuing of trains can be observed. There has been an irregularity in the train timings which lead to the formation of a huge crowd on railway platforms. In 2021-2022, about 36% of the total accidental injuries/deaths were caused due to falling off running trains. Thus, there has been an immediate need for a new network line to ease the railway traffic occurring in one of the most densely populated localities of the "City of Dreams".

In recent decades, India has undergone rapid economic growth, resulting in the increased movement of people and goods around the country. To meet this demand, Dedicated Freight Corridors (DFC) is being constructed to haul freight from Delhi to Mumbai and Kolkata. As for passenger transport, in December 2009, Ministry of Railways (MoR) high speed railway lines.

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This review paper pertains to the assessment/audit for the 5th and 6th line construction between Borivali and Dahisar stations on Western Railway (CR).

II. CASE STUDY

Miss. Priya Sharma, Dr. Hemant Sood in his paper "Design Methodology for Feasible Railway Alignment" stated, the Track design is a very sophisticated process. With increasing urbanization, urban transportation systems are facing new challenges. Transportation planning within the region is complicated by modes of transportation, mixed traffic, and multiple countries of origin. The task of adopting specific route choices for transportation systems is complex and difficult. This is because decisions must be made based on a large number of spatial dimensions. To perform this analysis, engineers consider a number of alternatives and select viable paths based on factors such as soil conditions, land acquisition, topography, socioeconomic factors and cost-effectiveness. This research paper aims to design a railway layout for a specific possible route from Nimerhedi railway station in Madhya Pradesh to a power plant in Kagon (M.P) to link coal. In this study, a trial-and-error method is used to fix the slope and curve of the laying track [1]. P C Sehgal and Teki Surayya in their paper "Innovative Strategic Management: The Case of Mumbai Suburban Railway System" (2011) mentioned a case study of the $2.5 billion expansion and upgrade of the suburban rail network as part of the multimodal Mumbai Urban Transport Project (MUTP). Growth in Mumbai's suburban trains has not kept up with passenger demand, resulting in increased occupancy,

rates on existing suburban trains and making train travel conditions intolerable. This paper provides insight into the process of building social and political consensus, taking into account people's desire for conducive and comfortable interactions [2]. This work includes a computer-assisted