

# BIM FOR INFRASTRUCTURE

## The Primary Components of BIM

### People and skills

People are the most important part of Building Information Modeling (BIM) for Infrastructure. BIM begins with conversations between each participant with the goal of developing a plan that will guide to successful execution of a project. The transportation infrastructure industry will require direction and education that begins with upper management to more fully understand how to deploy a successful BIM program. The people chosen to lead and develop this program will be responsible for identifying individuals who possess the right personalities and ability to motivate their team around a common goal of developing and delivering projects through the use of BIM.

### Data and standards

Knowing your agency's data needs is critical in developing requirements for BIM for Infrastructure deliverables. Design and construction teams will be able to deliver predictable, reliable, and data-rich products if they are supplied with well-developed agency BIM standards. Each asset an agency tracks will need to have a comprehensible set of data properties. This collection of data will define your project's data requirements and help designers and contractors with deliverables. Standards will be written around requirements and current data exchange technologies.



Illustration by HDR

### Policies and processes

An organized and efficient operation requires well-developed policies and fine-tuned processes. Getting BIM for Infrastructure off the ground is a big task. Policies that focus on collaboration through technology help to minimize data loss and information oversight. Well-planned processes that route BIM deliverables through development, quality assurance, and approval prior to delivery are key to a successful project.

### Tools and technologies

BIM is a collection of technology-reliant processes which depend heavily on a well-planned and coordinated infrastructure. The tools used to develop the information model need to provide the user with the ability to associate the required data to the assets in the model. The tools used to house the models as they are developing must allow stakeholders continuous access to data. BIM processes require a collaborative environment that allows data to flow throughout the lifecycle of the project. With BIM data available, construction analysis can start sooner, which in turn provides better engineered solutions.



U.S. Department of Transportation  
**Federal Highway Administration**

**FHWA-HIF-20-020**

**Task Manager:** Connie Yew, Team Leader  
Federal Highway Administration  
1200 New Jersey Avenue, S.E., Washington, DC 20590  
202-366-1078, [connie.yew@dot.gov](mailto:connie.yew@dot.gov)

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide information to the public regarding existing requirements under the law or agency policies.