

Bentley[®]
Advancing Infrastructure

 CONNECT Edition



OpenBridge™ Designer CONNECT Edition

Integrated Modeling, Analysis, and Design for Bridges

OpenBridge Designer is a comprehensive 4D software application used by bridge engineers for bridges of all types, materials, and construction methods. OpenBridge Designer is a fully integrated modeling, analysis, and design application that produces deliverables derived directly from the models created – improving bridge constructability and ensuring smooth project delivery. The application utilizes the modeling capabilities of OpenBridge Modeler[®] and the analysis and design features of LEAP[®] and RM Bridge to meet the design and construction needs of all bridge types. With this application, you have the advantage of using a single comprehensive package from beginning to end of any bridge design project. You can use one product to create an interoperable physical and analytical bridge model that can be utilized throughout the bridge lifecycle.

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.

Produce Intelligent Models

OpenBridge Designer produces intelligent, parametric models rich in engineering content properties for various bridge components. The application reuses data from various stakeholders thus maintaining relevant and up-to-date geometry within a single model. OpenBridge Designer allows you to specify the construction sequence and schedule, and view a time-lapse construction animation, as well as perform clash detection with other structures, objects, and underground utilities to eliminate problems before they occur.

Accelerate Performance with All-in-one Bridge Application

Innovative analysis, design, and load-rating functionality come together in one advanced environment in OpenBridge Designer. The direct exchange of project information helps users improve decision-making for design and construction while connecting and enhancing workflow processes. The resulting information provides



Create intelligent 3D parametric bridge models – digital twins of a bridge

a rich data asset for as-built documentation, maintenance, and operations. Because of its collaboration and data management, OpenBridge Designer is the ideal solution for professional bridge organizations, construction teams, maintenance and inspection crews, and bridge owner-operators.

Improve Collaboration

OpenBridge Designer allows direct referencing of DGN models for highway alignments, profiles, and ground information created with Bentley's OpenRoads and OpenRail applications, as well as LandXML files. If reference data changes, the parametric and rule-based bridge model responds to those changes automatically. You can also perform detailing with Bentley's ProStructures, perform geotechnical analysis with Bentley's gINT[®], and store and query bridge inspection reports with Bentley's inspection software. OpenBridge Designer also works seamlessly with ProjectWise, Bentley's platform for connecting people and information across project teams. You can create a digital twin of your bridge and upload it to iModelHub to maximize the collaboration between different teams and disciplines. Also, models built with OpenBridge Designer, facilitate model-based construction workflows and can be easily integrated into SYNCHRO[™] 4D and Field, which allow virtual construction planning and access, and capture and communicate up-to-the-minute information from the construction site.

Enhance Visualization

Modeling in a 3D environment allows users to rapidly verify the bridge geometry. The bridge is seen in plan, elevation, and cross-section views. Solid and transparent viewing options helps you explore areas with complex geometry. Use the Dynamic View feature to create 2D views of superstructure and substructure components, with dimensions, for producing preliminary drawings. OpenBridge Designer offers a companion installation of LumenRT that enables you to create stunning visualizations.

System Requirements

Processor

Intel® Pentium®-based or AMD Athlon®-based processor 2.0 GHz or greater

Operating System

Windows 10 (64-bit),
Windows 8 (64-bit)

Memory

8 GB minimum, 20 GB recommended

Video

1 GB of video RAM or higher recommended

Find out about Bentley at: www.bentley.com

Contact Bentley

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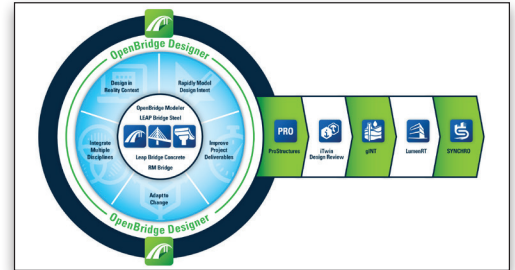
Global Office Listings

www.bentley.com/contact

Improve Deliverables Production

OpenBridge Designer can create annotated plans, elevations, and sections using MicroStation's Dynamic View feature. A variety of deliverables can be generated using OpenBridge Designer. Among them are deck elevations, beam-seat elevations, material quantities, cost estimates, and camber diagrams. OpenBridge Designer also includes an input Echo report that facilitates the evaluation of multiple bridge alternatives, construction sequences, costs reports, and well-organized analysis and design reports. You can utilize iTwin® Design Review workflows for 2D and 3D design review in a web-based environment that streamlines review sessions

on design work-in-progress deliverables. OpenBridge Designer, with its seamless interoperability with ProConcrete, can be used for concrete detailing.



OpenBridge Designer At-A-Glance

Ease of Use

- Intelligent graphical user interface
- U.S. customary and metric (SI) units
- Comprehensive 3D physical bridge modeling
- User customizable libraries
- Intuitive dialogue driven workflows
- Cross-section template for complex geometry
- Catalog of appurtenances
- Automated bridge creation (ABC wizard)

Modeling and Visualization Capabilities

- Superstructure and substructure modeling
- All bridge types
- Parametric, intelligent bridge components
- Intuitive, dialogue-driven workflows
- Rule-based and constraint-driven modeling
- Clash detection and clearances
- Solid and transparent views
- Lifelike rendering
- Reference roadway information and ground data
- Construction scheduling and animation using Navigator

Versatile Reporting Options

- Customized and dynamic report
- Deck and beam-seat elevations report
- Material quantities report
- Cost estimate report
- Camber diagram
- Formats: 3D, PDF, MS Word, MS Excel, HTML

Automated Drawing Generation

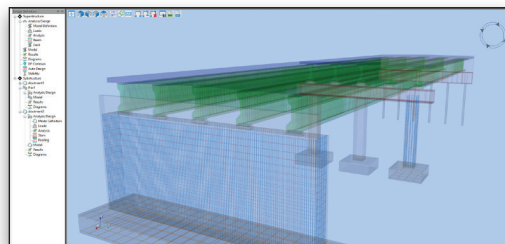
- DGN and DWG drawings
- Plan and elevation drawings
- Bridge framing plans
- Precast, prestressed concrete girders
- Piers

Intelligent Analysis and Design

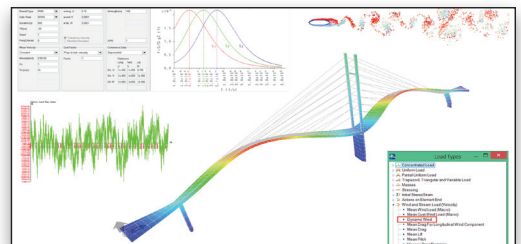
- Full 4D analysis
 - » 3D geometry for static and dynamic analysis, including creep, shrinkage, and time effects in schedules
- No limitations
 - » Geometry, boundaries, loading and combination, construction stages, linear dynamics, nonlinear material behavior, nonlinear
- Any structural model
 - » Plane truss, plane frame, grillage, FEM, etc.
- All bridge types
 - » Cables, tendons, beams, springs, and advanced elements
- Complex analysis
 - » P-Delta, cable sagging, large displacements
 - » Nonlinear time history analysis, pushover analysis
 - » Hydro dynamic analysis
 - » Wind buffeting in time and frequency domain, wind CFD
 - » High speed rail
 - » Optimization
- Any materials
 - » Steel, concrete, and composite structures, pre-/post-tensioning
- Any erection method
 - » Balanced cantilever, pre-cast segmental, incremental launching, span-by-span, advanced shoring, etc.
- 20+ international design codes

Integration with Other Software

- Direct data exchange with MicroStation®, OpenRoads™, OpenRail™, AssetWise® Asset Reliability Inspections, ProStructures, gINT, and more
- AASHTO BRIDGEWare database
- File formats: DGN, DXF, XML, and LandXML



OpenBridge Designer enables automatic generation of analytical models from intelligent physical models.



OpenBridge Designer allows you to perform advanced analysis for complex bridges.