

4D-CAD FOR HIGHWAY CONSTRUCTION PROJECTS

ABSTRACT:

Computer technology has become integrated into every facet of modern day life. One emerging technology is 4D CAD modeling, where a 3D CAD model is linked to a construction schedule in a virtual computer environment. This 4D CAD technology has been proven to be beneficial in construction applications by several academic and industry professionals, showing improved project planning, scheduling, and communication capabilities. However, the majority of 4D CAD research has focused on building and industrial construction applications, and has largely ignored highway construction applications. Therefore, this research aimed to investigate the applications of 4D CAD for highway construction projects. The primary research question identified in this paper is "what are the best applications of 4D CAD for highway construction and why?" This question is investigated using a case study application of 4D CAD for a highway construction project. The case study is shown to three groups of highway construction professionals from different companies. Once each group views the 4D CAD model, their thoughts and opinions are collected to determine what the best applications of 4D CAD are for highway construction and why. The results of this research showed that in the opinions of highway construction professionals, 4D CAD is beneficial for planning, scheduling and communication applications.

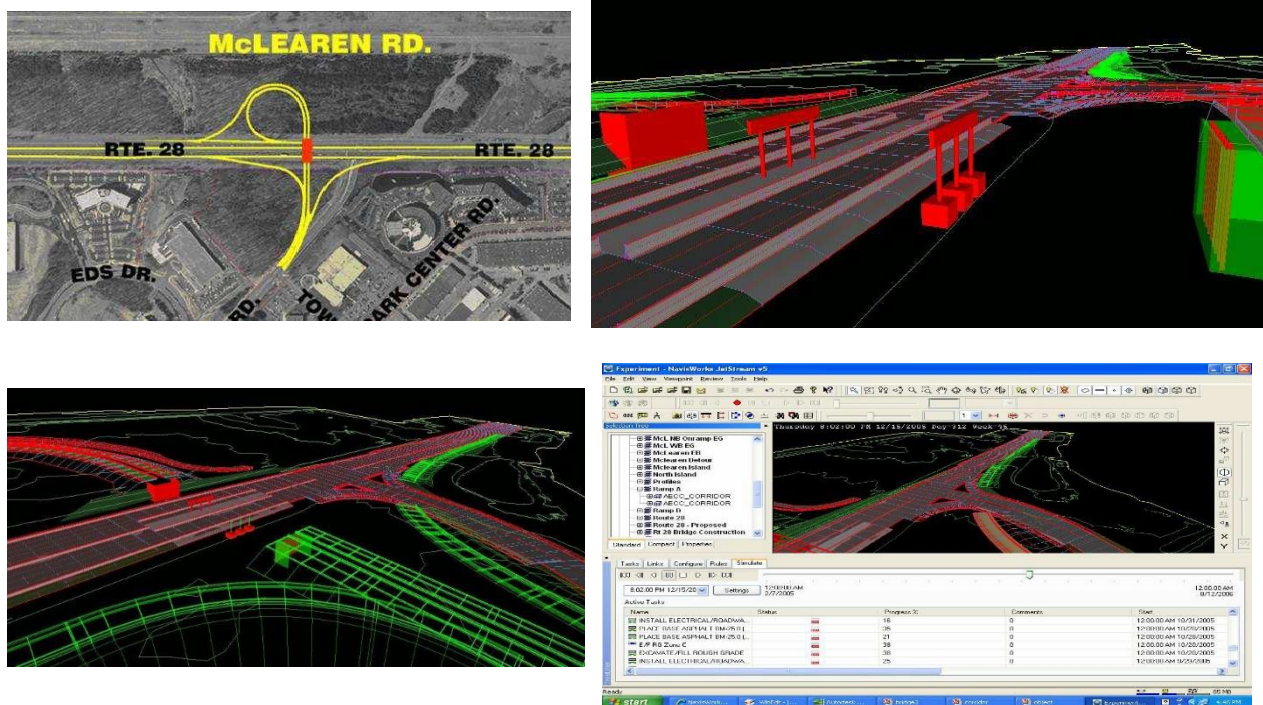


Figure 1: 4-D CAD Simulation Model for Highway Construction Project

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