OpenBridge Modeler® CONNECT Edition
Intelligent 3D Parametric Modeling for Bridges

OpenBridge Modeler provides intuitive capabilities for 3D parametric bridge modeling with intelligent objects. OpenBridge Modeler features advanced interoperability, allowing access to Bentley’s civil application data, as well as a seamless connection to Bentley’s bridge design and analysis applications.

The CONNECT Edition
The SELECT® CONNECT Edition includes SELECT CONNECT services, new Azure-based services that provide comprehensive learning, mobility, and collaboration benefits to every Bentley application subscriber. Adaptive Learning Services helps users master use of Bentley applications through CONNECT Advisor, a new in-application service that provides contextual and personalized learning. Personal Mobility Services provides unlimited access to Bentley apps, ensuring users have access to the right project information when and where they need it. ProjectWise® Connection Services allow users to securely share application and project information, to manage and resolve issues, and to create, send, and receive transmittals, submittals, and RFIs.

OpenBridge Modeler Produces Intelligent Models
OpenBridge Modeler produces intelligent models with engineering content properties for various bridge components. These include concrete compressive strength, structural steel grade, standard beam designations, rebar details, and more. Native bridge modeling capabilities facilitate the creation of complex models easily by engineers without requiring advanced 3D modeling skills. The bridge elements that are created react to changes to themselves and surrounding components without the user having to compute advanced 3D geometry. The multidiscipline, consolidated view of the project makes possible evaluating design decisions and identifying constructability issues and conflicts early in the workflow. Your design teams can take the conceptual model into the design stage and move through the workflow by performing analysis and design including evaluation of construction work stages using OpenBridge® Designer’s Analytical components LEAP® and RM. You create various alternatives to evaluate and determine the optimal solution for all stakeholders. OpenBridge Modeler offers comprehensive capabilities and workflows for rebar modeling allowing engineers to model everything in 3D. The rebar can be added directly in OpenBridge Modeler or as designed reinforcing from the analytical components. Additional documentation, including bar bending schedules and labeling, can be done with Bentley’s ProStructures.

Integrated Bridge Solution Accelerates Performance
Bentley is committed to providing applications that help you design and deliver high-quality, sustainable infrastructure. The integrated direct exchange of bridge geometry among various stakeholders improves decision-making for design and construction while connecting and enhancing workflows. You can also perform detailing with Bentley’s ProStructures, visualize soil boring data with Bentley’s geotechnical reporting software gINT®, and store and query bridge inspection reports with Bentley’s AssetWise® Asset Reliability Inspections. OpenBridge Modeler works seamlessly with ProjectWise®, Bentley’s platform for connecting people and information across project teams. By using OpenBridge Modeler with ProjectWise and iTwin® Design Review, project team members can continuously share, reuse, and repurpose data, gaining the benefits of real-time collaboration – working across multiple locations and time zones, among numerous contributors, companies, and stakeholders. Information exchange throughout the lifecycle of the bridge project among various stakeholders is accomplished with iModels and iTwin Services.

Parametric bridge models automatically reacting to changes.
3D Visualization Enhances Model Verification

Modeling in a 3D environment allows users to rapidly verify the bridge geometry. Use the Dynamic View feature or push-button drawing generation tools to create 2D views of superstructure and substructure components, with dimensions, for producing preliminary drawings. Perform clash detection with other structures, objects, and underground utilities to eliminate problems before they occur. You can use native 3D visualization and rendering or push the model to LumenRT, and you can create high-impact visuals and animations to effectively communicate the project to stakeholders for project approvals.

Construction Engineering

Use iTwin Design Review workflows for 2D/3D design review in a web-based environment that streamlines review sessions on design work-in-progress deliverables. Models built with OpenBridge Modeler facilitate model-based construction workflows and can be easily integrated into SYNCHRO® 4D and Field, which allow virtual construction planning and access, capture, and communicate up-to-the-minute information from the construction site.

Drawing and Reporting Capabilities Automate Deliverables Production

Using MicroStation® Dynamic View feature, you can create annotated plan elevations and sections. Generate a variety of reports such as deck elevations, beam-seat elevations, material quantities, cost estimates, and Input Echo report to facilitate the evaluation of multiple bridge alternatives, construction sequences, costs, and more. Easily publish project information with a variety of report generation options. Reports can be printed to 3D PDF, saved as HTML files, or exported to spreadsheets. You can also generate models to convey rich project information to stakeholders.

OpenBridge Modeler At-A-Glance

Ease of Use

- Familiar MicroStation environment
- Bridge Wizard
- U.S. customary and metric (SI) units
- Comprehensive 3D physical bridge modeling
- 2D views, with dimensions using Dynamic Views
- User customizable libraries
- Variety of reporting formats
- Intuitive dialog-driven workflows
- Cross-section template for complex geometry
- Catalog of appurtenances

Powerful Modeling and Visualization Capabilities

- Superstructure and substructure modeling
- Bridge Types:
  - Precast prestressed girder
  - Cast-in-place, concrete slab, multicell box, T-beam
  - Segmented: span by span, cantilever
  - Steel I-girder and Box (Tub)
- Bridge Components:
  - Deck slab
  - Girders, steel - built up or rolled, concrete
  - Abutments
  - Piers: cap, column, footing, piles
  - Variable columns and caps
  - Wing walls
  - Bearings and beam seats
  - Ground excavation
  - Light poles
  - Crash barriers, medians
  - Cross frames and diaphragms and more
  - Parametric, intelligent bridge components
  - Rule-based and constraint-driven modeling
  - Create custom components and use functional components with user-defined constraints
  - ProConcrete rebar modeling tools
  - Clash detection and clearances
  - Solid and transparent views
  - Lifelike rendering with LumensRT
  - Reference roadway information and ground data
  - Construction scheduling and animation using Bentley SYNCHRO

Versatile Reporting Options

- Deck elevations report
- Beam elevations report
- Pier, bearing, and seat elevations report
- Material quantities report
- Cost estimate report
- Input Echo report
- Formats:
  - 3D PDF
  - Microsoft Excel

Integration with Other Software

- Bentley software:
  - OpenRoads™
  - LEAP
  - RM
  - ProStructures
  - ProjectWise
  - iTwin Design Review
  - gINT
  - Google Earth
  - Tablet access

Generate bridge project deliverables in OpenBridge Modeler.

OpenBridge Modeler enables comprehensive reinforcement modeling capabilities.