



MEMO

March 23, 2022

To: District Engineers

From: Marisabel Ramthun, P.E. *MJR*
Design Division Director

Subject: Expectation of Use of OpenRoads Designer

In 2015 TxDOT began a transition to a 3D design workflow by adopting the OpenRoads technology offered in the SS3 version of GeoPak. Since then, designers statewide have upgraded to the more robust SS4/SS10 versions of GeoPak and most recently OpenRoads Designer (ORD).

Current Upgrade

In an effort to provide for more uniformity in our design process, eliminate compatibility issues between GeoPak SS10 users and ORD users, and move towards future initiatives, all users statewide will be upgraded to ORD by the end of April 2022. This will allow TxDOT to begin to leverage 3D models more fully in design and construction. The main difference between ORD and previous versions of the design software (SS3, SS4, SS10) is that in ORD, legacy GeoPak tools are no longer available. As a note, technical support for TxDOT's current design software (SS10) has been decommissioned by Bentley as of December 2021.

Future Initiative

As the transportation industry continues to evolve, TxDOT will continue to evolve with it. To ensure TxDOT continues to move in the direction of the industry, TxDOT will move 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, **all designers will be expected to begin new projects using ORD on June 1, 2022.**

As of June 1, 2022:

- All new projects will be developed using OpenRoads Designer and/or Microstation Connect. Projects started before this date should be completed in GeoPak SS10 and/or Microstation SS10. **This includes consultant projects and “in house” projects.**

- GeoPak SS10 and Microstation SS10 will begin to be uninstalled from devices of users not currently completing a project started before the above date. However, GeoPak SS10 and Microstation SS10 will be available for reinstallation on devices for the purposes of completing shelved projects and/or completing change orders.
- All projects requiring geometric design and/or cross sections must be designed using OpenRoads tools. This requirement began with the [2018 Expectations memo](#) distributed by TxDOT Administration.

Available Training and Support

The 3D OpenRoads design training has been revised to incorporate ORD functionality. The updated training is now a 4 ½ day interactive class (DES750), producing a design project that will allow students to effectively learn how to use ORD on TxDOT projects. The [updated training schedule](#) and recordings of the training exercises can be found on the [Plan Development's Crossroads page](#). The training material and training data set are also available externally on [Design Division's txdot.gov page](#).

As part of the ORD migration, bridge design, storm drain design, and survey are moving to software compatible with ORD. Bridge design is transitioning to OpenBridge Designer (OBD), primarily using OpenBridge Modeler (OBM) in a limited capacity. An on-demand training is being developed and will be available in PeopleSoft. Storm drain design will be utilizing ORD Drainage and Utilities (DU), and the course *DES752 - OpenRoads Designer for Drainage Utility* is available for training. Survey will be utilizing ORD Survey and the course *DES751 - OpenRoads Designer for Survey* is available for training.

Support

3DDesign@txdot.gov

Questions

Jacob Tambunga, P.E.
Jacob.Tambunga@txdot.gov
512.298.7959

CC: Brian Barth, P.E., ADM
Brandye Hendrickson, ADM
William L. Hale, P.E., ADM
Anh Selissen, ADM
Lance Simmons, P.E., ADM
Quincy Allen, P.E., ADM