Model of Pune Metro

1Mr. J. K Patil, 2Aditya Jadhav, 3Anirudha Panse, 4Shubham Dhavale, 5Harshad Pachpute, 6Anjali Barge.
JSPM’S RSCOE Polytechnic, Tathawade, Pune - 33
Department of Civil Engineering, Maharashtra, India

Submitted: 15-10-2021 Revised: 26-10-2021 Accepted: 28-10-2021

ABSTRACT: In this paper, Pune Metro is the metro rail of a based rapid transit system under the construction to serve the city of a Pune, In India. As of the December 2019, the system was comprises 3 lines, Rapid industrialization and the intense commercial developments in a past decades have been resulted in the step of rise in travel demand, putting the pune's transport.

Keywords: Mass Transit, Metro Rail, Infrastructure, DMRC, etc.

I. INTRODUCTION
In this paper Pune metro project has been undertaken by the MAHA metro a SPV (Special Purpose Vehicle) of government of the India and government of a Maharashtra. The project intends to a develop world class metro station and surrounding the areas featuring the rich culture heritage. Modern, safe, secured, comfortable and an integrated public transport system for the city like pune and pimpri chinchwad which will enhance lifestyle of the citizens. Pune is the most industrialized district in the western Maharashtra and a famous IT hub in the country. The district also has been an importance as an the important military base. Pune exemplifies an indigenous Marathi culture and ethos, in which the education, arts & crafts and theaters are given due prominence.

II. AIM & OBJECTIVE
Aim:- Our aim to produce concrete mix design of high strength - near or greater than 20MPa by using of proper proportion of materials & various admixtures.

Objectives:-
1. The objective is to provide socio-economic benefits and equal opportunities in public spaces to all citizens.
2. The ticket pricing is affordable, the journey time is reduced, and pollution is addressed by way of design, while elevated rails and platforms decongest the traffic.
3. Metro is not just a Metro, but an urban rejuvenation effort, redesigned with the latest technology inputs, to transform city’s into a people-friendly green city, Eco-friendly stations with natural ventilation, skywalks, ramps, escalators, elevators a host of commuter-friendly facilities, promotion of gender equality and women's empowerment results creation of employment opportunities and generation of many ancillary industries in & around country.

III. RELATED WORK

<table>
<thead>
<tr>
<th>Metro</th>
<th>Length</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumbai Metro, Maharashtra</td>
<td>11.40 km</td>
<td>MMOPL, MMRC &amp; MMMOCL</td>
</tr>
<tr>
<td>Nagpur Metro, Maharashtra</td>
<td>22.90 km</td>
<td>Maha-Metro</td>
</tr>
<tr>
<td>Navi Mumbai Metro, Maharashtra</td>
<td>0 km</td>
<td>CIDCO</td>
</tr>
</tbody>
</table>
IV. METHODOLOGY METHOD USED:-
WE MADE A MODEL OF METRO STATION WITH SKETCHUP SOFTWARE.

• What is google sketchup?
Sketchup is the 3D modeling computer program for the wide range of a drawing applications such as a Interior designing, Architecture and Engineering. Sketchup was developed By a company called Last Software on 2000.
• Benefits of Sketchup
It is easy to draw because it is simple to learn and it is not complicated like other software’s. We can import components from google or any other third party software. With the help of google earth we can place the model right on the actual site. Sketchup allows us to render surfaces in different choices which suits on our design.
• Commands used while making model.
We used many commands while making the model like:
1. Line
2. Circle
3. Rectangle
4. Arch
5. Push/pull
6. Offset
7. Rotate
8. Move
9. Paint bucket etc.

REFERENCES
[5]. Miroslaw J. Skibniewski, “Research Trends in Information Technology Applications in Construction Safety Engineering and Management”, This article is published with open access at engineering.cae.cn
[6]. GREEN CONSTRUCTION POLICY, Metropolitan Transportation Authority, CONSTRUCTION COMMITTEE, JULY 21, 2011
[8]. RAIL OPERATIONS & MAINTENANCE PLAN, DRAFT, September 2007