



A Pilot Case Study to Evaluate the Potential Impact and Benefit of Adopting and Implementing BIM on Bridge and Infrastructure Projects

Description

Meta Fields

Category : Completed Projects

Group : Bridge Information Modeling

Abstract : In recent years, Building Information Modeling (BIM) has become an important process in the vertical construction of buildings. Significant improvements in productivity, quality, and safety, as well as cost savings have been realized and are well documented. In contrast, the adoption of BIM in the horizontal world of civil engineering and construction is relatively new and unexamined. There exists significant need for research that explores and evaluates the potential impacts and benefits of implementing BIM on real-world infrastructure projects. Across the United States, there is enormous requirement for infrastructure improvements. Transition to digitally-based collaborative processes is critical to address such need. However, various departments of transportation (DOTs) and regional transportation authorities are struggling to understand and evaluate the scope and implications of such a transition. McGrawHill in their 2012 report entitled, "Business Value of BIM for Infrastructure," states that 67% of current users of BIM for infrastructure projects report a positive return-on-investment. The proposed research will seek to inform Mountain Plains Consortium (MPC) DOTs about such opportunities. The study will examine a case study of bridge construction to be performed on the I-225 light rail line starting in 2013 in Denver, Colorado. Kiewit is the general contractor for the project and will be implementing BIM to facilitate construction. Once case study data is collected, the next step of research will be to extrapolate and extend the findings of implementing BIM to a broader, regional scale. Such research is critical to Mountain Plains Consortium (MPC) DOTs as they develop policies and procedures for the imminent transition to BIM as related to the construction, operation, and maintenance of their infrastructure.

Key Words : Bridge construction; Data collection; Evaluation and assessment; Implementation; Infrastructure; Pilot studies; Quality of work, Infrastructure, BIM, Performance Metrics

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