



MEMO

May 5, 2022

To: District Bridge Engineers

From: Michael Hyzak, P.E.
Bridge Design Section Director, Bridge Division

Subject: Expectation of Use of OpenBridge Designer

All users statewide will be upgraded to OpenRoads Designer (ORD) by the end of April 2022. To keep in line with roadway design, bridge modeling is transitioning to OpenBridge Designer (OBD) at the same time. This will allow TxDOT to leverage 3D models more fully in design and construction.

Future Initiative

TxDOT will continue to evolve as the transportation industry evolves. To ensure TxDOT continues to move in the direction of the industry, TxDOT is moving towards using 3D models created during the design process in construction, in lieu of traditional plan sets. This initiative is called Digital Delivery. Digital Delivery offers many advantages over traditional plans sets. One such advantage is each project will have every square inch designed to achieve the project's design intent. Doing so will allow for better constructability reviews and potentially fewer change orders and requests for information (RFIs). Another advantage is the ability to extract actual quantities – not interpolated – from the model for use in cost estimating.

Expectation

To prepare for the migration to Digital Delivery, new projects that utilize ORD will be expected to use OpenBridge Designer (OBD) for the bridge modeling starting June 1, 2022 to keep on the same schedule as ORD. This includes “in-house” and consultant projects.

As of June 1, 2022:

- OBD will be used utilizing Open Bridge Modeler (OBM) to create intelligent 3D bridge models. The 3D bridge model will consist of 3D elements for slab, beams, abutments, wingwalls, caps, columns, and foundations. The 3D bridge model will be a deliverable to TxDOT, but not used as a contract document at this time. Quantities and geometry from OBD will need to be verified by other means.
- The contract document will remain plan sheets with 2D details as is current practice.
- The other software within the OBD package can be used for bridge design at the discretion of the engineer. OBD includes OpenBridge Modeler, LEAP Concrete, LEAP Steel, and RM Bridge. PGSuper will remain the preferred design tool for prestressed concrete superstructure design.

- Currently TxDOT is using the following versions of OpenBridge Designer and ProStructures:
 - OpenBridge Designer CONNECT Edition 2021 Release 1 v.10.10.0.26
 - ProStructures CONNECT Edition v.10.5.2.50

Available Training and Support

On-demand training is being developed and will be available in PeopleSoft for internal TxDOT personnel. There will be training for OpenBridge Modeler, LEAP Concrete, LEAP Steel, and ProStructures. There is a link on the external website (<https://www.txdot.gov/inside-bridgedesign/inside-bridgedesign.html>) for consultants and TxDOT in order to provide information on 3D Bridge Modeling. Currently it has a link to the workspace created for ORD/OBD. Coming soon will be resources such as description of bridge related items developed for TxDOT that are included in the ORD/OBD workspace. This site will continue to develop as we have more content to share.

Support

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Questions

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