

## **Risk Based Building Information Modeling (BIM) for Urban Infrastructure Transportation Project**

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**Abstract :** Building Information Modeling (BIM) is a holistic documentation process for operational visualization, design coordination, estimation and project scheduling. BIM software defines objects parametrically and it is a tool for virtual reality. Primary advantage of implementing BIM is the visual coordination of the building structure and systems such as Mechanical, Electrical and Plumbing (MEP) and it also identifies the possible conflicts between the building systems. This paper is an attempt to develop a risk based BIM model which would highlight the primary advantages of application of BIM pertaining to urban infrastructure transportation project. It has been observed that about 40% of the Architecture, Engineering and Construction (AEC) companies use BIM but primarily for their outsourced projects. Also, 65% of the respondents agree that BIM would be used quite strongly for future construction projects in India. The 3D models developed with Revit 2015 software would reduce co-ordination problems amongst the architects, structural engineers, contractors and building service providers (MEP). Integration of risk management along with BIM would provide enhanced co-ordination, collaboration and high probability of successful completion of the complex infrastructure transportation project within stipulated time and cost frame.

**Keywords :** building information modeling (BIM), infrastructure transportation, project risk management, underground metro rail

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