

TABLE OF CONTENTS

Digital Project Delivery (DPD) – General	1
What digital design information is available to construction?	1
How were the first round of Pilot Projects selected?	1
What are the DPD Pilot Projects testing?	2
How do the pilot projects move KYTC toward more efficient use of digital data?	2
Has KYTC sought input from consultants and contractors?	2
Is DPD just for Construction and Design?	2
Are there plans to replace PDF plans with the design models?	3
When is the design model “good enough” for construction? In other words, how detailed should a designer make the proposed design model?	3

Digital Project Delivery (DPD) – General

What digital design information is available to construction?

KYTC’s CAD Standards provides a complete list of required design deliverables. It can be accessed at: <https://transportation.ky.gov/CADD-Standards/Pages/default.aspx>

For example, after design is complete and final plans are ready to submit for letting, the designer generates an electronic LandXML file (.XML) from the design (*proposed corridor*). LandXML files are open source and can contain geospatial data on a project’s design. The LandXML file is just one of the digital products KYTC requires.

How were the first round of Pilot Projects selected?

KYTC selected eight pilots based on:

- Design Project Managers’ approval
- Construction staff input
- Cabinet leadership endorsement
- Consultant responses to KYTC’s invitation posted through the Division of Professional Services

The pilots are critical for understanding how information is exchanged and working toward agencywide implementation of DPD.

What are the DPD Pilot Projects testing?

Project-level implementation plans describe testing details and review how the unique needs of each project team have been addressed. Examples of key pilot testing concepts include:

1. Training and support for Construction staff
2. Tools for using 3D models during construction, including software products from two software vendors and multiple model viewing options
3. Designer availability during construction
4. Construction perspectives providing feedback to design model development

How do the pilot projects move KYTC toward more efficient use of digital data?

The pilots are working to (a) resolve obstacles that hinder more widespread use of digital data and (b) increase data functionality during the construction phase of project management. Strong collaboration and feedback between Highway Design and Construction personnel are essential for addressing these challenges. When the designer is available during construction, feedback from construction field staff can help the designer incorporate model details construction values. Pilot project testing will highlight where modeling effort returns the greatest benefit. Improvements in overall digital data quality will follow.

KYTC Construction staff will continue to verify the work using 3D model data and up-to-date surveying methods. Support and training are a part of the pilot program. Software KYTC is testing gives Construction staff a single source of digital design information that reinforces daily project management.

Has KYTC sought input from consultants and contractors?

KYTC is working with industry stakeholders through partnerships with the American Council of Engineering Companies of Kentucky (ACEC-KY) and the Kentucky Association of Highway Contractors (KAHC). Along with formal meetings and member surveys, industry representatives are serving on committees and participating in pilots.

Consultant engineers and contractors can stay up to date on DPD by subscribing to CAD updates at <https://transportation.ky.gov/CADD-Standards/Pages/default.aspx>, submitting questions by emailing KYTC.DPD-QandA@ky.gov, and talking to their KYTC counterparts about ways to get involved.

Is DPD just for Construction and Design?

Design and construction data generated through full implementation of DPD will support the life cycles of infrastructure assets. Achieving full implementation requires long-term planning, and KYTC's DPD program will help Kentucky craft a digital delivery policy tailored to its unique context. KYTC is focusing on Construction and Design components with the initial DPD efforts, but other disciplines are engaged and will continue to be involved. Subject matter experts (SMEs) in KYTC's Central Office and in district offices are participating and giving feedback. KYTC staff participation and feedback remain a priority.

Are there plans to replace PDF plans with the design models?

Currently, digital design information is treated as supplemental to primary contract documents. These documents include a hierarchy of resources (e.g., PDF plans, standard specifications, special notes, standard drawings, the proposal). Pilots testing use of digital design data will generate PDF versions of the plans for construction reference. KYTC anticipates that eventually the 3D model and digital design files will serve as the project plans. Currently, there is no target date for that shift because many complexities must be resolved first.

When is the design model “good enough” for construction? In other words, how detailed should a designer make the proposed design model?

A model is good enough when it is sufficient to guide project construction. When modeling a project, designers should work with project managers as they scope their level of effort. KYTC’s CAD Support staff can assist with these discussions on a project-by-project basis. Ultimately, Cabinet guidance will aid decision making related to the completeness of digital design files and content. This guidance will depend, in part, on ideas from construction staff participating in pilot projects.