



Universität Stuttgart

Institut für Baubetriebslehre

Prof. Dr.-Ing. Hans Christian Jünger

Pfaffenwaldring 7

70569 Stuttgart

Telefon: +49 (0)711 685-66145

E-Mail: ibl@ibl.uni-stuttgart.de

2020, Stuttgart; Kurzfassung der Masterarbeit:

Comparing BIM-Based Project-Management to conventional Project-Management for Infrastructure Projects [MA 178]

Adoption of BIM has increased in recent years in the AEC Industry. With the increased complexity and multidisciplinary infrastructure projects, traditional construction management methods and techniques can no longer meet the requirement. The uses of BIM for managing the infrastructure are numerous. However, the implementation of BIM in the infrastructure projects is lagging and the benefits of BIM-based PM for Infrastructure are not sufficiently studied. Therefore, this study focuses on analyzing and compare the conventional PM to BIM-based PM and analyzing the BIM implementation level in DB of Germany and SBB of Switzerland. Further, this research explores the problems in the conventional PM method and the potential for improvement with BIM adoption throughout the lifecycle. Expert interviews were conducted to understand the BIM implementation, advantages, and challenges in implementing BIM, particularly in DB & SBB. Findings show that BIM capabilities like visualization, collaboration, simulations for time (4D), cost (5D), clash detection, constructability, real-time information exchange have empowered BIM to play an important role in project management. These features can be directly compared to the PM Subject Areas from ISO and PMBOK for the better management of projects. Further, BIM implementation in DB & SBB illustrates that both are almost at the same BIM implementation level and using similar associated technologies. Although currently, some of the tools and techniques are underdeveloped for the Infrastructure projects, a few years down the line they will be complete. They are promoted and supported by the governments, which helps in standardizing the BIM implementation for Infrastructure projects.