

Roadway Projects Advanced from Conception through Construction

OpenRoads Designer CONNECT Edition of Bentley Systems will be available for Early Access on 1 December 2016. OpenRoads CONNECT Edition is the successor to Bentley's civil engineering brands InRoads, GEOPAK, MX, and PowerCivil. It is a multi-discipline 3D modelling application to advance the delivery of roadway projects from conceptual design through construction.

OpenRoads Designer blends traditional engineering workflows for plan, profile, and cross-sections with 3D parametric modelling to enable the model-centric creation of all design deliverables. It supports all aspects of a detailed roadway design including survey, geotechnical, drainage, subsurface utilities, terrain, road, roadway furniture, and more. The incorporation of reality meshes, imagery, point cloud, and other geocoordinated data sources can provide the continuous context of real-world conditions throughout the design and construction lifecycle.

Innovations

OpenRoads Designer completes the convergence of InRoads, GEOPAK, MX, and PowerCivil and adds many powerful new innovations, including:

- **Progressive Conceptual Design.** Users can directly progress conceptual designs created with OpenRoads ConceptStation, preserving all work and data
- **Contextual Design.** All detailed design in OpenRoads Designer is driven by functional components, which inherently respond contextually to express appropriate design, annotation, and plan set display behaviours. Design models are expressed in multiple live views including plan, profile, cross section, and 3D; changes in one view are live and dynamically update all views.
- **Multi-discipline Support.** OpenRoads Designer integrates support for each discipline with specific user profiles dedicated to each discipline. Users can switch discipline perspectives, for instance from Road Design profile to Subsurface Utility profile.
- **Reality Modeling Tools.** OpenRoads Designer includes a fully-functioned toolset to incorporate and edit all reality modeling data types, including the capability to extract ground-level features from reality meshes and LiDAR, as well as to reference point clouds and imagery.
- **Geotechnical Tools.** Users can connect directly to gINT geotechnical databases to incorporate subsurface terrain details into their models for improving grading and piling. Subsurface terrains can be generated or modeled based on the bore hole materials and projected in road and drainage profiles, sections, and plans.
- **Subsurface Utilities.** Users can select from a large catalog of functional components for utility and drainage to model underground drainage and utility networks. Drainage models, moreover, can be optimized for water flow using integrated water analysis tools, with results available in data tables or visually in a profile view.
- **Rich Deliverables.** An expanded set of deliverables range from traditional plan sets and animations to digital construction models—for automated machine control and field positioning systems including for excavation, grading, piling, and paving.
- **Live Plan Generation.** Settings and annotations are dynamically updated and live in the model. Views are saved with specific display rules and sheet index embedded, making it easy to navigate between model and drawings. Up-to-date drawings can be generated automatically at any time, creating a natural and fluid design environment for both modeling and detailing.
- **Enlivened Visualization.** OpenRoads Designer provides direct integration to Bentley LumenRT for producing cinematic visualization, adding vegetation, reflecting nature and climate, and for traffic simulation with VISSIM.

Designs created in OpenRoads Designer benefit from BIM Review through OpenRoads Navigator, in the office, in the field, and at the site. OpenRoads Navigator enables visualisation and review of 3D designs and status visibility—allowing dispersed teams to progress approvals and the resolution of issues.