

3D imaging to help design metro stns

CMRL To Use Models In Bid To Cut Delays, Up Efficiency

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Chennai: A 3D modelling of corridors and stations will help engineers at CMRL plan, design, coordinate and build the ambitious 118.9km phase-2 project with fewer delays and at a cheaper rate. Construction for a 52km stretch of the phase is expected to start by mid-2020.

To avoid mistakes that may arise during construction and enhance coordination among CMRL, its contractors and sub-contractors,

COST EFFECTIVE

➤ CMRL will use **Building Information Modelling (BIM)** which will render a 3D digital version of the corridors and station design for the 118.9km Metro phase-2

➤ BIM will **replace CAD drawings**, which are taken as hard copies to the construction site

➤ CMRL, its contractors and sub-contractors will have access to the BIM design

and anyone with access can update the design

➤ BIM will make coordination easier while reducing construction time and errors

➤ Phase-2 construction is expected to begin mid-2020



a digital simulation of the design will be used at every stage of the construction process to see how the completed work will look, so that changes made to the design during construction stage is accessible to both CMRL and

its contractors.

As a detailed design of the corridor and the stations are being prepared, the same is being integrated into BIM or Building Information Modelling, used in major infrastructure projects worldwide for ef-

iciency and minimal delays. The model will have an integrated design and drawings of the phase like stations, tunnels, signal, telecom, viaducts, tracks and traction which will help in planning manpower, material and the time needed for construction thereby saving time, energy and cost.

CMRL is making several new changes to its design as well as handling of the phase-2 project based on the lessons it learned from the 45km phase-1 project, which was delayed by nearly four years.

BIM will replace CAD drawings that forced engineers carry in large sheets of paper to the construction site, a CMRL official said. While there was a high chance of missing changes made to the design in CAD paper drawings, BIM can minimize this as it is done in a software to which CMRL engineers and construction contractors

have access.

“With BIM, we can check if the construction is going on as per the planned design,” the official said. “It will not only help the contractors during construction but CMRL can also monitor if the contractor is following the final design. During phase-1 construction, a change made to the design was noticed only in the last minute.”

CMRL has decided to make several changes in the design of corridors and stations. While the elevated corridors will be built on a single row of columns in a cantilever-style, the stations will be about 25% smaller than those in phase-1. In the three-corridor phase-2, CMRL plans to link far flung areas like Madhavaram, Sholinganallur and Poonamallee with the core localities like Mylapore, T Nagar and Nandanam.