

Research in Progress

BIM for Transit Infrastructure: A Feasibility and Gap Assessment with Current Practices and Systems at the MBTA

Research Need

Research is needed on the importance of data governance and integration. MBTA management of new projects and ongoing operations can be improved by implementing the Building Information Modeling (BIM) delivery methodology in the Capital Delivery department.

Goals/Objectives

BIM is a very powerful software for integrating many different concepts and models into a single platform. It can include coordination of information between trades, contractors, and designers during the design and construction processes. This results in a very efficient process of identifying and resolving interferences, incorporating design or part changes, and visualizing assets both in their final condition and at different stages of construction. The goals of the project are the following:

- o Collect and present information on effective BIM strategies based on practices of comparable agencies and a literature review
- o Provide recommendations on where BIM has the most promise for effective integration into MBTA practice
- o Highlight pitfalls to avoid when implementing BIM

Project Information

This project is being conducted as part of the Massachusetts Department of Transportation (MassDOT) Research Program with funding from Federal Highway Administration (FHWA) State Planning and Research (SPR) funds.

Principal Investigators:

Simos Gerasimidis, Scott Civjan

Performing Organization:

University of Massachusetts Amherst

Project Champion:

Loay Abdelkarim MBTA

Project Start Date:

May 2022

Expected Project Completion Date:

June 2023

Methodology

1. Review of existing and available BIM methodologies.
2. Conduct current state-of-practice interviews. BIM practices at other state and regional agencies (relevant agencies to be determined in discussion with MBTA personnel and research team) will be obtained to evaluate best practices and challenges with implementing a BIM program.
3. Develop project selection criteria. This will include recommendations on how the MBTA could specify the parameters of the data models to be collected and how to utilize BIM to better its Planning, Capital Delivery, Asset Management and Maintenance Operations needs and processes.

Research and Technology Transfer Section
MassDOT Office of Transportation Planning
Planning.Research@dot.state.ma.us

