

BIM FOR INFRASTRUCTURE - FUNDAMENTAL CONCEPTS

DATA & STANDARDS

Used to populate and guide the development of **information models** 1. Modeling and information exchange standards make data and their movement between systems and stakeholders consistent and predictable.

PEOPLE & SKILLS

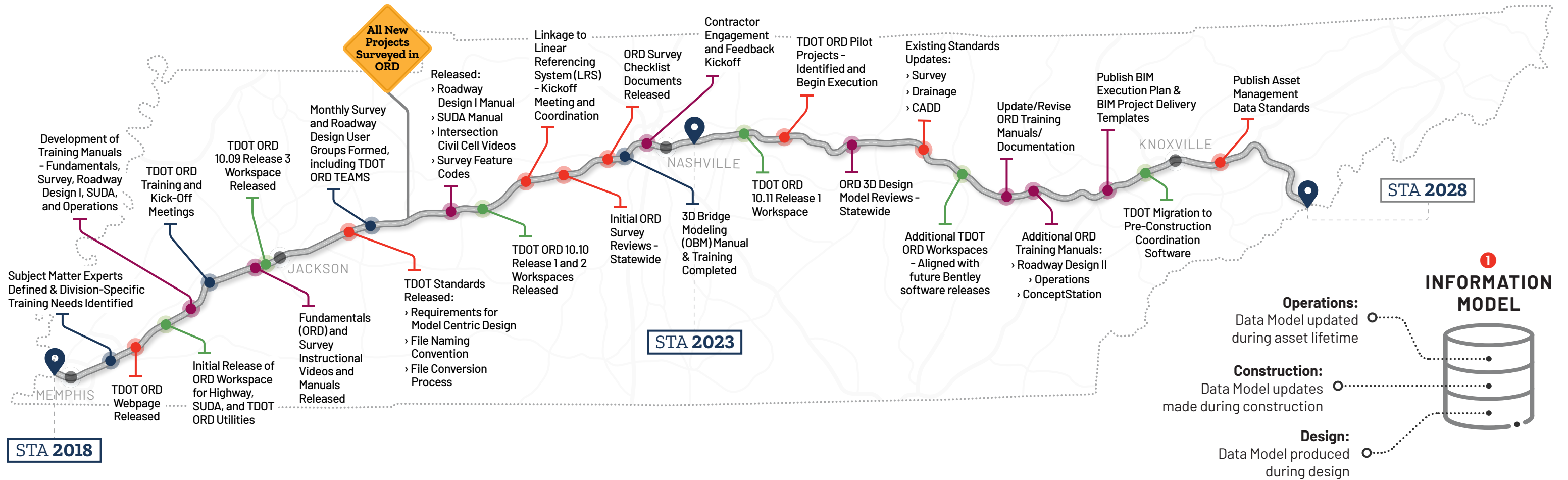
Used to operate BIM 2-related tools and technologies, administer BIM policies and processes, and carry out BIM tasks.

TOOLS & TECHNOLOGIES

Used to build information models and collect, store, share, provision, and analyze the data held in those models. Tools and technologies enable the deployment of BIM policies and processes.

POLICIES & PROCESSES

Used to minimize data loss, ensure information oversight, and encourage attention to and elevation of details captured in digital data through an automated and seamless information flow across all stakeholders.



BENEFITS OF BIM

- Use of digital data throughout the life of a project - Improved execution of the designer's design intent and continuity across TDOT regions
- Ability to deliver a higher quality product to the contractor with a more accurate project footprint related to earthwork and construction limits
- Creation of a better visualization tool for engineering analysis and coordination with other design disciplines

BACKGROUND

Prior to BIM: project design development included transforming base map data (i.e. surface models, aerial imagery, planimetrics, and other existing conditions data) into a CAD environment from which the design is based. The designer would then incorporate engineering decisions into the CAD environment that builds separate plan, profile, and cross section sheets conveying the overall design intent.

TOOLS AND TECHNOLOGY

FUNDAMENTALS OpenRoads Designer (Formerly Microstation) <small>CONNECT Edition</small>	SUDA OpenRoads Designer (Replaces GEOPAK Drainage) <small>CONNECT Edition</small>
SURVEY OpenRoads Designer (Replaces GEOPAK Survey) <small>CONNECT Edition</small>	ROADWAY DESIGN II OpenRoads Designer Modeler <small>CONNECT Edition</small>
ROADWAY DESIGN I OpenRoads Designer (Replaces GEOPAK Road 1) <small>CONNECT Edition</small>	OPERATIONS OpenRoads Designer <small>CONNECT Edition</small>

OpenRoads Designer: graphics, geometry, and surface data can be stored in a single format (i.e. DGN), therefore, streamlining the workflow and enabling designers to build a comprehensive 3D model.

DIGITAL DELIVERY ROADMAP



TDOT VISION

By 2028, the design, construction, and operations practices will be digitalized in order to enable project information to flow through a unified data model within and across asset lifecycle phases.

TDOT MISSION

To support the digitalization of project development and delivery within TDOT and to enable the efficient use of captured project data through an automated and seamless information flow across all stakeholders and throughout the lifecycle of an asset.